

March 9, 1994

CHARTING A COURSE FOR THE NAVY IN THE 21ST CENTURY

INTRODUCTION

During the Cold War, the main purpose of the U.S. Navy was to counter the Soviet Navy and to dominate the high seas. Today, of course, the global threat once posed by the former Soviet Navy has diminished. No other navy can challenge America's "blue water" fleet. Instead, the main threat to U.S. national interests arises from regional conflicts and violence in all corners of the world. This new strategic reality for America, coupled with the declining number of U.S. bases overseas, has changed the Navy's primary role. That role is now to project American military power from ship to shore.

The Navy released a new naval strategy in late 1992, entitled "...From The Sea," which reflects this fundamental shift in priorities.¹ In this strategy, naval expeditionary forces will be used in a wide range of responses to crises around the globe. Should the presence of these forces fail to deter aggression, they must be able to prevent the U.S. from losing the conflict until the full combat power of the Army and Air Force can arrive. Naval forces must also be able to conduct a full-scale naval campaign in support of a land force.

In assuming the lead in projecting American power, the Navy must focus on three areas: aircraft carriers, projecting land forces ashore, and submarines.

AIRCRAFT CARRIERS. The Navy needs at least twelve carriers to maintain a credible presence around the globe. In addition, the Navy needs an aircraft carrier dedicated to training pilots and flight deck crews. The aircraft on these carriers must be able to support ground forces and defeat enemy air threats along the world's coastlines. To do this, the Navy needs aircraft capable of operating day or night and in all kinds of weather. An aircraft with these capabilities must be developed as a replacement to the

1 "...From The Sea: Preparing the Naval Service for the 21st Century," Department of the Navy, Washington, D.C., September 1992.

A-6 *Intruder*, the Navy's most capable attack bomber, which is soon to be retired from service.

The Navy must also develop new aircraft capable of threatening targets deep in enemy territory. To be sure, cruise missiles and long-range Air Force aircraft fulfill much of this requirement, but the Navy also needs long-range carrier-based "stealth" aircraft which can evade enemy radar and strike over great distances, day or night, in all types of weather. The Experimental Attack/Fighter (A/F-X) had all these capabilities, but was canceled by the Clinton Administration as a cost-saving measure. This aircraft, or an alternative with the same features, must be developed and eventually deployed.

PROJECTING LAND FORCES ASHORE. Most of the world's industry, technology, and population is found within 50 miles of the ocean; nearly half is within 20 miles of a coastline.² The Navy must be able to control these coastal, or "littoral" areas in time of war.³ To do so, the Navy must:

✓ **Increase and modernize the Marine Corps' ability to move from ship to shore.**⁴

This will require that the Navy procure:

- ✗ seven additional helicopter carriers (LHD-1 class) and twelve next-generation amphibious ships already in research and development (LX class);
- ✗ 507 V-22 *Osprey* aircraft, which combine the hover features of a helicopter with the range and speed of a fixed-wing aircraft;
- ✗ 950 Advanced Amphibious Assault Vehicles (AAAV), heavily armed and armored vehicles that transport Marines from ship to shore and around the battlefield; and
- ✗ 84 LCAC-class hovercraft, which carry heavy cargo at high speeds from ships and then glide ashore on a cushion of air.

✓ **Overcome the mine threat.**

To further enhance its ability to operate in coastal regions, the Navy must develop equipment and tactics that can defeat enemy mines. Thus, as outlined in its 1993 *Mine Warfare Plan*, the Navy should procure:

- ✗ twelve mine detection ships (MHC-51 class) and fourteen mine destruction ships (MCM-1 class);

2 Charles E. Myers, Jr., "Littoral Warfare: Back to the Future," U.S. Naval Institute *Proceedings*, November 1990, p. 49.

3 "...From The Sea," p. 6.

4 For an earlier analysis of Marine Corps requirements and capabilities, see David Silverstein, "As the Military is Cut, America Still Needs the Marines," Heritage Foundation *Backgrounders* No. 871, January 13, 1992.

- ✗ one mine warfare command and control ship (MCS), using a converted amphibious ship until a new ship can be constructed by the turn of the century; and
 - ✗ the heavy lift ships, obtained through leasing or new construction, needed to transport the smaller mine detection and destruction ships rapidly to a crisis area.
- ✓ **Support landing operations with effective fire support.**
- In addition to these measures, the Navy must also improve the ability of its ships to provide fire support for troops ashore during the early stage of combat operations. Naval guns and ship-launched missiles must protect these forces until their own artillery has been brought ashore. The Navy should thus hasten development of new five-inch ammunition for its naval guns to replace aging ordnance developed prior to the Vietnam war. Together with the Army it should also develop new gun systems based upon new electro-thermal chemical and liquid propellant technology, which promises to increase the range and accuracy of both ship-based and ground-based weapons. Finally, the Navy can complement its use of gun systems with missiles such as the *Tomahawk* Land Attack (cruise) Missile (TLAM), which was used so effectively during the Persian Gulf war. New systems should be developed, including a naval variant of the Army's Tactical Missile System (ATACMS), which is a surface-to-surface missile that would fit into the existing vertical launch system (VLS) aboard many surface ships. Another related system that should be developed is the Joint Standoff Weapon (JSOW), a "cluster" bomb that would spread a number of smaller bombs over enemy tanks or other formations when dropped by an aircraft.

SUBMARINES. Submarines can carry cruise missiles and mines, travelling the world's oceans undetected and delivering their deadly payload to the enemy's doorstep. This makes them a critical asset to the Navy's new coastal warfare strategy. The collapse of the former Soviet Navy, with its several hundred advanced submarines, has diminished the underwater threat to U.S. and allied vessels. Nevertheless, submarine technology has begun to proliferate to potential Third World hotspots, including Iran and North Korea.⁵ The U.S. must remain unchallenged in submarine warfare and underwater detection technology.

To do so, its first priority must be to replace the *Los Angeles*-class attack submarines. The first of these were designed and built over twenty years ago and are approaching the end of their thirty-year service lives. The *Seawolf* was developed during the 1980s as the Cold War successor to the *Los Angeles*-class submarine. Its advanced capabilities are no longer required given the collapse of the Soviet Navy. The Navy should thus develop the so-called New Attack Submarine (NAS), based on advanced nuclear propulsion and composite metals technology. Although an advanced design, this submarine is somewhat less capable, but cheaper than the *Seawolf*-class attack submarine it will replace.

⁵ For example, Iran recently received the first of three *Kilo*-class diesel-electric attack submarines purchased from Russia.

The NAS is nonetheless several years from production. Until then, America's ability to build such advanced weapons systems must be preserved. The only way to ensure that this submarine industrial base can be maintained is to build submarines.⁶ Given current estimates of when the NAS will be available for delivery, though, there will be a gap between the date of delivery of the last *Los Angeles*-class submarine and the completion of the first NAS.⁷ To fill that gap, the Navy should complete the three *Seawolf*-class submarines that are now under construction.

The Navy should also continue to develop the ability of attack submarines to deliver cruise missiles and special operations forces. The submarine's natural "stealth" characteristics make it an ideal platform for both of these tasks. In the Persian Gulf war, submarines launched cruise missiles at targets in Iraq; submarines are also used regularly to put U.S. Navy special operation forces (SEALs) and Marine Corps reconnaissance teams secretly on enemy shores. Subs should continue to augment surface ships and aircraft in these roles.

Funding the Post-Cold War Navy. To develop these weapon systems, and hence to perform the mission assigned to it, the Navy will require 400 ships, thirteen aircraft carriers (including one specifically dedicated to training,) and 177,000 Marines. To fund this force, the Department of Defense must spend approximately \$101 billion (not adjusted for inflation) in 1997, the year when current force reductions will be completed. In each year thereafter, the budget must increase to keep pace with inflation.

PILLAR #1 OF NAVAL POWER: AIRCRAFT CARRIERS

Since World War II, aircraft carriers have been involved in two out of every three of America's military crises. From the evacuation of embassy staff from Somalia in January 1991 to early airstrikes on Iraq a few days later, political and military leaders have reacted instinctively to overseas crises by calling for the nearest carrier. The aircraft carrier's foremost advantage is its capability to project power from the relative safety of the open ocean. It also can remain at sea for months at a time. For these reasons, the aircraft carrier is a versatile and irreplaceable tool of American power.

The U.S. has fourteen carriers today, none of them idle. At any given time, there are three or four carriers steaming around the world. Three or four are training for deployment, another three or four are in port, having returned from overseas assignments, while about the same number are undergoing routine maintenance and overhaul. The Clinton Administration proposes reducing the number of carriers to eleven with an additional reserve carrier available for emergency overseas deployment.

This is insufficient. In addition to their use during war and other crises, carriers provide regular peacetime military presence in critical regions of the world—the Western Pacific Ocean, the Mediterranean Sea, the Indian Ocean, and the Persian Gulf. Such pres-

6 For a full discussion of America's defense industrial base, see Baker Spring, "Supporting the Force: The Industrial Base and Defense Conversion," Heritage Foundation *Background* No. 964, October 22, 1993.

7 Delivery of the first NAS is expected in 2006.

ence is indispensable to protect America's vital global interests. It reassures allies, intimidates potential aggressors, and offers opportunities for naval forces to train in places where they might one day have to fight. Keeping one carrier constantly on station in these regions requires that the Navy has enough carriers to allow for training, personnel turnover, transit time to and from overseas areas, and maintenance. This so-called rotation base is between four and eight additional carriers for each carrier deployed.⁸

In 1991, the Bush Administration began a policy of "flexible presence." This allowed carriers to spend less time on station in regions critically important to U.S. interests. Adopting this policy was an acknowledgement that even with fifteen carriers, which the Navy had at the time, the U.S. could not maintain a continuous naval presence overseas. With only eleven carriers, as the Clinton Administration plans, America's naval presence will be much less.

Allowing such huge gaps in naval coverage is a risky strategy. It amounts to accepting that at some point the U.S. may not be able to defend a vital interest. Adopting a force of eleven aircraft carriers means that regions where the U.S. has vital interests could be unprotected for a month or more. Such delays in deploying military force could endanger the lives of American troops by giving an enemy more time to prepare. Moreover, an "on-again, off-again" naval presence will increase uncertainty among U.S. allies and raise the risk that potential adversaries might doubt America's resolve. It also will encourage a dangerous arms race as allies and adversaries alike adjust their own military force structures to respond to the absence of U.S. power.

Former Secretary of Defense Les Aspin released his plan to reduce the Navy's power projection capability in September 1993.⁹ In that plan, known officially as the Bottom-Up Review of defense requirements, he stated that ten carriers will be sufficient to fight in two major regional conflicts "nearly simultaneously." The Aspin plan calls for an additional carrier; however Aspin himself noted that "the presence requirement drives the number of aircraft carriers more than the regional contingencies."¹⁰

Unfortunately, these eleven active carriers in Aspin's plan will be inadequate for that purpose. Even with twelve carriers, there will be gaps in peacetime forward presence; should a conflict arise, those gaps may become dangerously wide. In the Persian Gulf war alone, for example, six carriers were employed in Operation Desert Storm. If a war had broken out in Korea at the same time, which would have required an additional four or five carriers, the U.S. would have been left dangerously short of naval air power.

The Navy will need a minimum of twelve aircraft carriers to respond quickly and effectively to overseas crises, and to maintain an adequate presence in regions important to U.S. interests. Even at this level of force, the Navy could not support the nearly simultaneous two major regional conflicts as envisioned by the Aspin Bottom-Up Review plan. Congress wisely has supported development of the Navy's newest carrier, the CVN-76,

8 Ronald O'Rourke, "Naval Forward Deployments and the Size of the Navy," *CRS Report for Congress*, November 13, 1992, p. 5.

9 For a full discussion of the Clinton defense plan, see Lawrence T. Di Rita, et al., "Thumbs Down To The Bottom-Up Review," Heritage Foundation *Backgrounder* No. 957, September 22, 1993.

10 "Navy Study Tries To Match 'Enlargement' Policy, Force Structure," *Inside The Navy*, November 22, 1993, p. 2.

as a means both of modernizing the fleet and maintaining the carrier-building industrial base. This support must continue. But Congress also must continue to fund a force of at least twelve active and one reserve aircraft carriers.

The Functions of Naval Aviation

Carrier-based aircraft are assigned three types of offensive combat missions. These are:

- ① **Strike and interdiction: using aircraft to attack important ground targets or concentrations of enemy forces in and around the battlefield;**
- ② **Close Air Support: using attack aircraft to provide direct fire support for ground units by engaging enemy ground forces.**
- ③ **Air superiority: using fighter aircraft to clear the skies of enemy aircraft which threaten friendly ships, aircraft, and ground forces.**

In today's Navy, the F-14D *Tomcat* fighter fills the air superiority role, while the A-6E *Intruder* attack bomber provides the long-range, all-weather capability needed for strike/interdiction missions and close air support. In addition, the F/A-18C/D *Hornet* fighter-bomber can carry out any of these missions, depending on how it is armed and equipped. The aircraft complement on a carrier has roughly 24 F-14s, 24 F/A-18s, and 12 A-6s. These are accompanied by twenty or so additional aircraft for such missions as refueling, airborne radar, and electronic "jamming" and other combat support functions.

For the foreseeable future, carrier-based aircraft must continue to be able to perform each of these functions. However, the A-6 saw extensive service in the Vietnam war, and has been in the fleet for thirty years. The F-14 has been in service for twenty years. Current plans to retire both of these aircraft mean that the F/A-18 will be the only current carrier aircraft remaining by 2010.

New aircraft programs are expensive and can take at least fifteen years before aircraft are actually produced. The Navy must make wise decisions today about developing successors that will preserve all of the capabilities embodied in existing aircraft. These decisions must also account for significant changes in the threats against which naval aircraft will be used. The demise of the Soviet Union's large, sophisticated air force has reduced the air-to-air threat, while regional conflict and the proliferation of air defenses and surface-to-surface missiles make ground attack missions increasingly more difficult. Thus, as the Navy plans for its next generation of aircraft, it should procure:

- ✕ a stealthy, all-weather attack aircraft capable of long-range strike/interdiction and close air support missions; this would replace the A-6 *Intruder*.
- ✕ multirole aircraft for air superiority and for attack missions which are less demanding than those flown by the A-6's replacement;
- ✕ an Advanced Short Takeoff, Vertical Landing (ASTOVL) aircraft to replace the current AV-8B *Harrier II* "jump jet."

PILLAR #2 OF NAVAL POWER: PROJECTING POWER ASHORE

The Marine Corps serves as America's principal "force-in-readiness," available for deployment anywhere in the world at a moment's notice. They are the ground-force equivalent to aircraft carriers, designed to project American power quickly. Marines provided General Norman Schwarzkopf with the first combat-ready ground forces in Operation Desert Shield, with 16,500 Marines and more than fifty Marine tanks on the ground in Saudi Arabia just nineteen days after President Bush order the build-up of American power in the region.¹¹ In the past two years, Marines also have evacuated Americans from Liberia and Somalia, and provided disaster relief in Bangladesh and the Philippines. When President Bush decided to send humanitarian relief to the people of Somalia, he turned to the Marines; within three days, hundreds of Marines were ashore.

While the primary responsibilities of the other services will diminish with the end of the Cold War, most of what the Marine Corps does will become even more important in the future. This was reflected in the Clinton Administration's Bottom-Up Review, which calls for reductions in the Army, Air Force, and Navy while holding the Marine Corps at 174,000 active troops, up from the 154,000 proposed by the Bush Administration.

Marine units are deployed regularly on amphibious ships to the Western Pacific Ocean, the Mediterranean Sea, and the Indian Ocean. Marine forces, organized in Marine Air-Ground Task Forces (MAGTF), range in size from Marine Expeditionary Units (MEU), which contain roughly 2,500 troops, to Marine Expeditionary Forces (MEF) of 55,000. Each MAGTF has tanks, cannon and rocket artillery, engineers, attack and transport helicopters, and logistics support such as transportation, medical teams, fuel, and food.

The September 1992 Navy and Marine Corps white paper "... From The Sea" emphasizes the importance of projecting Marine forces ashore. The new naval strategy was approved in October 1992 when a new Expeditionary Warfare Directorate was created on the Navy staff. Headed by a Marine two-star general, this directorate is responsible for developing weapons and tactics for coastal or littoral warfare, mine warfare, and special operations.¹² With its new emphasis on amphibious and littoral operations, the Navy now must make a commitment to increase and modernize the Marines' ability to reach the shore from ships located out of sight of land. To do this, the Marine Corps needs to:

✓ Improve amphibious shipping capabilities.

The centerpiece of Marine Corps power projection is the Navy's fleet of amphibious ships. Equipped with flight decks for launching and recovering helicopters, these ships carry V-22 *Osprey* troop transport aircraft and AV-8B *Harrier* attack jets. They also have well decks from which smaller landing craft like the advanced amphibious assault vehicle (AAAV) and the Air Cushioned Landing Craft (LCAC) are launched.

11 Department of Defense, *Conduct of the Persian Gulf War*, April 1992, Appendix E, pp. 20-21.

12 "Navy Announces Creation of Expeditionary Warfare Division," *Inside the Pentagon*, October 8, 1992, p. 16.

The Navy will have two new amphibious ships for the 21st century. The first of these are seven amphibious assault ships of the LHD-class now being build, which will augment the five LHA amphibious assault ships now in service. These so-called big-deck ships are over 800 feet long and carry roughly 2,000 Marines. They contain the bulk of the ground forces and nearly all of the air forces of the Marine task force.

The second new amphibious ship, called the LX-90I, is on the drawing board. The LX will be roughly 700 feet long and can carry 700 Marines. The LX's improved design will enable one LX to provide the same capabilities now furnished by two older ships, the troop transport and docking ship (LPD-class) and tank landing ship (LST-class). The LST will soon be retired.

The amount of lift capacity needed by the Marine Corps is determined by two factors. The first is wartime contingency plans, which call for enough amphibious ships to land simultaneously two-and-a-half Marine Expeditionary Brigades (MEB) of between 13,100 and 16,500 combat troops each. This wartime requirement can be satisfied by deploying approximately thirty ships, including ten of the large "big deck" amphibious assault ships such as the LHD or LHA.

In addition to wartime contingency planning, peacetime plans dictate that three 1,500-man Marine Expeditionary Units be continuously deployed, one each in the Western Pacific Ocean, the Indian Ocean, and the Mediterranean Sea. To maintain these forward-deployed forces, the Marine Corps must have twelve such units for training and to serve as a rotating pool of replacements.¹³ Some twelve "big deck" (LHD and LHA) ships and 24 of the smaller LX and LPD amphibious ship will be needed, for a total amphibious fleet of 36 ships.

The Navy must begin now to develop the amphibious fleet of the next century. There are sixty amphibious ships in the fleet today, but scheduled retirements will reduce that number to 23 by 2008.¹⁴ As a result, amphibious shipping capacity will shrink 38 percent by 1995.¹⁵

The Marine Corps shipping requirements cannot be met without an aggressive ship-building plan. To achieve the required lift capability, the Navy's plan to build seven "big deck" amphibious aircraft carriers (LHDs), supported by Congress in the fiscal 1994 defense authorization bill, must stand. In addition to the already approved twelve "big decks," at least twelve of the smaller and newly designed LX-90Is also must be purchased, beginning in 1996. These new ships, along with twelve of the newest LPD amphibious ships in service, will provide the 36 ships the Marines need in 2008.

13 "Amphibious Shipping," *Concepts and Issues*, Requirements and Programs Division, Headquarters, United States Marine Corps, 1993, p. 26.

14 *Ibid.*

15 Captain Carlton W. Meyer, USMCR, "Amphibious Battle Groups," U.S. Naval Institute *Proceedings*, September 1992, p. 104.

✓ Find a replacement for aging troop transport helicopters.

The primary mode of air transport for the Marines is the helicopter. The CH-46 *Sea Knight* troop transport helicopter, which currently fills this role, is reaching the end of its service life. The last CH-46 was built in 1971, and the entire fleet has become expensive to maintain and faces safety restrictions in operations. As a result, training is being curtailed, and Marines will face a growing risk of peacetime accidents, as revealed by recent crashes in the Mojave Desert, the United Arab Emirates, and off the coasts of Somalia and California. Left without adequate training, Marine helicopter crews will surely lose their wartime effectiveness.

To replace the CH-46, the Marines are building the V-22 *Osprey* tilt-rotor aircraft. This remarkable machine was designed to meet Marine Corps troop-carrying requirements for a number of missions. The *Osprey's* revolutionary tilt-rotor enables the aircraft to take off and land like a helicopter. This allows it to fly to and from the ships and small landing zones where Marines generally operate. Once aloft, it flies like an airplane at speeds in excess of 300 miles per hour, far faster than any helicopter. It can carry 24 combat troops 400 miles and return without refueling.

Chart I

Marine Medium Lift Air Transport Options for the 1990s

<p>V-22 Osprey</p> <p>Night Capable ✓</p> <p>Air Refuelable ✓</p> <p>All Weather ✓</p>	<p>Range</p> <p>Altitude</p> <p>Speed</p> <p>Cargo</p> <p>Troops</p>		<p>2,100 miles</p> <p>28,000 feet</p> <p>350 mph</p> <p>5 tons</p> <p>24 men</p>
<p>CH-53E Super Stallion</p> <p>Night Capable ✓</p> <p>Air Refuelable ✓</p> <p>All Weather —</p>	<p>Range</p> <p>Altitude</p> <p>Speed</p> <p>Cargo</p> <p>Troops</p>		<p>540 miles</p> <p>16,000 feet</p> <p>196 mph</p> <p>13 tons</p> <p>45 men</p>
<p>CH-60 Blackhawk</p> <p>Night Capable ✓</p> <p>Air Refuelable —</p> <p>All Weather —</p>	<p>Range</p> <p>Altitude</p> <p>Speed</p> <p>Cargo</p> <p>Troops</p>		<p>426 miles</p> <p>18,000 feet</p> <p>196 mph</p> <p>8 tons</p> <p>11 men</p>

Sources: Manufacturers' reports.

The *Osprey* will enable the U.S. to deploy Marine combat troops swiftly over great distances. Its speed and flexibility make it less vulnerable than a helicopter to detection and hostile fire. Cuts in U.S. forces and reductions in overseas deployments are

shrinking the presence and availability of American military power around the world, making the *Osprey's* high speed and long range all the more important. It can rush more troops to a conflict faster, and from farther away than any helicopter.¹⁶

The V-22 is also cost effective. Cost estimates range from \$37 million to \$39 million per plane. When considering total costs of replacement, maintenance, and operation, the *Osprey* will cost only slightly more than such helicopter alternatives as the CH-53E *Super Stallion* or a sea-going variant of the Army's UH-60 *Blackhawk*. The Washington-based Institute for Defense Analyses, moreover, has determined that the V-22 will actually cost less than either of these helicopters over the 20-year life-cycle of the aircraft. Moreover, the 1,200-page study concluded that "the V-22's speed, range, and survivability advantages" made it more effective "than all of the proposed helicopter alternatives in each of the four Marine missions examined"¹⁷

Although there is widespread support in Congress, the Administration, and the Pentagon for developing the V-22, how fast and in what numbers the *Osprey* should be fielded remains in dispute. The Marine Corps must begin retiring the aging CH-46 in 1998; to field the V-22 by 1999, the Marines must begin buying the aircraft in fiscal 1996.¹⁸ However, the Navy proposes buying the V-22 beginning in fiscal 1997, which would mean that it would not become operational until 2001. To prevent this delay, the Clinton Administration should seek funding from Congress for 507 V-22s beginning in fiscal 1996. Buying the aircraft earlier than planned would lower the program's total cost by \$7.2 billion.

✓ **Procure a new advanced amphibious assault vehicle (AAAV).**

The new advanced amphibious assault vehicle also will play a vital role in Marine Corps power projection strategy. This landing craft is used for moving Marines from ship to shore. As a high-speed, well-armed armored personnel carrier, the AAAV also will be the Marines' primary means of mobility once ashore. The AAAV offers significant improvements over older assault vehicles in range, mobility, firepower, armor protection, night fighting capability, and the ability to fight when under attack from chemical weapons. Its 45-miles-per-hour land speed will enable infantry forces to keep up with tanks, allowing the formation of a powerful and mobile combined force.

Although war plans call for a fleet of approximately 950 AAAVs,¹⁹ a reduced defense budget has forced the Marine Corps to consider other alternatives. Under one approach, the Marines would buy a smaller number of the new vehicles and continue to rely heavily on the current amphibious assault vehicle, which is slower and has less lift capability than the new AAAV. A better option, however, is to buy 950 AAAVs, but give a high-speed capability to only a part of the fleet. Among the many improve-

16 In a recent Livermore National Laboratory analysis of a combat scenario involving a Marine Expeditionary Unit, "the use of a V-22 fleet increased combat power throughout the battle and delivered reinforcements more than twice as fast as an all-helicopter alternative." *Defense Daily*, June 19, 1992, p. 457.

17 "Assessment of Alternatives for the V-22 Assault Aircraft Program," Institute for Defense Analysis, Alexandria, VA, Vol. 1, p. 13.

18 "Navy, Marine Corps Debate What Year To Begin Buying V-22," *Inside the Navy*, August 16, 1993, p. 3.

19 "AAAV Becomes The Marines' Silver Bullet; Program Heads Toward DAB," *Inside the Navy*, July 26, 1993, p.3

Chart 2

Marine Ground Transport Options for the 1990s

AAAV		AAV7	
Armament	25 or 30mm cannon	Water Speed	30 mph
Electronic Targeting	✓	Land Speed	45 mph
Night Combat Capable	✓	Weight	57,647 lbs
		Troops	18 men
Armament	.50 cal mg or 40mm grenade launcher	Water Speed	8 mph
Electronic Targeting	✗	Land Speed	30 mph
Night Combat Capable	✗	Weight	38,450 lbs
		Troops	21 men

Sources: Manufacturers' reports.

ments found in the AAV, one of the most expensive is its ability to travel at high speeds of over 30 miles per hour through the water, which is more than three times faster than the current version. While the high-speed feature should be included in the one-third of the AAV fleet that will launch from ships at sea, the other two-thirds do not need a high-speed water capability because they will be brought to a conflict through port facilities.

Both the Senate and House versions of the fiscal 1994 Defense Authorization bill supported continued development of the AAV program; the Senate report noted that "the program is central to making the Marine Corps capable of meeting its...mission of conducting opposed amphibious operations in the next century."²⁰ The fiscal 1994 Defense Authorization bill, passed by Congress in November, adopted the Senate's proposal for an additional \$5.9 million for advanced technology engines for the AAV.²¹ Congress must continue to fund a fleet of 950 AAVs, one-third of which should have the high speed capability necessary for rapid transit from ship to shore.

✓ **Enhance capabilities for moving equipment from ship to shore.**

The Marines use large hovercraft traveling at speeds up to 50 knots to ferry weapons and equipment from ship to shore. Called Landing Craft Air-Cushioned (LCAC), these ships can carry one main battle tank, four light armored vehicles, or 150,000 pounds of cargo. They have been in service aboard amphibious ships since 1985, and demonstrated their effectiveness in humanitarian relief operations in Bangladesh in

²⁰ United States Senate, Report 103-112, "National Defense Authorization Act for Fiscal Year 1994" (Washington, D.C., Government Printing Office, June 30, 1993), p. 75.

²¹ "Conferees Fund Trident Missile Program, Seawolf, Centurion," *Inside The Navy*, November 11, 1993, p. 15.

1991, as well as in Operation Desert Storm. The LCAC program has been fully funded, with a total of 84 craft to be built by 1995.

Although the LCAC performs well at a relatively fast speed (25-50 knots), and can deliver heavy equipment such as tanks, artillery, and trucks, it is unarmed and cannot carry troops. Moreover, it is noisy and vulnerable to hostile fire because of its large size. It also has limited mobility on land. Thus its tremendous lift capacity must be coupled with the speed and range of the V-22 *Osprey* in the air, and the speed, armor, and firepower of the AAV once ashore. Together, these systems can move Marines effectively to and around the battlefield.

✓ **Provide adequate naval fire support combat operations ashore.**

The Navy's new strategy requires that the Navy and Marine Corps be able to launch a variety of combat missions against targets well inland. To support these missions, Marines rely on ships and aircraft to fire on enemy formations and fortifications until their own tanks and artillery come ashore. Since the turn of the century, the Navy's primary gunnery platform has been the battleship, which could fire 1,000 tons of shells in an hour, reaching targets 23 miles away and penetrating 27 feet of reinforced concrete. However, the USS *Iowa*, the last of the World War II-vintage battleships, was decommissioned in 1992.

Several factors led to the battleships' retirement. First, advanced surface-to-surface missiles and carrier-based aircraft are more accurate than the 16-inch guns of battleships. Moreover, these huge ships require a large crew of roughly 1,500, and they are expensive to operate, costing about \$45 million per year. As they aged, battleships were continuously in need of repair and spare parts.

These reasons notwithstanding, the decision to retire the battleships without an adequate replacement was questionable. In the spirit of the Navy's new strategy, Navy leaders must pursue a combination of naval guns and ship-launched missiles which together can meet surface fire support requirements.

To do this, the U.S. needs naval guns. Instead of relying on the less accurate 16-inch guns of battleships, the Navy could improve the capability of the 5-inch guns that are found on nearly all surface combatant ships. Recent studies indicate that improvements in the 5-inch warhead are possible, despite its small payload. These include: extending the range to 70 nautical miles from a current maximum of 15; a more explosive warhead; a more aerodynamic projectile to stabilize flight and improve accuracy; and, most important, miniature satellite and radar guidance systems which can direct a round to its target. In many cases, one accurate and improved 5-inch warhead may prove as effective as a full barrage from older 16-inch guns. Steps such as these will dramatically improve the performance of a weapon which already exists in large numbers throughout the Navy.

For a long-term solution, the Navy must look toward new types of guns. Two systems currently being researched are the liquid propellant gun (LPG) and the electro-thermal chemical (ETC) gun. Both methods increase the muzzle velocity of the round, thereby increasing its range by up to four times that of the current Mk 45 5-inch gun. The Navy plans to have the electro-thermal chemical gun operating in the fleet by

2004.²² Congress has shown support for the program by providing \$24.7 million in fiscal 1994, \$7.5 million more than the Pentagon requested.²³

In addition to naval guns, missiles also will play an important role in future naval fire support, primarily against targets such as buildings and bridges. The Navy is considering several options based on programs already being developed. One is a variant of the Army Tactical Missile System (ATACMS), a surface-to-surface missile that would fit into the existing vertical launch system (VLS) aboard many surface ships. The Navy plans to spend \$23 million this year to develop and test a "navalized" version of this missile.²⁴ Another option is a modification of the Joint Standoff Weapon (JSOW), a "cluster" bomb that is dropped from the aircraft on tanks and troops. Finally, the Navy should continue pursuing a variant of the *Tomahawk*, known as *Assault Hawk*, for use against tanks and other tactical targets.²⁵ Each of these programs should be continued.

✓ **Improve mine warfare capabilities.**

Two Gulf war incidents served warning of the threat from hostile mines. On February 18, 1991, the amphibious assault ship USS *Tripoli* and the guided missile cruiser USS *Princeton* each struck Iraqi mines in the northern Persian Gulf. These were the only ship casualties during the Persian Gulf war. Both ships suffered millions of dollars in damages and were out of action for the remainder of the war. Beyond this specific impact, the threat of mines served Saddam Hussein's broader strategic purposes by helping to discourage a U.S. amphibious assault on Kuwait.

If the Navy is to enter and operate in coastal areas, it must significantly improve its capability to counter enemy mines. These weapons are the greatest threat to the Navy's ability to project power in coastal areas. While chemical weapons have been called the poor man's nuclear weapon, mines are the poor man's submarine. For one thing, they are cheap and cost-effective: the *Princeton*, a billion-dollar warship, suffered \$15,000,000 in damages from a \$25,000 mine.²⁶ For another, there are over a million mines around the world, and this number will grow as mines from the loosely controlled Soviet stockpile and other sources spread.

Since the Gulf war, the Navy has begun to pay greater attention to the mine threat. During the Cold War, such NATO allies as Belgium, Britain, and France were given primary responsibility for mine-sweeping. As a result, U.S. capabilities waned. To beef up its countermeasures against mines, the Navy should follow through on its procurement plans for mine warfare ships, as outlined in its 1993 Mine Warfare Plan. This calls for fourteen *Avenger*-class (MCM-1) mine countermeasures ships capable of destroying mines and permitting other ships to transit a minefield. In addition, the Navy will need twelve *Osprey*-class MHC-51 minehunters. To support this expanded

22 "Electothermal Chemical Gun Tests Aimed At NSFS Solution," *Inside The Navy*, November 22, 1993, p. 4.

23 "Conferees Fund Trident Missile Program, Seawolf, Centurion," *Inside The Navy*, November 11, 1993, p. 15.

24 "Navy Will Test Army Tactical Missile For Ship-To-Shore Fire Support," *Inside the Navy*, June 21, 1993, p. 9.

25 "Navy Considers Ship-Fired JSOW For Surface Fire Support Mission," *Inside the Pentagon*, July 22, 1993, p. 15.

26 Office of the Chief of Naval Operations, Department of the Navy, *Mine Warfare Plan*, January 29, 1992, p. 28.

minehunting and destruction capability, the Navy should develop a Mine Warfare Command and Control ship. Moreover, since minesweeper ships are slow and cumbersome, they must either be deployed in or close to areas where they may be needed, or carried by sealift to a crisis zone. If minesweepers arrive late to a battle, Marine forces and ships full of Army reinforcements will be unable to move ashore. Therefore, the Navy must also lease or build heavy lift ships to transport the smaller *Avenger* and *Osprey* mine warfare ships rapidly to a crisis area.

In addition to new ship construction, advanced mine-warfare technology must be developed and deployed. As a result of its experience in the Persian Gulf war, the Pentagon began a program to change the characteristics of ship and submarine hulls to make them less likely to detonate mines. The Navy requested \$210 million for fiscal 1994 to pursue the new materials and construction technologies need to do this. However, the House Armed Services Committee cut this budget by \$30 million in 1994.²⁷ This was a mistake; the program should be fully funded so that warships will be less vulnerable to mines that cannot be located or avoided.

Advanced technology may also make mine detection and sweeping faster and less dangerous. The Navy is considering new programs to deploy and control underwater unmanned vehicles. These would enable the Navy to conduct systematic mine searches very quickly at depths ranging from 10 to 200 feet. By using unmanned vehicles, human divers could not be endangered.²⁸ Airborne and space surveillance systems designed to detect and keep track of mines are feasible, but it will be more than a decade before they are operational. These programs should be fully funded as well.

Finally, the Navy should focus its intelligence efforts on detecting mine threats worldwide. The best way to combat mines is to know who has them, what type they are, and where and when they are being laid. This capability was neglected during the Cold War, mainly because of the need to devote limited intelligence resources to such higher priorities as Soviet submarines. The best way to fight mines is to prevent them from being sown in the first place. Accurate intelligence will make this more possible.

PILLAR #3 OF NAVAL POWER: SUBMARINES

Although the U.S. Navy is unchallenged on the high seas, its submarines still will need to perform their traditional mission of destroying enemy submarines and intimidating enemy naval forces. Early in the Falklands war the Argentine cruiser *General Belgrano* was sunk by a British submarine. Fear of further attacks kept the Argentine Navy from sailing against the Royal Navy task force en route to the islands.²⁹

This type of submarine warfare is very much alive despite the end of the Cold War. For example, Russia last fall delivered the first of three *Kilo*-class attack submarines to Iran. The *Kilo* is one of the quietest submarines in the world. It can operate in virtual si-

27 Thomas Duffy, "Navy S&T Thrust Developing 'Quieting' Construction Technologies," *Inside the Navy*, August 9, 1993, p. 7.

28 "Navy Eyeing Several Underwater, Unmanned Vehicle Programs," *Inside the Navy*, August 30, 1993, p.2.

29 Vice Admiral Roger F. Bacon, USN, "Submarine Warfare It's A-Changing," *Proceedings*, June, 1992, p. 52.

lence on battery power for up to six days, and can carry 18 torpedoes or 24 mines. Russia continues to produce at least two submarines a year, including at least one *Kilo* a year for export.³⁰ It was reported in December 1993 that Moscow has concluded a deal to sell three more *Kilos* to China, to be delivered in 1996-1997.³¹

In 1987, when President Ronald Reagan demonstrated America's commitment to the free flow of oil from the Persian Gulf by re-flagging and escorting Kuwaiti oil tankers, Iran was using patrol boats and mines to threaten shipping lanes. Today, with its torpedoes and mines, an Iranian submarine patrolling the Persian Gulf would pose a much more serious danger to the West's oil supply.

Iran's submarine purchase is but the clearest example of a new threat—the growth of submarine fleets in volatile regions of the world. Because of the threat, U.S. nuclear attack subs began operating in the Gulf for the first time in history. Other ambitious countries are certain to obtain submarines in the future. Today, China has close to fifty attack subs, India has fifteen,³² and even the Serbian Navy is reported to have at least four relatively modern diesel submarines armed with torpedoes and mines.³³ Even with their relative inexperience, these and other Third World submarine fleets could seriously threaten American or allied naval forces operating off their coasts.

To meet this new challenge, the Navy must move beyond the Cold War strategy of tracking nuclear attack and ballistic missile subs on the high seas. Instead, it must focus on finding and destroying quiet diesel submarines in shallow water. This is difficult because standard anti-submarine warfare techniques, which use such characteristics as temperature, pressure, magnetic disturbances, and salinity, are less reliable in shallow water. There are also more obstacles and small craft, which can distract the crews and distract the instruments used to find these submarines.³⁴ The best weapon against this threat is an American nuclear attack submarine, which has sophisticated anti-submarine warfare technologies and can, with nuclear power, remain underwater for days while monitoring enemy submarine movements.

Cruise missile strikes and other special operations. The Navy's *Los Angeles*-class nuclear attack submarines can carry up to twelve *Tomahawk* cruise missiles; the newest sub, *Seawolf*, can carry 24. While surface ships will serve as the primary means of delivering *Tomahawks*, the submarine's advantage as a cruise missile carrier is the stealth it enjoys under water. It can maneuver undetected, fire at will, and disappear without fear of retaliation. This is certainly a disconcerting prospect for any would-be regional aggressor. Submarines can also transport and insert special operations forces, such as Navy Sea-Air-Land (SEAL) teams and Marine force reconnaissance units, without ever surfacing. With the growing threat of terrorism and the greater likelihood

30 John J. Fialka, "Danger at Sea; Iran's New Submarine, Built by Russia, Stirs Concern in U.S. Navy," *The Wall Street Journal*, November 16, 1992, p. 1.

31 "China To Buy Three Russian Kilo Subs," *Sea Power*, December 1993, p. 27. As part of this sale, Russia may also include technology transfers and a license for future *Kilo* production in Chinese shipyards.

32 These figures are found in *The Military Balance 1992-1993*, International Institute for Strategic Studies, London, 1992.

33 Joris Janssen Lok, "NATO Arms Against Serbian Submarines," *Jane's Defence Weekly*, August 14, 1993, p. 8.

34 Lieutenant Commander P. Kevin Peppe, USN, "Submarines in the Littorals," *Proceedings*, July 1993, p. 46.

of small, localized conflicts, deploying special operations forces in this manner will become even more important.

Submarine Force Structure. The Navy must maintain enough nuclear attack submarines to contain any submarine threat, regardless of its origin, and to conduct other coastal warfare missions such as cruise missile attacks. The typical service life of a submarine is between fifteen and twenty years. The Navy has about 75 attack submarines, mostly *Los Angeles*-class (SN-688) vessels, which were first commissioned in 1976, and which will reach the end of their service lives in 2000. Testifying before the House Armed Services Committee in 1988, Vice Admiral Bruce De Mars, then Deputy Chief of Naval Operations for Undersea Warfare, stated that the *Los Angeles*-class had undergone over 25 major and some 4,000 minor changes. As a result, he concluded that the potential for further improving the class was "exhausted."³⁵

The Pentagon's Bottom-Up Review Force calls for a total reduction of the attack submarine fleet to between 45 and 55 by the end of the decade. During the Cold War, the U.S. generally followed a formula of building one American sub for every two-and-a-half Soviet subs. Current trends indicate that the Russian navy will possess 100-130 boats into the next century.³⁶ Although the threat from Russia has diminished, the one for two-and-a-half formula is still relevant because the boats freed from countering Russian forces will now have to keep tabs on the Third World nations developing their submarine fleets. Thus the Navy should seek a mix of 70 *Los Angeles* and *Seawolf* subs by 1997, and 55 *Los Angeles*, *Seawolf*, and New Attack Submarines (NAS) by 2008.

The Submarine Industrial Base. During the 1980s, the SSN-21 *Seawolf* was developed to augment and ultimately replace the *Los Angeles* class. But the end of the Cold War makes the *Seawolf*'s intended purpose of combatting Soviet attack and ballistic missile boats on the high seas much less important. As a result, critics question the need for more than the two *Seawolfs* now in production. At a unit cost of roughly \$3 billion, it is impossible to justify continued *Seawolf* production on strategic grounds alone. Instead, the Navy plans to procure what it calls the New Attack Submarine (NAS), a smaller nuclear-powered submarine, beginning in 1998. While less capable than the *Seawolf*, the NAS will still outclass any potential enemy vessel. It will join the fleet beginning in 2006, at a unit cost of \$1.5 billion, and will be primarily designed for surveillance, mine detection, and delivery of up to 200 special operations troops ashore.³⁷ The NAS will be the main U.S. attack boat from 2006 through the 2020s.³⁸

To maintain the industrial base for the eventual construction of the NAS, the technological skills and expertise in the submarine building community must be maintained. Unless U.S. design research and technology continues to advance, America's qualita-

35 R. J. Daniel, "Submarines: Is Modernization Cost Effective?" (Part 2), *Naval Forces*, Vol. XI, No. IV (1990), p. 54.

36 Conversation with Mr. William Bonvillian, legislative director for Senator Joseph Lieberman (D-CT), July 1993.

37 "Navy Sub Chief Touts Multiple Missions For New Attack Sub," *Defense Daily*, December 1, 1993, p. 310.

38 Pamela Hess, "DAB For New Attack Submarine Delayed Again, This Time Until January," *Inside The Pentagon*, December 9, 1993, p. 1.

tive lead in submarine quieting technology will erode. While nuclear reactor technology can be maintained by building other nuclear-powered ships, such as *Nimitz*-class aircraft carriers now in production, certain skills, such as hull design and welding, sonar design and development, and underwater weapons system engineering, can only be maintained by building submarines.

The Clinton Administration has decided correctly to build a third *Seawolf* in order to maintain the industrial base. The *Seawolf* is the most sophisticated submarine ever built, having double the deep strike capability, three times the sonar capability, ten times the silent running capability, and double the weapons tube capacity of the *Los Angeles*-class submarine.³⁹ Having three *Seawolfs* will improve the combat capabilities of the Navy. It also will preserve the industrial base needed to design and develop the New Attack Submarine well into the 21st century.

Nuclear Ballistic Missile Submarines. If the Strategic Arms Reduction Treaty II (START II) is ratified and implemented as expected, the U.S. will be required to reduce the number of submarine-launched ballistic missiles (SLBMs) in its arsenal to 1,750. Since START II imposes an overall warhead limit of 3,500, submarine-launched warheads will thus contribute close to half of all the strategic nuclear warheads deployed in the U.S. arsenal. To provide a base for the missiles, the Navy must preserve the most modern strategic submarine and missile force possible. This means completing the procurement of the planned eighteen *Trident* submarines and deploying the eight-warhead *Trident* D-5 missile on all the submarines, including those now carrying the older, eight-warhead C-4 missile. The result of such a policy will be a strategic submarine force that includes:

- ✕ 18 *Trident* submarines
- ✕ 432 *Trident* D-5 missiles
- ✕ 1,728 SLBM warheads⁴⁰

NAVY FORCE STRUCTURE

The size of the Navy in the 21st century must be determined by its activity to perform two functions: maintaining a forward presence and projecting power overseas. Like the Army and the Air Force, the Navy's force structure is based primarily on the need to prevail in battle. But the size of the Navy also is determined by the expanse of the world's oceans and the long distances it must sail. As America's first line of defense, the Navy and Marine Corps must have enough ships, aircraft, and personnel to remain overseas for long periods of time.⁴¹

³⁹ Capt. Richard Sharpe, RN, *Jane's Fighting Ships* (1992-93), Jane's Information Group Ltd., Surrey, U.K., p.731.

⁴⁰ This will require that the number of warheads deployed on the *Trident* D-5 missile be reduced from eight to four.

⁴¹ During the 1970s, a shortage of ships and personnel which led to extensive deployments, damaged morale, reduced readiness, and hurt retention of experienced personnel. In the 1980s, the Chief of Naval Operations established "personnel tempo" rules intended to reduce the amount of time a sailor was deployed overseas. These important restrictions are still followed by the Navy; they limit deployments to six months in length, require two months in a non-deployed status for

Chart 3

Navy Force Structure Options

	Year-End FY 1993	Bottom-Up Review Force FY 1999	Heritage Floor Force FY 1997	Heritage Navy FY 2008
SURFACE SHIPS				
Aircraft Carriers	14	12*	13*	13*
Surface Combatants	127	? †	128	125
Amphibious Ships	55	? †	45	36
Mine Warfare Ships	15	? †	26	26
Logistics and Support Ships	115	? †	100	97
SUBMARINES				
Attack Submarines	75	45-55	70	55
Ballistic Missile Submarines	5	18	18	18
TOTAL	426	346	400	370
MARINE CORPS ACTIVE-DUTY MANPOWER	182,000	174,000	177,000	177,000
<small>* Carrier numbers include one specifically designated reserve carrier, not part of the rotation base for routine forward deployments. † At the time of publication, the Clinton Administration had not specified numbers for these ship categories.</small>				

Although naval forces will play a critical role in any major regional conflict, they must also routinely maintain a peacetime military presence around the world. Patrols and port visits reassure allies, intimidate potential aggressors, and permit training in places where soldiers and sailors one day might have to fight. Keeping a carrier battle group plus a Marine force on station requires enough ships and people to allow for training, personnel turnover, transit time, and maintenance. For example, each forward-deployed aircraft carrier is drawn from a rotation base of at least four additional carriers.⁴² A similar ratio applies to all Navy vessels.

The Bush Administration in 1991 began a policy called "flexible presence," which reduced the time ships stayed on station in the Western Pacific Ocean, Mediterranean Ocean, Indian Ocean, and Persian Gulf. This practice was an acknowledgement that continuous forward presence could not be achieved with the fourteen carriers available in 1991. The Heritage Foundation published in May 1993 *A Safe and Prosperous America*:

every one month deployed, and require 50 percent of a ship's time over a five-year average to be spent in home port.

42 Ronald O'Rourke, "Naval Forward Deployments and the Size of the Navy," *CRS Report for Congress*, November 13, 1992, p. 5.

A U.S. Foreign and Defense Policy Blueprint. A naval force of twelve active aircraft carriers, 400 ships (for a total force of 400 ships and 177,000 active-duty Marines) was recommended in that study. While this number of carriers will produce short gaps in U.S. naval presence, they will not be nearly as severe as those created by the eleven-carrier force planned by the Clinton Administration. Moreover, the Heritage force rests on the assumption that a relative increase in the number of surface combatants—cruisers, destroyers, and frigates—with advanced power projection capabilities such as *Tomahawk* cruise missiles will be able to compensate for a carrier's absence from time to time.

Given the modernization and procurement recommendations contained in this study, it will be possible to further reduce the size of the Navy, to 370 ships by 2008. Modernization of the amphibious and submarine fleets, as described above, will make smaller numbers of these types of ships possible with no loss of amphibious or submarine capability. Still, a twelve-carrier, twelve-ARG force structure will remain the building block for the 370-ship fleet of 2008. (see Chart 3)

THE NAVY'S BUDGET

The Clinton Administration's fiscal 1995 defense budget request allocates \$78.4 billion for a Navy with 373 ships and 760,000 active and reserve sailors and Marines. However, the Administration's Bottom-Up Review Force would reduce the Navy even further by 1999, to a total of eleven active carriers and no more than 346 ships. These cuts go too far, and will make it impossible for the Navy to carry out its responsibilities for forward presence and warfighting.

The Heritage force of 400 ships and 804,000 personnel will enable the Navy to do its job. This force would cost approximately \$101 billion in current dollars in 1997, when post-Cold War force reductions will be complete. Moreover, the priorities of the Heritage plan are quite different from those revealed by the Clinton budget. The Heritage budget would double the amount Clinton proposed to spend for procurement, to buy the new systems recommended above and to maintain a fleet of 400 ships. To man this larger Navy, the percentage of total funding devoted to military salaries would increase slightly from the Clinton fiscal

Chart 4

Heritage Plan Increases Navy Budget 29% by FY 1997

Billions of current dollars	FY 1995 (Requested)	FY 1997 Heritage Plan
Military Construction	\$3.2	\$27.3
Research, Development, Testing and Evaluation	\$9	\$9.4
Military Pay	\$25	\$27.5
Operations and Modernization	\$21.8	\$34
Procurement	\$16.6	\$2.6
Total Budget Authority	\$78.4 billion	\$100.8 billion

* Numbers may not add up due to rounding.

1995 request. To keep the fleet at sea and well-trained, the percentage devoted to operations and maintenance is also increased by nearly 6 percent over Clinton's 1995 budget. Clinton's proposed spending percentages on research and development (11.4 percent) and military construction (30.6 percent) for fiscal 1995 are as low as they should go (see Chart 4)

CONCLUSION

Before any "peace dividend" is spent anywhere else, it should be applied to the task of sustaining naval forces which can preserve peace. Although both the Navy and Marine Corps have established a strong tradition of regional power projection, this capability will decline if sufficient funds are not provided. The United States must continue to develop and support a Navy and Marine Corps which can best preserve its security throughout an unpredictable 21st century by projecting American power to distant regions of the globe.

To perform its critically important mission, the Navy must focus its planning on six goals. They are to:

- ✓ **Maintain a minimum of twelve active aircraft carriers.** Aircraft carriers must continue to be capable of performing a wide range of missions, from controlling littoral airspace and supporting ground operations, to conducting precision strikes against enemy targets far inland.
- ✓ **Improve the ability of the Navy to land Marines ashore.** Because much of the Navy's capability to project power rests with the Marines, the Navy must make a commitment to increase and modernize the Marines' ability to move from ship to shore. The Navy must procure 507 V-22 *Ospreys*, 950 Advanced Amphibious Assault Vehicles, and seven LHD and twelve LX-90 amphibious assault ships. With these the Marines can maneuver from the sea and accomplish their mission once ashore.
- ✓ **Enhance the capability of Navy ships to provide fire support for Marines going ashore.** The Navy's expanding responsibility for littoral warfare demands a balanced fire support package of ship-launched missiles and naval guns. Near-term improvements in 5-inch gun ammunition must be accompanied by investments in such new gunfire technologies as the electro-thermal chemical (ETC) and liquid propellant gun (LPG) systems. Programs such as the Joint Standoff Weapon (JSOW) and Tomahawk Land Attack Missile (TLAM) should also be continued.
- ✓ **Counter enemy mines that block access to coastal regions.** The Navy must end its institutional neglect of mine warfare. It should buy more minesweepers, make them more available to battle group commanders and pursue advances in mine warfare technology. The Navy needs fourteen *Avenger* and twelve *Osprey*-class mine warfare ships, one Mine Command and Control ship, and heavy lift ships to transport *Avenger* and *Osprey* mine warfare ships rapidly to a crisis area.

- ✓ **Retain America's unchallenged superiority in submarine warfare.** The Navy's submarine fleet must continue to track Russian ballistic missile submarines, and contend with a growing proliferation of submarines around the Third World. Submarines will also be used more often in strike warfare and special operations. To meet these requirements, the Navy will require a fleet of 55 attack submarines by 2008. The Navy must preserve an adequate sub-building capability by procuring a third *Seawolf* attack submarine, until the next generation sub—called the New Attack Submarine—enters the fleet early in the next century.
- ✓ **Maintain a fleet large enough and modern enough to meet America's maritime security requirements.** The Navy must maintain a fleet of 400 ships, twelve active and one training carrier, and 177,000 active-duty Marines to meet both its forward-presence and wartime force requirements. In 1997 when current force reductions are complete, this force will cost approximately \$101 billion, or at least \$25 billion more than Clinton's budget plans currently call for.

The end of the Cold War and the dissolution of the Soviet Union have made the world a safer but less predictable place. With no other single power able to challenge it on the battlefield or on the high seas, America's need for an Army, Air Force, and Navy designed to fight a large and extended campaign is greatly reduced. The U.S. can begin to restructure its armed forces and reduce their permanent land-based presence around the world. At the same time, the greater uncertainty of today's security environment puts a premium on mobile, flexible forces. Such forces can be tailored to a specific crisis, transported to it quickly, kept at the scene of a crisis for an extended period, and reinforced with heavier forces if necessary. Naval forces best provide this combination of forward presence, mobility, endurance, and flexibility.

John Luddy
Policy Analyst

Dan Lewis and Greg Winter contributed to this study.

All Heritage Foundation papers are now available electronically to subscribers of "Town Hall," the conservative meeting place, and "NEXIS," the on-line data retrieval service. For information about Town Hall services, please call 1-(800) 441-4142. On Nexis, The Heritage Foundation's Reports (HFRPTS) can be found in the OMNI, CURRNT, NWLTRS, and GVT group files of the NEXIS library and in the GOVT and OMNI group files of the GOVNWS library.