

GAO

Report to the Chairman and Ranking  
Minority Member, Subcommittee on  
Military Research and Development,  
Committee on Armed Services,  
House of Representatives

May 2001

# NAVY ACQUISITIONS

## Improved Littoral War-Fighting Capabilities Needed



GAO

Accountability \* Integrity \* Reliability

---

# Contents

---

<b>Letter</b>		1
<b>Appendix I</b>	<b>Comments From the Department of Defense</b>	29
<b>Figures</b>		
	Figure 1: Sea Mine Threats by Water Depth	5
	Figure 2: Sea Mine Damage to the U.S.S. <i>Tripoli</i> in the Gulf War	6
	Figure 3: Techniques Used in Littoral Regions to Detect and Locate a Diesel Submarine	13
	Figure 4: Naval Surface Fire Support Requirements	20

---

## Abbreviations

DOD	Department of Defense
DET	Distributed Explosive Technology
NM	nautical miles
NSFS	Naval Surface Fire Support
SABRE	Shallow-Water Assault Breaching System



G A O

Accountability \* Integrity \* Reliability

United States General Accounting Office  
Washington, DC 20548

May 18, 2001

The Honorable Duncan Hunter  
Chairman  
The Honorable Marty Meehan  
Ranking Minority Member  
Subcommittee on Military  
Research and Development  
Committee on Armed Services  
House of Representatives

According to the Department of the Navy, the primary purpose of forward-deployed naval forces is to project power from the sea to influence events ashore.<sup>1</sup> To be successful, our naval forces must be able to gain access to, and operate in the littoral<sup>2</sup> regions of, potential adversaries. Consequently, they must be able to detect and neutralize enemy sea mines and submarines, and to protect themselves against cruise missiles and other antiship weapons. Finally, they must be able to launch and support offensive operations against enemy forces ashore. In this context, the Navy has as one of its missions the support of the Marine Corps as it conducts amphibious operations. We have reported on the extent of these capabilities in several individual reports over the last 6 years.<sup>3</sup> This report responds to your request that we update and consolidate the assessments contained in these reports and provide an overall assessment of the Navy's capabilities to operate in the littoral. Specifically, we assessed the Navy's existing mine countermeasures, antisubmarine warfare, ship self-defense,

---

<sup>1</sup>See *Forward From the Sea* (Mar. 1997).

<sup>2</sup>According to the Navy, the term "littoral" as it applies to naval operations, is not restricted to the limited oceanographic definition, i.e., the world's coastal regions but includes that portion of the world's land masses adjacent to oceans within direct control of, and vulnerable to, the striking power of sea-based forces.

<sup>3</sup>See *Naval Surface Fire Support: Navy's Near-Term Plan Is Not Based on Sufficient Analysis* (GAO/NSIAD-95-160, May 19, 1995); *Navy Mine Warfare: Plans to Improve Countermeasures Capabilities Unclear* (GAO/NSIAD-98-135, June 10, 1998); *Defense Acquisitions: Naval Surface Fire Support Program Plans and Costs* (GAO/NSIAD-99-91, June 11, 1999); *Defense Acquisitions: Evaluation of the Navy's Anti-Submarine Warfare Assessment* (GAO/NSIAD-99-85, July 12, 1999); *Defense Acquisitions: Evaluation of the Navy's 1999 Naval Fire Support Assessment* (GAO/NSIAD-99-225, Sept. 14, 1999); and *Defense Acquisitions: Comprehensive Strategy Needed to Improve Ship Cruise Missile Defense* (GAO/NSIAD-00-149, July 11, 2000).

---

and surface fire support capabilities, and the progress of the acquisition programs the Navy is pursuing to address shortfalls in these areas.

---

## Results in Brief

The Navy has acknowledged that it currently lacks a number of key war-fighting capabilities it needs for operations in littoral environs. For example, it does not have a means for effectively breaching enemy sea mines in the surf zone<sup>4</sup>; detecting and neutralizing enemy submarines in shallow water; defending its ships against cruise missiles; or providing adequate fire support for Marine Corps amphibious landings and combat operations ashore. The current lack of capability in these areas increases the risk to our naval forces and could limit their use in future conflicts.

The Navy has had acquisition programs under way to improve its capabilities in each of these areas for many years, but progress has been slow. Unless current efforts can be accelerated or alternatives developed, it will be another 10 to 20 years before the Navy and the Marine Corps will have the capabilities needed to successfully execute littoral warfare operations against competent enemy forces.

This report contains two matters for congressional consideration that are intended to increase management attention given to mine countermeasures and antisubmarine warfare programs. It also recommends that the Secretary of Defense direct the Navy to develop a more comprehensive mine countermeasures plan that (1) identifies and address shortfalls and limitations in mine countermeasures capabilities in the littoral—particularly shortfalls and limitations in breaching and clearing minefields very close to the shore; (2) identifies the mix of mine warfare capabilities and systems that the Navy intends to field in the future; and (3) identifies the types, quantities, and schedules of systems to be acquired and the resources that will be required to develop, procure, and sustain them.

In written comments on this report, the Department of Defense agreed that it provides an accurate assessment of the Navy's mine countermeasures, antisubmarine warfare, naval surface fire support, and ship cruise missile defense capabilities. The Department also agreed with

---

<sup>4</sup>Surf zone is defined as waters less than 10 feet in depth to the beach. The hostile surf zone may contain anti-invasion mines, controlled mines, buried mines, and other obstacles. (See. fig. 1.)

---

our recommendation for the Navy to more explicitly identify shortfalls and limitations in mine countermeasures capabilities in the littoral. The Department took issue with our statements related to a force structure decision on mine warfare programs and to programmatic priorities for mine warfare and antisubmarine mission areas. The Department's position and our response are presented in the Agency Comments section of this report.

---

## Mine Countermeasures

Sea mines threaten the Navy's ability to conduct amphibious landings and logistical support operations. The Navy's current forces of specialized ships, helicopters, and other assets that have been developed for and dedicated<sup>5</sup> to detecting and neutralizing enemy sea mines are not effectively capable of breaching and clearing mines in very shallow water near the shore. This capability is required to assure access to beach-landing sites by combat and support forces. The Navy has had two systems in development since 1993 to address this shortfall. However, their development is currently on hold because the Navy and the Marine Corps are concerned about their operation, safety, and reliability. Since the dedicated mine countermeasures forces are not normally deployed with the ships that make up the carrier battle and amphibious ready groups, the Navy is developing organic<sup>6</sup> mine countermeasures capabilities—that is, systems that are on and deployed with ships, helicopters and submarines, in the carrier battle and amphibious ready groups. Seven new organic systems are in development, and initial units are expected to begin entering the fleet in 2005. Although it has developed and maintains an updated Mine Warfare Plan, the Navy has not decided on a mix of organic and dedicated platforms (ships and aircraft) and systems that will make up its future mine countermeasures force structure. A decision is needed to determine the types and quantities of systems to be procured, help set priorities among systems, and determine the level of resources required

---

<sup>5</sup>Dedicated mine warfare forces consist of the surface, airborne, and explosive ordnance disposal forces that are linked, supported, and controlled from a dedicated mine warfare control ship or mobile command facility. They are based in the continental United States or at forward locations, operating independently or in direct support of a carrier battle group or amphibious ready group.

<sup>6</sup>Organic mine warfare forces are defined as mine warfare-capable forces, systems, and capabilities that are resident in and deployed with a carrier battle group or amphibious ready group. Organic mine countermeasures systems consist of integrated sensors and weapons that are part of the combat systems of ships, submarines, and helicopters. An organic capability means that a carrier battle or amphibious ready group can undertake limited mine countermeasures missions as a core competency.

---

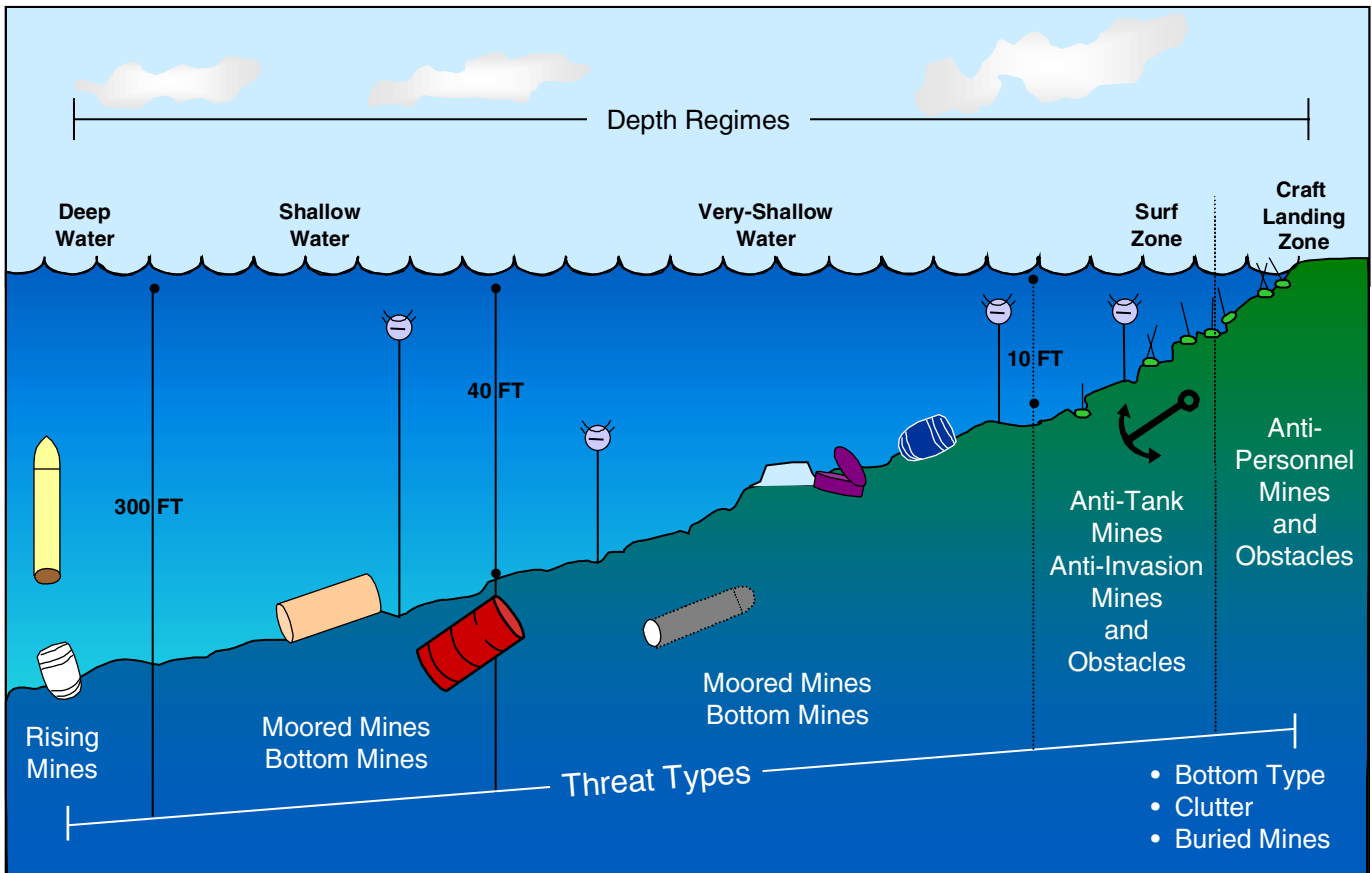
for their development, procurement, and sustainment. A congressionally mandated certification of the Navy's Mine Warfare Plan by the Secretary of Defense has enhanced the importance of mine countermeasures programs within the Department of Defense (DOD) and the Navy. However, as currently constructed, the certification requirement does not require the Navy to report year-to-year progress toward achieving improved capabilities.

---

## Background

Enemy sea mines have been responsible for 14 of the 19 Navy ships destroyed or damaged since 1950. Some countries are continuing to develop and proliferate mines that are increasingly more difficult to detect and neutralize. To appreciate the complexity of the mine countermeasures warfare task, it is important to understand the environment in which mine warfare operations take place. Figure 1 illustrates the five water depths of the undersea battlespace and the types of mines found at those depths.

**Figure 1: Sea Mine Threats by Water Depth**



Source: GAO reproduction of Navy graphic.

During the Gulf War, two Navy ships—the U.S.S. *Princeton* and the U.S.S. *Tripoli*—were severely damaged and seven sailors injured by sea mines. Figure 2 shows the damage 10 feet below the waterline from an Iraqi sea mine to the U.S.S. *Tripoli* in the Persian Gulf on February 18, 1991.

---

Figure 2: Sea Mine Damage to the U.S.S. *Tripoli* in the Gulf War



Source: DOD.

The Navy's existing specialized mine warfare forces, known as dedicated mine warfare forces, consist of 12 coastal mine-hunting ships and 14 mine countermeasures ships, 1 command and support ship, 20 mine-hunting and mine-clearing helicopters, 15 explosive ordnance disposal detachments, a very shallow water detachment, and marine mammal detachments.<sup>7</sup> According to the Navy, the coastal minehunting ships and mine countermeasures ships of the dedicated forces lack the speed and endurance needed to accompany carrier battle groups and amphibious ready groups on overseas deployments. Because of this shortcoming, the Navy is developing organic mine countermeasures systems for carrier

---

<sup>7</sup>Marine mammal detachments consist of specially trained bottlenose dolphins and sea lions for mine detection and neutralization, swimmer defense, and the recovery of exercise mines and torpedoes.



---

battle and amphibious ready groups. Organic systems would allow naval forces to counter sea mines without having to wait for the dedicated mine countermeasure forces to arrive. However, even if organic systems prove effective, the Navy still intends to retain some of its dedicated mine countermeasures force for larger-scale mine hunting<sup>8</sup> and sweeping<sup>9</sup> operations, such as those conducted after the Gulf War.

Almost a decade ago, the Congress expressed concerns that the Navy had failed to sufficiently emphasize mine countermeasures in its research and development program and noted the relatively limited funding allocation to those efforts. To support a continuing emphasis on developing the desired mine countermeasures, the Congress added an annual certification requirement in the National Defense Authorization Act for Fiscal Years 1992 and 1993. This legislation, and subsequent extensions, provides for the transfer of primary responsibility for developing and testing mine countermeasures systems from the Navy to an office within DOD<sup>10</sup> unless the Secretary of Defense certifies that certain conditions are met each year. Specifically, the Secretary of Defense could waive this transfer of responsibility by certifying that the Secretary of the Navy, in consultation with the Chief of Naval Operations and the Commandant of the Marine Corps, had submitted an updated mine countermeasures master plan and provided sufficient resources for executing the updated plan. The legislation also requires the Chairman of the Joint Chiefs of Staff's assessment of whether the Navy had programmed sufficient resources to execute the plan. The Secretary of Defense has certified the Navy's mine warfare plan each year since the requirement was enacted. Unless the Congress extends the certification requirement, it will expire at the end of fiscal year 2003.

---

<sup>8</sup>“Mine hunting” is the employment of sensor and neutralization systems—whether air, surface, or subsurface—to locate and dispose of individual mines.

<sup>9</sup>“Minesweeping” is a technique of clearing mines using either mechanical, explosive, or influence sweep equipment. Mechanical sweeping removes, disturbs, or otherwise neutralizes the mine; explosive sweeping causes sympathetic detonations (detonating another charge nearby) in the mine, damages the mine, or displaces the mine; and influence sweeping produces either the acoustic and/or magnetic influence (simulating the energy field generated by a passing ship) required to detonate the mine.

<sup>10</sup>The National Defense Authorization Act for Fiscal Years 1992 and 1993 provided for transferring responsibility to the Director, Defense Research and Engineering. The National Defense Authorization Act for Fiscal Year 1996 provided for transferring responsibility to the Under Secretary of Defense for Acquisition and Technology.

---

## Previous GAO Findings

In June 1998, we reported that the Navy had spent \$1.2 billion since 1992 on research and development to improve the capabilities of mine countermeasures systems, but none of them were ready for production. Included in these developments were the Distributed Explosive Technology (DET)<sup>11</sup> and Shallow-Water Assault Breaching System (SABRE), which are intended to provide the Navy a near/mid-term (2001 to 2010) breaching and clearing capability in the surf zone.

We recommended that the Secretary of Defense, in conjunction with the Chairman, Joint Chiefs of Staff, and the Secretary of the Navy, make a determination on the mix of the Navy's future mine countermeasure forces and commit the funding deemed necessary for developing and sustaining these capabilities. In addition, we recommended that the Secretary of Defense direct the Secretary of the Navy to sustain the dedicated mine countermeasures forces until the Navy had demonstrated and fielded effective new organic capabilities.

Finally, we reported that while the congressionally mandated certification process increased the visibility of mine countermeasures requirements within DOD and the Navy, it did not address the adequacy of overall resources for this mission, nor contain any measures against which the Navy's progress in enhancing its mine countermeasures capabilities could be evaluated.

DOD partially concurred with our recommendations and said it had directed the Navy to ensure that current and future mine warfare programs are adequately funded. DOD also said that two studies were in progress to assess the cost and effectiveness of various mixes of dedicated and organic mine countermeasures forces.

---

## Progress in Developing Organic Mine Countermeasures Capabilities

The Navy has invested in seven organic systems designed to provide carrier battle groups and amphibious ready groups with mine detection and limited clearing capabilities. These include two helicopter-towed systems (one that uses sonar for mine hunting and another that uses acoustic and magnetic technologies for mine sweeping); a laser system for helicopters to use in detecting, classifying, and localizing floating and

---

<sup>11</sup>DET is a rocket-launched device consisting of a 180-square-foot explosive net (constructed of detonating cord) detonated by a fuze and designed to destroy sea-based mines in water depths of 3 feet to the shore.

---

near-surface mines; an expendable device deployed by helicopters to explode certain types of mines; a helicopter-mounted modified gun to destroy mines; and two types of unmanned sea vehicles to conduct mine reconnaissance. The Navy expects the first units of these systems to reach the fleet in 2005. Additionally, the Navy has begun or made progress on a number of other initiatives to improve mine countermeasures capabilities as shown in the following examples:

- In September 1998, the Navy began undertaking a new effort—known as the Fleet Engagement Strategy—that is intended to facilitate the introduction of organic mine countermeasures capabilities and educate the naval services about the emphasis the Navy is placing on achieving proficiency in fleetwide mine warfare. Among other things, the effort seeks to (1) increase the number of sailors attending classroom and waterfront mine warfare training, (2) increase the participation of the dedicated mine countermeasures forces in fleet exercises and battle experiments, (3) develop mine warfare doctrine and tactics, and (4) promote the fleet’s acceptance of the need to strengthen mine warfare capabilities. The Navy has made some progress in these areas. For example, the Mine Warfare Training Center in Corpus Christi, Texas, experienced an almost 40-percent increase in the number of students completing the basic mineman school from fiscal year 1998 to fiscal year 1999 and a 35-percent increase from fiscal year 1999 to fiscal year 2000.
- The Naval Oceanographic Office has focused its efforts on mapping and documenting the condition of the ocean bottom along traditional sea lanes (travel routes) to provide forces with information critical to conducting mine countermeasures operations. The Office has also begun providing real-time ocean bottom mapping support during fleet training exercises and experiments.
- The Commander of the Surface Warfare Development Group has continued implementing a mine warfare readiness and effectiveness measurement program, which was started in 1995. The program is designed to provide the Navy with a coordinated assessment of the effectiveness of its mine countermeasures systems in a tactical environment. A database containing information gathered from the program’s exercises, though still under development, has already identified needed changes and improvements in systems and techniques.
- In 1999, the Navy approved a new process to focus the Office of Naval Research’s science and technology research resources on programs that

---

respond to 12 desired future naval capabilities, including organic mine countermeasures. The Navy said that its technology investments in organic mine countermeasures will focus on unmanned underwater vehicles for clandestine mine reconnaissance and precision-guided munitions for stand-off breaching of beach mines and obstacles. Other areas of technology investment will include the fusion of sensor data into a common tactical picture, unmanned aerial vehicle sensors for rapid beach reconnaissance, and buried mine detection sensors. According to budget plans, the Navy expects to spend about \$394 million on these activities from fiscal year 2002 through fiscal year 2007.

---

## Issues Requiring Resolution

Although the Navy has made progress in advancing its overall mine countermeasures capabilities, some of the shortcomings we discussed in our last report remain. For example, the Navy has still not fielded a mine breaching and clearing capability for the surf zone. That capability is needed to enable the safe landing of combat and support forces. The Navy has not made a decision on the size and composition of its future mine countermeasures force structure. Without such a decision, the Navy cannot properly develop comprehensive requirements or plan the acquisition of future mine countermeasures platforms and systems. The annual certification of the Navy's Mine Warfare Plan by the Secretary of Defense has increased the visibility of mine countermeasures programs within DOD. However, it does not address the priorities among the various development programs or the development of measures to gauge the Navy's year-to-year progress toward achieving improved capabilities.

---

## Shallow Water Breaching and Clearing Capability Still Lacking

The area from the very shallow water zone through the craft landing zone (from 40 feet of water depth to the beach) presents the most difficult environmental challenge for detecting mines and exposes mine countermeasures forces to hostile action (see fig. 1). Nevertheless, the Navy's ability to land forces to clear open a path through an area containing mines and obstacles is critical to the Marine Corps' ability to conduct amphibious assaults, when avoidance is not feasible. Until the Navy develops a reliable breaching capability, anti-landing and surf zone mines will continue to limit its ability to conduct amphibious landings and follow-on logistical support operations.

The Navy's DET and SABRE development systems are intended to provide a mine breaching and clearing capability. However, SABRE fuze failures and concerns about operational limitations, safety, and reliability have caused the Navy to temporarily suspend the development of these systems

---

until the Navy Review Board assesses the validity of existing very-shallow-water mine countermeasures requirements. The Navy plans to evaluate various logistical aspects of DET and SABRE in an April 2001 fleet exercise. A part of this exercise focused on the demands of storing, moving, and deploying these systems. Following the exercise, the Board is scheduled to meet again to review the results of the fleet exercise and consider whether to resume the development of these systems or refer the decision to the Navy Requirements Oversight Council. Currently, the Navy has no other acquisition and technology programs that can address very-shallow-water breaching requirements in the near- and mid-term.

**Force Structure Has Not Been Decided**

The Navy's lack of a decision about the size and composition of the future mine countermeasures force structure makes it difficult for the mine warfare community to articulate and defend mine warfare requirements in the Navy's budget process. A force structure decision could assist in determining the types and quantities of platforms (ships and aircraft) and systems the Navy needs to acquire for mine countermeasures, establishing priorities among systems, and determining the level of resources required for their development, procurement, and sustainment. The Navy has completed a study addressing future force structure options but believes it cannot make decisions until some of the organic mine countermeasures systems currently under development are fielded and a more in-depth analysis of future mine countermeasure operations has been conducted.

**Certification Requirement Has Produced Limited Results**

The annual certification of the Navy's mine countermeasures plan by the Secretary of Defense has been valuable in elevating the visibility of mine countermeasures programs within DOD, the Joint Chiefs of Staff, the Navy, and the Marine Corps. The Office of the Secretary of Defense has made the certification process more inclusive by involving all interested participants earlier. However, the certification does not currently require the Secretary of Defense to provide the Congress with a report detailing the priorities of the various mine countermeasures programs the Navy is pursuing under the Mine Warfare Plan or an annual accounting of the progress the Navy has made with each program.

---

**Antisubmarine Warfare**

Although the Navy is making some progress in overcoming shortfalls identified in the 1997 Anti-Submarine Warfare Assessment, a lack of resources and priorities among competing programs is still prevalent. Funding reductions within the MK-54 Lightweight Torpedo program—the Navy's premier weapon against submarines in the littoral—will delay its fleetwide introduction and reduce the number of torpedoes the Navy can

---

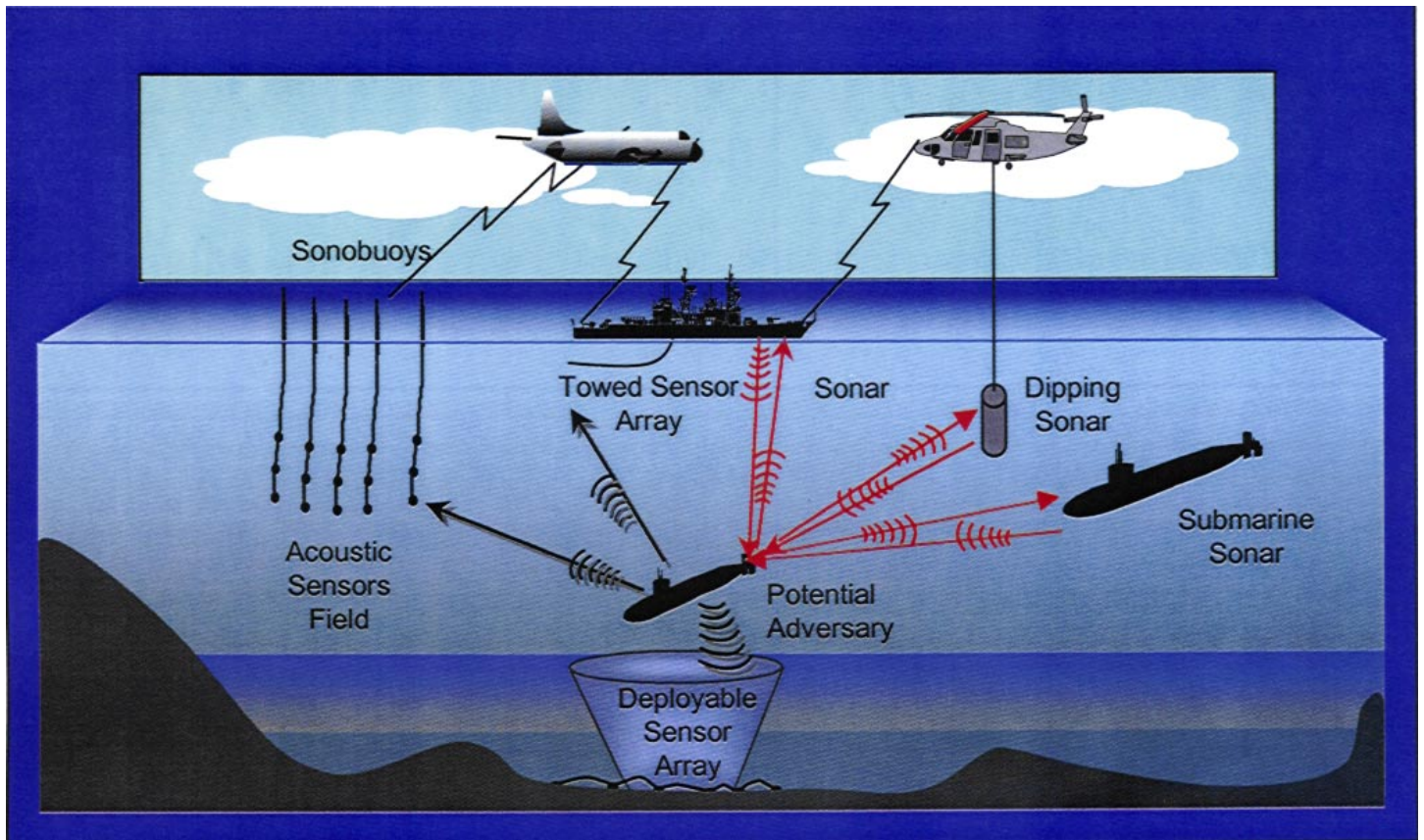
buy each year. Technical problems and cost growth have adversely affected the SH-60R helicopter conversion program that will work together with Navy ships to detect, track, localize, and destroy enemy submarines. This program's high cost has already forced the Navy to reduce the number of helicopters it intends to convert. The Navy has still not established priorities among individual antisubmarine warfare acquisition programs, which would allow it to concentrate resources on the systems that would produce the highest payoff in added capability. The Navy is implementing a new process to address the priority of the various capabilities it needs to develop. However, this process does not address the priority of individual projects within each capability area, relates only to early science and technology projects, and does not extend to those research projects that have transitioned to procurement. The Navy is pursuing several training initiatives to improve the proficiency of crews. However, the shallow-water training ranges the Navy says it needs may not be available for many more years, owing to funding limitations.

---

## Background

The primary goal of antisubmarine warfare is to deny the enemy effective use of its submarines against our ships. The Navy uses antisubmarine sensors and weapons on its surface ships, submarines, and aircraft, along with fixed and deployable acoustic and nonacoustic sensors to detect, track, and destroy enemy submarines. Figure 3 illustrates antisubmarine warfare functions.

Figure 3: Techniques Used in Littoral Regions to Detect and Locate a Diesel Submarine



Source: GAO's analysis based on U.S. Navy's data.

Most current antisubmarine warfare systems were designed during the Cold War to pursue nuclear submarines operating in the open-ocean environment. At the time, antisubmarine warfare was one of the Navy's highest-priority missions because of the global threat posed by the former Soviet Union. Since the end of the Cold War, DOD has shifted its focus to regional threats and conflicts and has targeted antisubmarine efforts toward the threat posed by diesel-electric submarines operating in the littorals. Despite this emphasis, the Congress has been concerned about the Navy's progress in developing the capabilities necessary to conduct littoral operations, including antisubmarine warfare in shallow waters. In response to congressional direction, DOD conducted an assessment of antisubmarine warfare capabilities and shortfalls in 1997. The assessment concluded that the proficiency of the Navy's antisubmarine warfare had

---

declined and that improvements were needed in training, organization, and the modernization of its weapon systems.

---

## Previous GAO Findings

In July 1999, we reported that (1) the Navy's Anti-Submarine Warfare Assessment did not contain the rigorous analysis of antisubmarine warfare shortfalls and capabilities required by the Congress, (2) the information to support the Assessment's findings was not always complete, and (3) priorities among antisubmarine warfare programs had not been established. The Assessment noted that funding levels in the fiscal year 1999 budget provided for adequate programs and equipment to respond to the most likely threats, but we reported that the funding levels for antisubmarine warfare in the fiscal year 2000 budget were lower than they were in the fiscal year 1999 budget for some programs. Consequently, we concluded that the Assessment was not a useful tool for making resource allocation decisions.

The Navy subsequently provided the Congress with an antisubmarine warfare "Roadmap" that placed antisubmarine warfare programs in one of three priority categories. We reported that the Roadmap provided useful information on programs that the Navy believes are needed to improve littoral antisubmarine warfare operations, but it did not identify priorities within each category and was of limited use as a resource allocation tool.

DOD agreed with the findings of our report.

---

## Some Progress Has Been Made

The Navy is making progress in addressing shortfalls identified in the 1997 Anti-Submarine Warfare Assessment. The Navy cited progress on several individual programs it believes is necessary to improve its littoral antisubmarine warfare capability, as shown in the following examples:

- The Navy has launched several new antisubmarine warfare training initiatives, including the development of on-board training systems using real-world data to help improve crew's proficiency.
- The Navy has installed the first phase of its Acoustic Rapid Commercial Off-the-Shelf Insertion program on 24 attack submarines. Subsequent phases are scheduled for developmental and operational testing in fiscal years 2001 and 2002. This program is intended to enable the acceptance of major software updates and capability enhancements among existing systems.



- 
- The Navy is using commercial off-the-shelf technology to replace and upgrade older antisubmarine warfare combat systems on surface ships. In April 1999, funds were reprogrammed to accelerate the development, procurement, and installation of improved systems. The Navy plans to procure and install 15 improved antisubmarine warfare systems on new DDG-51 Arleigh Burke class destroyers from fiscal year 2003 through fiscal year 2009. The Navy is also developing plans to backfit the new system on its other older surface combatant ships.

As mentioned earlier, the Navy has a new process to focus science and technology research resources on programs that respond to 12 desired future naval capabilities, one of which is littoral antisubmarine warfare. Integrated product teams have been established for each of the capabilities. Each team is tasked to define the specific capabilities for its area, establishing priorities within each capability area, and begin developing a science and technology program to enable the realization of those capabilities. The Anti-Submarine Warfare Requirements Division Director, as Chair of the Littoral Anti-Submarine Warfare Integrated Product Team, leads the development of the antisubmarine warfare science and technology investment plan. The plan establishes objectives and priorities to guide future science and technology investments.

To gauge the effectiveness of the investments in each capability area, the Navy developed performance measures. For example, to measure the effectiveness of investments in tactical sensing, the Navy established a goal to increase the strength of its electronic signal by a specific number of decibels against environmental clutter. From fiscal year 2002 through fiscal year 2007, the Navy plans to invest \$298 million in 13 different science and technology programs to improve tactical sensing. However, according to the plans we reviewed, the Navy made no attempt to develop a priority among the 13 programs. Moreover, this process does not affect any antisubmarine warfare programs that have already transitioned to production.

---

## Impact of Navy's Funding Decisions

Further progress in developing improved capabilities may be limited by funding reductions in specific programs and competition among a large number of acquisition programs for the same resources. The Navy has not established funding priorities among its various antisubmarine programs. This approach has stretched out the acquisition and delayed the introduction of some needed systems.

---

The Navy's funding for antisubmarine warfare programs has not been at the levels it deemed adequate to respond to the most likely threats, and funding decisions may not reflect the most critical priorities. The Navy's 1997 Anti-Submarine Warfare Assessment concluded that the funding levels for fiscal years 1999 through 2003 contained in the budget request for fiscal year 1999 provided adequate funding for programs and equipment needed to respond to the most likely threats. The budget showed funds increasing for antisubmarine warfare procurement during the period, but slightly decreasing for research, development, testing, and evaluation. The budget submission for fiscal year 2000 reduced the projected funding levels for antisubmarine warfare procurement for fiscal years 2000 through 2003. As a result, a number of procurements were delayed. The budget submission for fiscal year 2001 further reduced the planned increase in procurement funding. Specifically, the President's fiscal year 2001 budget represented a \$283 million reduction in procurement funding for antisubmarine warfare aircraft, sensors, and other weapons compared with the levels projected in the fiscal year 2000 budget.

Funding for antisubmarine-warfare-related research, development, test, and evaluation is projected to remain relatively flat from fiscal year 2001 to 2005. The President's budget request for fiscal year 2001 was about \$114 million more than the amount requested in the fiscal year 2000 budget.

A number of important individual programs have experienced funding reductions, technical problems, schedule delays, and cost growth, as shown in the following examples:

- Funding reductions within the MK-54 Lightweight Torpedo program will delay its fleetwide introduction by 2 years and reduce the number of torpedoes the Navy can buy each year. As a result, the fleet will have only about 40 percent of the required number of these weapons by fiscal year 2009.
- Technical problems and cost growth have adversely affected the Navy's SH-60R helicopter conversion program. The conversion includes refurbishing the helicopter's engine, rotors, and other equipment; upgrading electronics and information-processing systems; and incorporating a new sonar system designed to significantly improve the capability to detect and classify diesel submarines. However, cost growth in the conversion program has required the Navy to reduce the number of helicopters it intends to convert from 145 to 112 for the next 7 years.

- 
- The Navy is pursuing several training initiatives to improve the crew's proficiency, but the shallow-water training ranges that the Navy says it needs may not be available until fiscal years 2007-2013 because of other funding priorities.
  - Navy officials delayed the procurement and installation of antisurface improvement kits<sup>12</sup> on 10 P-3C antisubmarine aircraft because \$250 million was redirected from this program to fund other competing, non-anti-submarine requirements for naval aviation.
  - The Navy said it may not have sufficient sonobuoys<sup>13</sup> to meet future training and readiness inventory levels because \$65.3 million was redirected from this program to fund competing requirements.

---

## Antiship Cruise Missile Defense

The Navy's ship defense capabilities against currently deployed cruise missiles are marginal, and none of the acquisitions that the Navy is currently pursuing will provide adequate protection against improved versions of these weapons. Consequently, surface ships will be at risk when operating within the range of these weapons. DOD is currently reviewing a Navy draft strategy for addressing the threat posed by cruise missiles.

---

## Background

The proliferation of sophisticated antiship cruise missiles threatens Navy ships' ability to operate and survive in the littoral. The threat to surface ships from sophisticated antiship missiles is increasing. Nearly 70 nations have deployed sea- and land-launched cruise missiles, and 20 nations have air-launched cruise missiles. There are over 100 existing and projected missile varieties with ranges up to about 185 miles. The next generation of antiship cruise missiles—some of which are now expected to be fielded by 2007—will be equipped with advanced target seekers and stealthy design. These features will make them even more difficult to detect and defeat.

In response to this threat, the Chief of Naval Operations directed a comprehensive review of ship self-defense requirements. Completed in

---

<sup>12</sup>Anti-surface improvement kits provide antisubmarine capability improvements through the installation of state-of-the-art nonacoustic sensors and current technology communications suites.

<sup>13</sup>Sonobuoys are expendable acoustic sensors used primarily by antisubmarine aircraft. (See fig. 3.)

---

fiscal year 1996, this study formally identified the capabilities needed by each ship class to defend against cruise missile threats. Since then, the Navy has spent \$3.8 billion, largely in research and development, to improve its ship defense capabilities, and it plans to spend another \$5.1 billion over the next 6 years.

---

## Previous GAO Findings

In July 2000, we reported that most surface ships have only limited cruise missile defense capabilities and that the Navy lacked a comprehensive and consistent strategy for improving ship self-defense. We recommended that the Navy develop such a strategy. Specifically, we reported that the Navy's plans for meeting ship self-defense requirements did not include all affected ship classes, establish priorities among the classes, consistently use a baseline from which to measure progress, or provide time lines for achieving the desired improvements. We also reported that the Navy's assessment of cruise missile defense capabilities overstated the actual and projected capabilities against a growing threat. Furthermore, we reported that funding shortfalls had reduced the readiness of existing ship self-defense systems.

DOD concurred and said that our report provides an accurate assessment of the Navy's ship self-defense situation. DOD subsequently directed the Navy to develop a comprehensive strategy that clearly articulates priorities, establishes baselines, provides time lines, and defines resource needs for achieving required capabilities.

---

## Status of Programs

The Navy's ship self-defense capabilities and programs are the same as we reported last summer; however, the Navy is in the process of developing a comprehensive strategy to address the antiship cruise missile threat. An initial report outlining the strategy has been delivered to the Secretary of Defense but not to us.

---

## Naval Surface Fire Support

The Marine Corps will not have the ship-based fire support it needs for at least another decade. The Navy's program to develop an improved 5-inch gun with an extended-range guided munition for its cruisers and destroyers has experienced technical and contractual problems. The Navy said that recent tests indicate that the program is on track to achieve an initial operating capability currently scheduled for fiscal year 2005. However, this munition will not meet all of the Marine Corps' requirements. The Navy is developing a new 155-millimeter advanced gun and associated munitions for the DD-21 land-attack destroyer and an

---

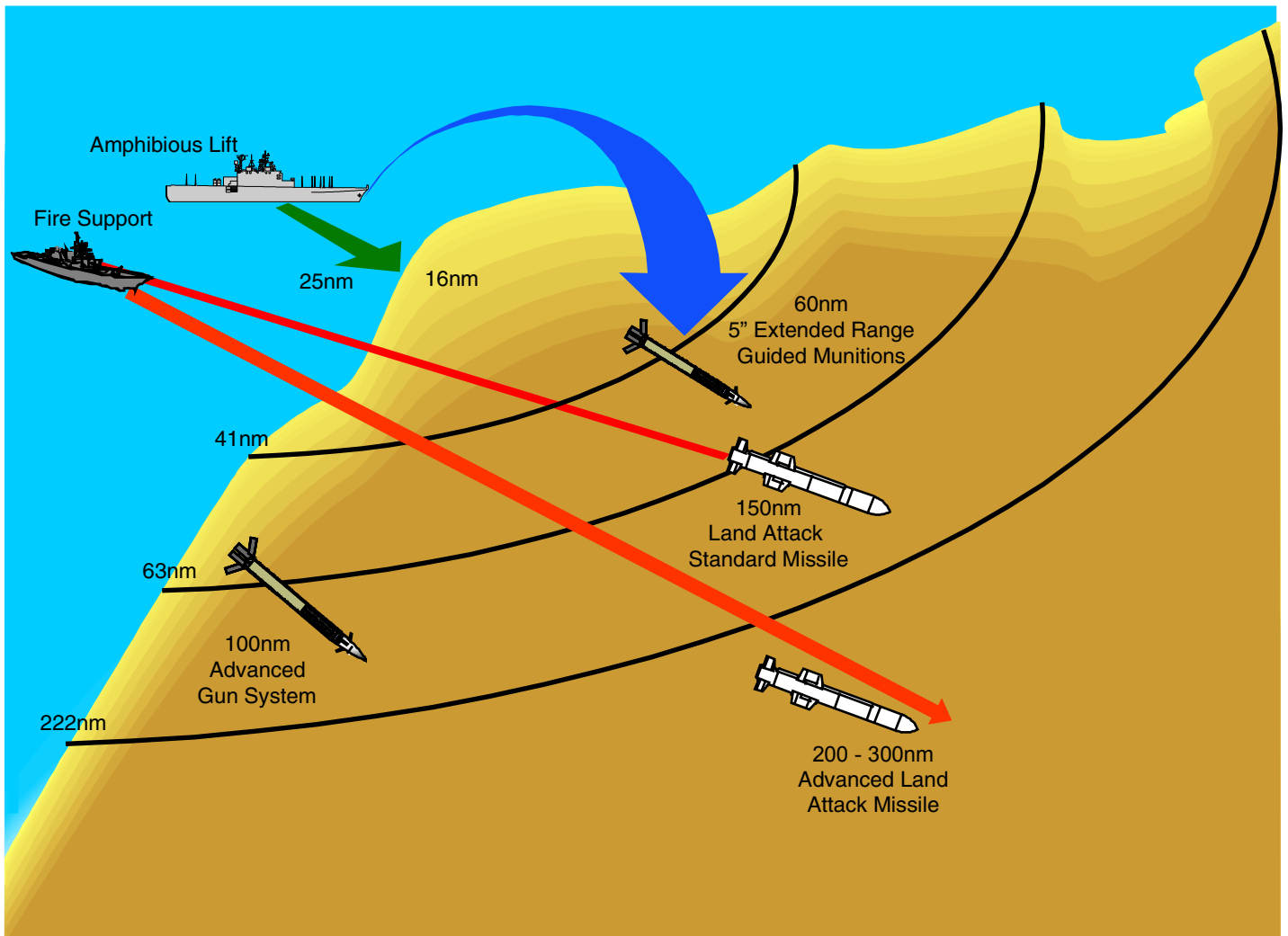
Advanced Land Attack missile to meet the Marine Corps' fire support requirements. The first ship of this class is not planned to be operational until fiscal year 2011 and the last ship not until 2020. In addition to the 5-inch and 155-millimeter guns, the Navy is developing a Land Attack Standard Missile. This missile is scheduled to achieve an initial operating capability in fiscal year 2004.

---

## Background

The Marine Corps' future war-fighting concept for littoral operations will stress speed, maneuverability, and avoidance of enemy strong points to achieve military objectives. This concept assumes that amphibious assaults will be launched from at least 25 nautical miles from shore to enhance surprise and the survivability of the fleet and invading forces. According to the Marine Corps, operating at this distance from shore and the need to neutralize enemy artillery at its maximum range results in a near-term requirement for naval gunfire support from 41 to 63 nautical miles to support amphibious assault landings and combat operations ashore. However, the Marine Corps expects to conduct operations farther inland in the future and has revised the required range for future ship-based fire support to 200 nautical miles. Figure 4 illustrates the Marine Corps' naval surface fire support requirements.

Figure 4: Naval Surface Fire Support Requirements



Source: U.S. Navy.

The Marine Corps has stated a need for both conventional unguided and precision munitions to meet its requirements. Each fire support ship should be able to deliver munition effects that equal the explosive weight and volume of fire from an artillery battery of six 155-millimeter howitzers firing high-explosive ammunition.

---

The Navy has had no credible surface fire support capability since it retired its *Iowa* class battleships. The Navy has said that it does not intend to reactivate battleships because the munitions fired by their 16-inch guns do not meet the Marine Corps' requirements for range and accuracy and because of the high cost of manning and operating these ships. Instead, the Navy is executing a two-phase plan to develop modern surface fire support capabilities. In the first phase, planned for completion by 2009, the Navy plans to develop a modified 5-inch gun and extended-range guided munition, a land-attack missile, and a mission-planning system for installation on the current classes of cruisers and new-construction DDG-51 destroyers. The second phase of the modernization program includes the development of a 155-millimeter gun and munition and an advanced land-attack missile for the DD-21 class of destroyers that are intended to fully meet the Marine Corps' requirements.

---

## Previous GAO Findings

In June 1999, we reported that the weapons developed during the first phase were not expected to satisfy the full range of the Marine Corps' naval surface fire support requirements but that the Navy expects the weapons planned for the second phase to meet those requirements. We estimated that the cost of both phases of the development program is about \$2 billion—not including the cost of the ships. We also reported that the development of the modified 5-inch gun was on schedule but that the development of the extended-range guided munition had been delayed by technical problems and that its cost had increased. We concluded that even if the munition can be successfully acquired, it will be many years before the fleet will have the improved surface fire support weapons in the quantities that are needed to support major combat operations.

DOD concurred with our report.

---

## Status of Program

The development of the modified 5-inch gun appears to be on schedule and is undergoing shipboard testing. However, the development and testing of an extended-range guided munition for this gun has again been delayed by technical and contractor performance problems, and the achievement of an initial operational capability has slipped by 4 years to fiscal year 2005. Recent flight tests of this munition have achieved some success, but it is still too soon to know if its development will be successful. For example, it is still not certain that the munition can meet range and lethality requirements. Even if this munition is successfully developed, it will not provide the capabilities needed by the Marine Corps. Alternatives to the current extended-range guided munition design are

---

becoming available. The Navy has funded a number of technical demonstrations to examine these alternatives.

The development of an advanced 155-millimeter gun system and associated munition and an Advanced Land Attack Missile is intended to meet the Marine Corps' surface fire support requirements. However, these weapons system are planned for the new DD-21 class of destroyers, which are not scheduled to begin entering the fleet until fiscal year 2011. The final ship of this class is not planned for completion until fiscal year 2020. Consequently, it will be many years before the Navy will be able to meet the Marine Corps' fire support requirements, even if the DD-21 development schedule can be executed as currently planned. Any delays in the development and procurement of the DD-21 ships will delay the achievement of needed fire support capabilities.

The development of the Land Attack Standard Missile is currently on schedule and within previously estimated costs. It is expected to reach initial operating capability in fiscal year 2004. However, the cost of each missile—estimated at about \$400,000—and the small quantity of missiles that will be purchased will probably limit the use of this missile to high-value targets.

The Advanced Land Attack Missile is being developed for the DD-21 and for possible retrofitting onto other surface ships and submarines. The missile is currently expected to reach initial operating capability with the DD-21 in fiscal year 2011. The Navy is currently conducting a congressionally directed Analysis of Alternatives to determine the future course of this acquisition.

The Naval Fires Control System is a mission-planning system designed to tie together the various sensor and fire-control systems of the various naval surface fire support and land attack weapons. It will support the extended-range guided munitions, Land Attack Standard Missile, Advanced Land Attack Missile, and Tomahawk cruise missile system. It is expected to reach initial operating capability in fiscal year 2003.

---

## Conclusions

A lack of important war-fighting capabilities increases the risk to our naval forces in the littoral and could limit their use until the needed capabilities can be provided.



---

## Mine Countermeasures

The congressionally required certification of the Navy's Mine Warfare Plan by the Secretary of Defense could be strengthened by requiring the Secretary to provide an annual accounting of the Navy's progress toward achieving improved organic mine countermeasures and other capabilities. Unless the Congress extends the certification requirement beyond fiscal year 2003, the Navy's mine warfare programs could lose the visibility and priority they have gained in recent years. Moreover, until the Navy develops a shallow-water mine breaching and clearing capability, sea mines will continue to threaten amphibious landings and follow-on logistical support operations. A decision on a future mine countermeasures force structure is needed to determine the types and quantities of systems to be procured and help set priorities among systems and the level of resources that will be required for their development, procurement, and sustainment.

---

## Antisubmarine Warfare

The Navy's funding for antisubmarine programs continues to be below the level that the Navy deemed adequate in its 1997 Assessment to respond to the most likely threats. Currently, a large number of acquisition programs are being funded at reduced levels, which is leading to delays in the development of needed systems. Additional progress in overcoming shortfalls identified in the Navy's 1997 Anti-Submarine Warfare Assessment may be limited by a lack of funding and the Navy's failure to establish priorities among competing antisubmarine warfare acquisition programs.

---

## Matters for Congressional Consideration

Given continuing shortfalls in the Navy's ability to detect and neutralize enemy mines and the slow pace of improvement, the Congress may wish to extend its annual requirement for the Secretary of Defense to certify the Navy's Mine Warfare Plan through fiscal year 2006. The Congress may also want to strengthen the effect of the certification by requiring the Secretary to provide a report detailing the priorities of the various mine countermeasures programs that the Navy is pursuing under the Mine Warfare Plan and provide an annual accounting of the progress the Navy has made with each program.

As the Navy's antisubmarine warfare procurement funding is below the levels that the Navy deems adequate to address the most likely threats, the Congress may wish to require the Secretary of Defense to provide an updated assessment of the Navy's antisubmarine capabilities and shortfalls. The assessment should identify the programs, their relative

---

priority, and the funding that will be required to develop the systems that are needed to counter current and future threats.

---

## Recommendation for Executive Action

We recommend that Secretary of Defense direct the Secretary of the Navy to develop a more comprehensive mine countermeasures warfare plan. The plan should identify and address shortfalls and limitations in mine countermeasures capabilities in the littoral—particularly shortfalls and limitations in breaching and clearing minefields very close to the shore. In addressing limitations, the plan should identify the mix of mine warfare capabilities and systems for its future force structure to include the types and quantities of systems to be procured; priorities among systems; development schedules for the systems; and the level of resources required for development, procurement, and sustainment.

---

## Agency Comments

In written comments on this report, DOD agreed that it provides an accurate assessment of the Navy's mine countermeasures, antisubmarine warfare, naval surface fire support, and ship cruise missile defense capabilities. DOD also agreed with our recommendation for the Navy to more explicitly identify shortfalls and limitations in mine countermeasures capabilities in the littoral.

DOD said that our statement that the Navy had not decided on the future mix of organic and dedicated mine countermeasures platforms and systems required amplification. DOD noted that on the bases of preliminary system performance estimates and studies, the Navy has determined an initial mine countermeasures force level for organic systems. DOD also noted that initial funding plans for achieving this force level are provided in the Future Years Defense Program. However, this force level decision does not address the size and composition of future dedicated mine countermeasures systems and platforms. Furthermore, the Navy has not decided how much of the mine warfare mission can be satisfied by organic systems and how much can be satisfied by dedicated systems. We noted in the report that the Navy is waiting for additional systems performance data and for more analytical study results before deciding on the ultimate size and composition of its organic and dedicated mine countermeasures forces. Until such decisions are made, the Navy will not be able to plan the full extent of its future funding needs for all mine countermeasures forces, from the standpoint of development, procurement, maintenance, and modernization.

---

DOD did not agree with our statement that the Navy has not established funding priorities among its various antisubmarine and mine countermeasures programs. DOD asserted that the budget takes into account priorities across all of the military services and war-fighting areas and represents an appropriate investment strategy. Since DOD's budget represents the outcomes of many diverse constituencies competing for limited resources, funding tradeoffs and compromises are required to achieve agreement. As we have previously reported, DOD employs overly optimistic planning assumptions in its budget formulation, which leads to far too many programs for the available dollars.<sup>14</sup> Optimistic planning provides an unclear picture of defense priorities because tough decisions and trade-offs are avoided.

On multiple occasions, the Congress has unsuccessfully sought information from DOD on the relative priorities of the programs being funded, the priorities among requirements, and the priorities of programs not funded. For example, the Congress, after directing the Secretary of Defense to provide an assessment of needed antisubmarine warfare capabilities, subsequently directed the Secretary to prioritize the programs discussed in the assessment and provide the estimated costs over time to develop and procure the needed capabilities.<sup>15</sup> The information the DOD has provided to the Congress in its mine warfare certification submissions and its Anti-submarine Warfare Assessment and the subsequent Roadmap did not provide a prioritized ranking of competing capabilities or individual programs within those capabilities. We have also reported that leading organizations follow a defined process for ranking and selecting projects.<sup>16</sup> The selection of projects is based on preestablished criteria and a relative ranking of investment proposals. These organizations determine the right mix of projects by viewing all proposed investments and their existing assets as a portfolio. They find it beneficial to rank projects because the number of requested projects exceeds available funding. If such specific rankings of programs were provided to the Congress as supplemental information, they could serve as reference points from

---

<sup>14</sup>See *DOD Budget: Substantial Risks in Weapons Modernization Plans* (GAO/T-NSIAD-99-20, Oct. 8, 1998).

<sup>15</sup>Classified Annex prepared by the committee of conference to accompany the conference report on the National Defense Authorization Act for Fiscal Year 1997.

<sup>16</sup>See *Executive Guide: Leading Practices in Capital Decision-Making* (GAO-AIMD-99-32, Dec. 1998).

---

which to view year-to-year changes in budget request amounts relative to the stated priorities.

DOD also disagreed with our statement that funding for antisubmarine warfare programs has not been at the levels that the Navy deemed adequate to respond to the most likely threats. DOD stated that current funding for antisubmarine warfare is considered adequate when viewed in the context of the total threat to the Navy when operating in littoral regions. We accept DOD's determination that current funding levels are adequate. Nevertheless, as stated in our report, these levels are significantly less than the funding levels the Navy previously said were adequate for fiscal years 1999 through 2003.

DOD provided a number of technical comments, which we have incorporated in this report. DOD's written comments are reprinted in appendix I.

---

## Scope and Methodology

To obtain updated information of the status of the Navy's mine countermeasure plans, programs, and the certification process, we interviewed and obtained documentation from officials of the Office of the Secretary of Defense; the Joint Chiefs of Staff; Office of the Secretary of the Navy; Office of the Chief of Naval Operations; the Naval Air and Sea Systems Command; Office of Naval Intelligence; Naval Oceanographic Office; Office of Naval Research; and the Surface Warfare Development Group. We also interviewed and obtained information from officials engaged in mine countermeasures scientific and technical research and development activities at the Navy Coastal Systems Station in Panama City, Florida. To gain an understanding of existing capabilities and requirements, and operational perspective, we interviewed and obtained information from the staff of the Commander, Mine Warfare Command, in Corpus Christi and Ingleside, Texas. Finally, we interviewed and obtained information from officials engaged in the development of mine countermeasures doctrine, concepts of operations, and tactics at the Navy Warfare Development Command in Newport, Rhode Island.

To determine the status of antisubmarine warfare programs and initiatives, we interviewed officials of the Office of the Chief of Naval Operations, and the Navy Air and Sea Systems Command and its field activities. To identify the progress the Navy is making to improve antisubmarine warfare capabilities we obtained and analyzed data from the 1997 Anti-Submarine Warfare Assessment and the 1999 antisubmarine warfare "Roadmap." We obtained and discussed information on antisubmarine warfare capabilities

---

and selected antisubmarine warfare programs with officials of the Office of the Chief of Naval Operations; the Naval Sea and Air System Commands; and the Submarine, Surface, Air, Anti-Submarine Warfare and Naval Training and Education divisions under the Deputy Chief of Naval Operations for Warfare Requirements and Programs. We also obtained and discussed data on antisubmarine warfare littoral capabilities and selected programs with officials of the Naval Undersea Warfare Center in Newport, Rhode Island; the Surface Warfare Development Group in Norfolk, Virginia; and the Navy Warfare Development Command in Newport, Rhode Island.

To determine the status of the Navy's efforts to develop a comprehensive antiship cruise missile defense strategy, we interviewed officials and obtained documentation from the Office of the Secretary of Defense and the Office of the Chief of Naval Operations.

To determine the status of the Navy's surface fire support modernization programs, we interviewed officials and obtained documentation from officials of the Office of the Chief of Naval Operations and the Naval Sea Systems Command, and the Marine Corps Combat Developments Command.

We conducted our review from June 2000 through February 2001 in accordance with generally accepted government auditing standards.

---

We are also sending copies of this report to Senator John Warner, Chairman, and Senator Carl Levin, Ranking Member, Senate Committee on Armed Services; Senator Ted Stevens, Chairman, and Senator Robert C. Byrd, Ranking Member, Senate Committee on Appropriations; and Representative C.W. Bill Young, Chairman, and Representative David R. Obey, Ranking Minority Member, House Committee on Appropriations. We are also sending copies of this report to the Honorable Donald H. Rumsfeld, Secretary of Defense; Mr. Robert B. Pirie, Jr., Acting Secretary of the Navy; the Honorable Bruce A. Dauer, Deputy Comptroller of the Navy; and the Honorable Mitchell E. Daniels, Jr., Director, Office of Management and Budget. Copies will also be made available to others upon request.

---

Please contact me on (202) 512-4530 or Anton Blieberger on (757) 552-8109 if you or your staff have any questions concerning this report. Key contributors to this assignment were Martha Dey, John Heere, Richard Price, and Richard Silveira.

A handwritten signature in black ink that reads "James F. Wiggins". The signature is written in a cursive style with a large, looping initial "J".

James F. Wiggins  
Director, Acquisition and  
Sourcing Management

# Appendix I: Comments From the Department of Defense



## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

18 APR 2001

Mr. James F. Wiggins  
Director, Acquisition and Sourcing Management  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Wiggins:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "NAVY ACQUISITIONS: Improved Littoral War-fighting Capabilities Needed," dated March 19, 2001 (GAO Code 707519/OSD Case 3059).

The Department partially concurs with the report. It provides an accurate assessment of the Navy's mine countermeasures, anti-submarine warfare, naval surface fire support, and ship cruise missile defense capabilities.

The Department believes the GAO's statement that the Navy has not decided on a mix of organic and dedicated platforms and systems that will make up its future mine countermeasures force requires amplification. Based on preliminary performance estimates and force studies, the Navy has determined an initial mine countermeasures force level and schedule for achieving this level. The Navy continues to refine and update types and quantities of systems to be procured, based on continuing research, development, and testing.

Further, the draft report states that the Navy has not established funding priorities among its various anti-submarine and mine programs. The Department does not agree. The budget process takes into account the priorities of all Department programs across all Services and war-fighting areas. The resulting budget represents an appropriate investment strategy within available resources.

The DoD response to the GAO's recommendation and findings is attached. Suggested technical changes to the draft report have been provided separately.

The Department appreciates the opportunity to comment on the draft report.

Sincerely,

George R. Schneiter  
Director  
Strategic and Tactical Systems

Attachment: As stated.





OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

GENERAL ACCOUNTING OFFICE DRAFT REPORT DATED MARCH 19, 2001  
(GAO CODE 707519/OSD Case 3059)

"NAVY ACQUISITIONS: Improved Littoral War-fighting Capabilities Needed"

DOD COMMENTS ON THE GAO RECOMMENDATIONS

**RECOMMENDATION:** The GAO recommended that the Secretary of the Navy develop a more comprehensive mine countermeasure warfare plan. The plan should identify and address shortfalls and limitations in mine countermeasure (MCM) capabilities in the littoral—particularly shortfalls and limitations in breaching and clearing minefields very close to the shore. In addressing limitations, the plan should identify the mix of mine warfare capabilities and systems for its future force structure to include the types and quantities of systems to procure, priorities among systems, development schedules for the systems, and the level of resources required for development, procurement, and sustainment. (pp. 26-27/GAO Draft Report)

**DoD RESPONSE:** Partially concur. The Department agrees with the recommendation for the Navy to more explicitly identify shortfalls and limitations in mine countermeasures capabilities in the littoral. However, system priorities, developmental schedules, and resource levels are addressed in developing the President's DoD budget each year. The results of this process are in the Mine Warfare Plan and reported to Congress each year, in the Navy's budget testimony as well as in acquisition-related reports.

**GAO Statement A:** The GAO reported that "the Navy has not decided on a mix of organic and dedicated platforms and systems that will make up its future MCM force structure. A decision is needed to determine the types and quantities of systems to be procured, help set priorities among systems, and determine the level of resources required for development, procurement, and sustainment." (pages 4, 10, and 11)

**DoD Response:** Nonconcur. The Force mix recommended in the MCM Force-21 Study, completed in June 1999, is the basis for the Future Years Defense Program.

In the MCM Force-21 Study, the Navy analyzed organic/dedicated MCM force mixes necessary to meet the 21<sup>st</sup> century war-fighting requirements. Scenarios for the 2015 time frame and projected system performance for developmental systems were used as the context for developing concepts of operations and identifying force allocation options, given conflicting missions. The concepts and force allocations were developed through a series of seminar exercises, engaging both the broader fleet communities and the specialized mine warfare community. The recommended force was used as the basis for the Future Years Defense Program.



Now on p. 24.

Now on pp. 3, 4, 10,  
and 11.



For a carrier battle group, the recommended organic mine countermeasures force structure is for two mine-capable CH-60S helicopters, one Long-term Mine Reconnaissance System, and one Remote Minehunting System. The MH-60S would be outfitted with the AN/AQS-20X Airborne Minehunting Sonar, Airborne Mine Neutralization System, Airborne Laser Mine Detection System, Rapid Airborne Mine Clearance System, and Organic Airborne and Surface Influence System. In accordance with direction by the Secretary of Defense, the dedicated force will be maintained until the desired organic capabilities have been acquired and demonstrated.

As the concepts of operation mature and actual system performance is demonstrated, the analyses will be repeated and the future force structure, both dedicated and organic, will be re-evaluated.

**GAO Statement B:** The GAO reported that the SABRE (Shallow-water Assault Breaching Systems) and DET (Distributed Explosive Technology) programs were temporarily suspended until a Navy Review Board could assess the validity of the shallow water MCM requirements. (page 11)

**DoD Response:** Partially concur. The Navy Review Board, Marine Corps Review Board, and the Marine Requirements Oversight Council validated the shallow-water mine countermeasure requirements.

The SABRE and DET development programs were temporarily suspended until a concept of operation and a concept of employment are developed and demonstrated. A test of the concepts was conducted during Kernal Blitz 01 in the Spring of 2001. The Navy is evaluating whether or not SABRE and DET are suitable as interim solutions to the Shallow-Water MCM Operational Requirements Document until a long-term solution is developed.

**GAO Statement C:** The GAO reported that the Navy has not established priorities among individual mine countermeasures and anti-submarine warfare programs that would allow it to concentrate resources on the systems that would produce the highest payoff in added capability. (pages 10, 12, and 16)

**DoD Response:** Nonconcur. The Navy and the Department annually review and establish priorities for all programs, including mine countermeasures and anti-submarine warfare, as part of the preparation of the President's budget. This process is designed to allocate resources to field essential capabilities, taking into account available technology and programmatic constraints. The Department has funded the highest-priority programs.

**GAO Statement D:** The GAO reported that the shallow-water training ranges the Navy says it needs may not be available until fiscal years 2007-2013, due to other funding priorities. (page 18)

**DoD Response:** Partially concur. The Navy's training initiatives to improve crew proficiency, coupled with the delay in threat development, is considered adequate to counter the threat through the Future Years Defense Program. The Navy intends to fund

Now on pp. 10-11.

Now on pp. 10, 11,  
and 15.

Now on p. 17.

Now on p. 16.

the required training ranges to support an anticipated initial operation capability in fiscal year 2003 and a full operational capability in fiscal year 2010.

**GAO Statement E:** The GAO reported that funding for anti-submarine warfare programs has not been at the levels it deemed adequate to respond to the most likely threats, and funding decisions may not reflect the most critical priorities. (page 17)

**DoD Response:** Nonconcur. Since the 1997 ASW Assessment, the Navy and the Department have continued to evaluate current and projected ASW competencies against the current and projected threat. Funding for this warfare area is considered adequate, when viewed in the context of the total threat the Navy must counter when operating in littoral regions.

The Department's budget process takes into account the priorities of all DoD programs across all Services and war-fighting areas. The resulting budget allocates resources to field essential capabilities within available resources. The Navy and the Department continually evaluate risk from the sum of all threats, and then allocate resources accordingly. The output of this process is explicitly endorsed by the Navy and Department leadership and is provided in the form of the President's Budget.

---

## Ordering Information

The first copy of each GAO report is free. Additional copies of reports are \$2 each. A check or money order should be made out to the Superintendent of Documents. VISA and MasterCard credit cards are also accepted.

Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

***Orders by mail:***

U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013

***Orders by visiting:***

Room 1100  
700 4<sup>th</sup> St., NW (corner of 4<sup>th</sup> and G Sts. NW)  
Washington, DC 20013

***Orders by phone:***

(202) 512-6000  
fax: (202) 512-6061  
TDD (202) 512-2537

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

***Orders by Internet***

For information on how to access GAO reports on the Internet, send an e-mail message with "info" in the body to:

[Info@www.gao.gov](mailto:Info@www.gao.gov)

or visit GAO's World Wide Web home page at:

<http://www.gao.gov>

---

## To Report Fraud, Waste, and Abuse in Federal Programs

***Contact one:***

- Web site: <http://www.gao.gov/fraudnet/fraudnet.htm>
- E-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)
- 1-800-424-5454 (automated answering system)