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**NAVAL  
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**MONTEREY, CALIFORNIA**

**THESIS**

**BOLD COURSE INTO THE FUTURE OR LOST AT SEA:  
A CRITICAL EVALUATION OF THE UNITED STATES  
NAVY'S ONGOING TRANSFORMATION**

by

Todd David Peters

December 2005

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**BOLD COURSE INTO THE FUTURE OR LOST AT SEA:  
A CRITICAL EVALUATION OF THE UNITED STATES NAVY'S  
ONGOING TRANSFORMATION**

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Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS**

from the

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## **ABSTRACT**

Throughout its existence, the U.S. Navy has labored under the continuous scrutiny and skepticism of critics who have either questioned its strategic relevance or its cost. Most recently, this historic debate has centered on the various merits, limitations, benefits and difficulties of littoral or shallow-water combat capabilities, amphibious assault operations, long range precision strike operations, and the role of carrier battle groups. Ever rising costs of procurement combined with reductions in the overall end-strength of the U.S. military have further shaped this debate, especially in terms of how to collate force structure with strategic success. This thesis seeks to evaluate how well the U.S. Navy has demonstrated itself to be in terms of identifying, designing, and procuring the platforms it needs to successfully achieve its missions in the current and future threat environments.



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## LIST OF ACRONYMS AND ABBREVIATIONS

<b>Glossary</b>	
CSG	Carrier Strike Group
CVBG	Carrier Vessel Battle Group
DoD	Department of Defense
EFV	Expeditionary Fighting Vehicle
ESG	Expeditionary Strike Group
FRP	Fleet Response Plan
FSC	Future Surface Combatant
GWOT	Global War on Terror
HLLCAC	Heavy Lift Landing Craft Air Cushion
HSV	High Speed Vessel
JSF	Joint Strike Fighter
LCS	Littoral Combat Ship
LCU(R)	Landing Craft Utility (Research)
MPF(F)	Maritime Pre-Positioning Fleet (Future)
ONI	Office of Naval Intelligence
QDR	Quadrennial Defense Review
RMA	Revolution in Military Affairs
ROW	Rest of the World
SAG	Surface Action Group
STOM	Sea to Objective Maneuver



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# I. INTRODUCTION

## A. PURPOSE

The publication of Alfred Thayer Mahan's *The Influence of Sea Power upon History: 1660-1783* in 1890<sup>1</sup> inspired the greatest, and possibly the most widely misconceived, era of naval competition the world has ever seen. Universally heralded as a masterpiece of naval history and strategy, Mahan's conception of sea power can be reduced to a single proverb: great nations build great navies and great navies build great nations. The influence of Mahanian logic can be seen throughout the 20th century, in times of both war and peace, as industrializing nations struggled first to build navies, then to achieve or maintain naval superiority, or at least parity, and finally, almost as an afterthought, to find constructive uses for their glorious fleets. Sadly, as the 20th century advanced, many nations discovered their highly prized navies to be extremely limited in terms of their strategic value and generally insufficient in terms of achieving and maintaining the military supremacy and national security they had been built to ensure.

There are two main questions this thesis will attempt to address. The first concerns the naval strategy of the United States and the concept of naval transformation. With the conclusion of the Cold War and the decline of the Soviet Navy, the United States Navy suddenly found itself mostly alone as it continued to sail the deep waters of world's oceans, waiting and hoping for the rise of another adversary worthy of its grand fleet. In the continued absence of a "near peer" competitor, the U.S. Navy has set about reevaluating the nature of its naval strategy and developing a plan to redesign itself into a force and fleet more suitable to the post-Cold War and, more recently, the post-9/11 security environment. To this end, this thesis will attempt to determine if the strategic vision and guidance outlined in the United States Navy's Transformation Roadmap constitutes new and original thinking aimed at delivering a realistic and suitable strategy to ensure the nation's security or a repackaged version of the Mahanian logic intended to color the strategic landscape in such a way as to justify the continued maintenance of

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<sup>1</sup> Crowl, P.A., "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, ed. Peter Paret. (Princeton: Princeton University Press, 1986), 446.

those legacy missions, platforms, and capabilities the Navy, as an organization, most highly prizes. In essence, does this transformation roadmap lead to a realized future or an idealized future?

Regardless of whatever strategy the nation and the Navy adopts, the size, composition, capabilities, and limitations of the Navy's fleet and force structure will dictate success or failure in terms of its implementation and realization. Unlike the Army's tanks and the Air Force's planes, the individual ships and submarines which make up the fighting arm of the Navy each take years to build and costs billions of dollars to build, operate, and maintain. This is not to say procurement, maintenance, and operation of platforms is less problematic for the other services, only that these difficulties are fundamentally different for the Navy in terms of their nature and scale. For the most part, airplanes and tanks designed to fight over and on the plains of Europe are fairly easy to repaint and reequip to fight in the desert where they may not be as perfectly suited but have still shown themselves to be vary capable – a process involving time measured in weeks or months and budgets measured in millions of dollars. Ships and submarines designed to operate far from land in the deepest waters of the oceans, on the other hand, cannot simply be modified to sail into coastal waters which are shallower than the environments in which they were designed to float. Entering these waters is problematic enough, but to do so while engaging the coastal patrol craft and fast missile boats favored by the vast majority of our potential enemies could easily lead to disaster. Successful operation in such an environment requires the design and procurement of completely new platforms and capabilities, a process involving time measured in years and decades and budgets measured in hundreds of billions of dollars. For these reasons, this thesis will also seek to evaluate how well the U.S. Navy has demonstrated itself to be in terms of determining which platforms and capabilities it requires to achieve success in both the current and future threat environments, as well as in designing and procuring these platforms.

## **B. BACKGROUND**

Throughout its existence, the U.S. Navy has labored under the continuous scrutiny and skepticism of critics who have either questioned its strategic relevance or cost. In the United States, this historic and ongoing debate has led to a range of circumstances, from

the complete dissolution of the service in 1781,<sup>2</sup> to the aircraft carrier and submarine replacing the battleship as the centerpieces of the fleet both during and following World War II, to the rise of seagoing nuclear propulsion and weaponry during the 1950 and 60's. Most recently, this continuing debate has centered on the various merits, limitations, benefits and difficulties of littoral or shallow-water combat capabilities, amphibious assault operations, long range precision strike operations, and the role of aircraft carrier battle groups (CVBG) which, in a telling display of shifting organizational imperatives, have recently been re-designated as aircraft carrier strike groups (CSG). Rising costs of procurement have further influenced this debate, increasing the stakes of success and failure in terms of correctly evolving the most suitable naval strategy matched to force structure and size.

### **C. METHODOLOGY AND RESEARCH LITERATURE**

The research in support of this thesis is based on both primary and secondary sources. Primary sources include an array of policy statements, strategic guidance, and directives promulgated by senior policy makers and strategists in the United States Navy and the Department of Defense. Additionally, various open source U.S. Navy doctrine, technical documentation, and news articles were reviewed. Secondary sources include historical articles and commentary, journal articles, relevant books and research studies. This thesis will use a three-tiered analysis focusing on the strategic imperatives behind the Navy's transformation, the viability of the programs and platforms outlined within the plan, and an evaluation of the interaction between strategy and platforms.

### **D. ORGANIZATION OF THESIS**

#### **1. Introduction**

This chapter presents a brief background of the concept of Mahanian sea power and its historical influence on the naval strategy of the United States. In addition to illustrating the underlying context of these issues, this chapter will describe the resources and methodology used to conduct the supporting research for this thesis and discuss how the remainder of the thesis will be organized.

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<sup>2</sup> Love, R.W. Jr., *History of the U.S. Navy Volume One: 1775-1941*. (Harrisburg, PA: Stackpole Books, 1992), 42.

## **2. On Naval Strategy**

This chapter will consider Alfred Thayer Mahan's theories of sea power and their influence on the role and nature of naval strategy throughout the 20th century. Although Mahan's theories have been widely misunderstood or selectively employed over the course of the last 125 years, this has neither served to break nor even lessen their power to influence the minds of many political leaders, naval strategists, and professional naval officers. Mahan's theories continue to shape naval strategy regardless of their flaws or inconsistencies. Theories and strategies, once adopted, may take on a life of their own and the longer they hold sway over an organization, in this case the U.S. Navy, the more difficult it becomes to dislodge them or even modify or update them.

After more than a century of grand naval strategy based on Mahanian principles, and more than fifty years of fleets and formations built around aircraft carriers, the U.S. Navy finds itself increasingly trapped in a situation in which its existing force structure precludes its ability to adopt radically different strategies. The net result is a naval strategy determined by the realities of force structure rather than the realities of the security environment. While a large force of carrier battle groups and nuclear submarines may have been the perfect answer to the Soviet Navy, consideration must be given as to why the Soviet Union built the navy it did: was it because mastery of the seas was necessary to realize communist ideology or because the Soviet Union fell prey to the allure of Mahan's principles and built a navy intended to counter the huge force the United States itself possessed at the conclusion of World War II? If the size and structure of the U.S. Navy inspired the rise of the Soviet Navy, will it inspire the rise of another near peer competitor now that the Soviet Navy has disappeared? If no near peer competitor should arise, what strategic purpose will the U.S. Navy's current force structure serve? How should it be modified or altered to best serve evolving strategic interests and national security needs in the era of global terrorism and regional conflict?

## **3. Near-Term and Mid-Term Transformation Challenges**

As recently stated by Secretary of Defense Donald Rumsfeld, "You go to war with the [military] you have, not the [military] you might want or wish to have at a later

time.”<sup>3</sup> This statement perfectly describes the U.S. Navy's current predicament. If the current fleet is not suitable to the task at hand, then the Navy has three options: change the force structure of the fleet, change the mission, or find some acceptable combination of the two. Any effort to change the force structure will undoubtedly confront numerous obstacles, including limited resources and funding, competing interests, institutional biases, and time. Unfortunately for the U.S. Navy, the Global War on Terrorism has simultaneously demonstrated the need to transform the fleet while eroding the budgetary resources needed to accomplish this goal.

This chapter will examine the various near-term and short-term programs and platforms outlined in the Navy's Transformation Roadmap and evaluate their implementation. Specific attention will be paid to research and development timelines, procurement and operational costs, and analysis of how well these initiatives support and enable the Navy's stated strategic vision. If the platforms and programs are either unattainable or do not support the strategic vision, then the Roadmap is flawed and will never be able to achieve the Navy's goals. From a budgetary standpoint, vision is much easier to change than platforms, which again leads back to the trap of the fleet dictating the strategy rather than the strategy driving the composition and capabilities of the fleet.

#### **4. Long-Term Transformation Challenges**

Anti-access and area denial capabilities of future adversaries are of huge concern to the U.S. Navy in terms of guaranteeing forcible entry and continuous support capabilities. Sea Basing and Sea to Objective Maneuver provide the core components of the Navy's long-term transformation vision. This chapter will evaluate the feasibility of these concepts, the technologies and platforms necessary to bring these capabilities to the fleet, and the potential liabilities such an effort would entail.

#### **5. Conclusions**

This chapter will summarize the findings of this thesis about the viability of the Navy's Transformation Roadmap, the implications for naval strategy, and the underlying logic of both. The conclusion of the chapter will include recommendations based upon these findings.

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<sup>3</sup> Rodgers, J., 2004. "Locals weigh in on Rumsfeld comments." New Hampshire Public Radio webpage. Accessed 28 January 2004, available from: [http://www.nhpr.org/view\\_content/7805/](http://www.nhpr.org/view_content/7805/); Internet.

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## II. ON NAVAL STRATEGY

### A. THE INFLUENCE OF MAHANIAN SEA POWER UPON HISTORY

No name resounds through the annals of naval strategy like that of Alfred Thayer Mahan. After entering the U.S. Naval Academy against the advice of his father and graduating second in his class in 1859,<sup>4</sup> Mahan ironically never fully embraced nor enjoyed the profession for which he would later become the greatest advocate. Mahan, in fact, detested the steam powered reality of his own naval era and demonstrated himself to be a mostly unremarkable career naval officer who, despite 37 years of service, never fought, planned, or participated in any major naval battle or campaign.<sup>5</sup> For all his professed love of sea power and the Navy, Mahan much preferred the study of naval combat as opposed to its practice, the classroom rather than the quarterdeck, and the Presidency of the Naval War College instead of command of a naval vessel. In short, throughout much of his career, Mahan evidenced an aversion to sea duty of any kind.<sup>6</sup>

Although Mahan may not have loved the life of a naval officer at sea, he certainly did admire his service and made every effort to contribute to its continued success and wellbeing. Fortune smiled upon both service and service member when Mahan discovered his vocation upon arriving at the newly established Naval War College at Newport Rhode Island in 1886. The seven years Mahan spent there as both President and lecturer would catapult him to levels of success, influence, and recognition well beyond his contemporaries and critics.<sup>7</sup> *The Influence of Sea Power upon History*, the first, and by far the most famous, of Mahan's 20 published books was published in 1890, becoming an international success<sup>8</sup> – especially in England, Germany, and Japan where the full embracement and entrenchment of modified Mahanian logic would directly contribute to

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<sup>4</sup> Crowl, P.A., "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, ed. Peter Paret. (Princeton: Princeton University Press, 1986), 445.

<sup>5</sup> Lehman, J.F., *On Seas of Glory: Heroic Men, Great Ships, and Epic Battles of the American Navy*. (New York: The Free Press, 2001), 192-197.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid, 446-449.

<sup>8</sup> Ibid, 473-475.



the unprecedented naval arms races in which they competed first from approximately 1897 to 1914<sup>9</sup> and then again from approximately 1921 to 1940.<sup>10</sup>

## **B. A FLAWED THEORY IMPROPERLY APPLIED**

The success and popularity of Mahan's theories really cannot be credited as either original or balanced thinking. While Mahan's writings were commonly cited as justification to build great navies, they did more to substantiate and support existing biases than to create them. In the case of early 20th century naval arms races, Great Britain and the United States were the only nations with any substantial military naval history. Japan and Germany were effectively both seduced into developing their own navies as a means of countering their rivals and as a means for enhancing their national and international prestige.<sup>11</sup> This was precisely Mahan's point – navies offered a ticket to national greatness and prosperity. On the level of fleet configurations, however, Mahan's actual opinions and recommendations were completely ignored by those who claimed to be his disciples. During the period between 1905 and 1906, President Roosevelt opted against following Mahan's advice and developed a fleet of hyper-expensive capital ships rather than a more balanced fleet of limited battleships supported by frigates.<sup>12</sup> Kaiser Wilhelm also employed selective interpretations of Mahan's works to justify Germany's crash construction program to build a fleet of battleships to counter Great Britain's growing fleet of battleships. Germany's program flew in the face of Mahan's prescription against dominant land powers attempting to develop into dominating sea powers.<sup>13</sup>

Beyond the distortion and selective application of his theories, an even greater weakness to Mahanian logic exists: his inability to properly analyze the historical lessons used to back up his arguments.<sup>14</sup> While there can be no doubt that sea power played a critical role in the events he recounted, it was never the decisive element he claimed. For

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<sup>9</sup> Kennedy, P.M., *The Rise and Fall of British Naval Mastery*. (New York: Humanity Books, 1998), 214-229.

<sup>10</sup> Love, R.W. Jr., *History of the U.S. Navy Volume One: 1775-1941*. (Harrisburg, PA: Stackpole Books, 1992), 530-540.

<sup>11</sup> Symonds, C.L., *Historical Atlas of the U.S. Navy*. (Annapolis: Naval Institute Press, 1995), 119-121.

<sup>12</sup> Leyman, 2001, 197-199.

<sup>13</sup> Ibid, 2001, 195-196.

<sup>14</sup> Cowl, 1986, 449-455.

example, Mahan accredited the ultimate defeat of Napoleon Bonaparte to Lord Nelson's victory at Trafalgar. While there can be no doubt that this victory granted Great Britain control of the seas which it then used to weaken France through economic strangulation, the actual defeat of Napoleon was achieved through land-based campaigns. Historian Phillip Crowl criticizes Mahan's treatment of the Napoleonic Wars, citing how his explanation of events omits any consideration of:

the disastrous failure of Bonaparte's Russian campaign, the "war of liberation," the battle of Leipzig where the French lost nearly 300,000 troops, and of course the final catastrophe at Waterloo. In these events, it was the clash of armies, not "far distant, storm-beaten ships," that decided the issue.<sup>15</sup>

In reality, Mahan misapplied history to the study of strategy and, in this way, misled several generations of naval theorists.

### **C. THE ROLE OF SEA POWER IN WORLD WAR I**

Although the influence of Mahanian logic directly contributed to the character and composition of World War I era fleets, the naval engagements and strategies used primarily throughout this war were starkly anti-Mahanian in nature. Mahanian strategy, borrowing largely from the ideas and writings of Swiss strategist Antoine-Henri Jomini, extol the virtues of climactic fleet actions intended to destroy the enemy fleet, or at least drive it from the sea, and thus achieve control of the seas.<sup>16</sup> Contrary to Mahan's prescriptions, the vast majority of World War I naval combat consisted of the very type of *guerre de course* hit and run warfare he vehemently opposed. For example, Germany made virtually no use of its capital ships and instead pursued control of the seas in favor of denial of the seas by unleashing massive unrestricted U-Boat attacks against commercial shipping.<sup>17</sup>

Despite an early and lasting repugnance for "defensive strategies," the British and American fleets dedicated the vast majority of their wartime activity to escorting merchant shipping, fighting the German U-Boats, and blockading the German fleet.<sup>18</sup>

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<sup>15</sup> Crowl, 1986, 452-454

<sup>16</sup> Ibid, 456-457.

<sup>17</sup> Symonds, 1995, 128.

<sup>18</sup> Love, *History of the U.S. Navy Volume One*, 479-515.

While this type of naval strategy may have been less glamorous and more tedious than the U.S. or British Navies may have desired, it was of far more utilitarian and beneficial than the glorious fleet engagements of which every naval officer dreamed. This predominant attitude of "evade battle until victory is certain" all but ensured no great fleet engagement would occur. When the possibility actually presented itself at Jutland, neither side pressed the fight for fear they would destroy their prized fleets and have nothing to show for it.<sup>19</sup> For all its fame, the Battle of Jutland represented an indecisive stalemate from which both sides could claim victory – the Germans because they had inflicted twice the amount of damages and losses on the British, and the British because they had succeeded in blocking the German fleet and isolating it within its home waters where it posed no threat and had little, if any, strategic value.<sup>20</sup> Amazingly, neither the success of the submarine as an implement of economic warfare, nor the failure of capital ships to achieve control of the seas would be remembered as the chief lessons of the war. Quite to the contrary, despite these lessons, the Battleship remained the sweetheart of the fleet while the submarine was still looked upon as a novelty.<sup>21</sup> It would take another world war and many more casualties before the new reality of naval combat became widely recognized.

#### **D. THE ROLE OF SEA POWER IN WORLD WAR II**

By the time the United States entered World War II, its fleet, constrained by the Washington Conference of 1921 and the Five Power Treaty, continued to be comprised primarily of capital ships despite increased numbers of aircraft carriers and submarines which were relegated to screening support for their larger counterparts.<sup>22</sup> Interwar training, war plans, and war games, especially in the Pacific, remained almost exclusively oriented toward battleship employment in glorious fleet on fleet engagements aimed at destroying the enemy's fleet, despite the marked rarity of this type of naval combat. Mahanian logic still held sway within the U.S. Navy. According to Crowl,

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<sup>19</sup> Kennedy, 1998, 246-247.

<sup>20</sup> Brooks, R., "Storm of Steel 1914-1916" in *Atlas of World Military History*, ed. Richard Brooks. (New York: Barnes & Noble Books, 2000), 164-165.

<sup>21</sup> Symonds, 1995, 132.

<sup>22</sup> *Ibid*, 137-138.

though the participation of aircraft carriers was assumed, the tactical climax of [these simulations] was always a fight between fleets of battleships. None of these games envisioned a final invasion or aerial bombardment of Japan; the mission ended with the establishment of an economic blockade by the victorious U.S. Navy.<sup>23</sup>

Not all strategists believed in the primacy of the battleship. A series of fleet exercises conducted during the interwar period demonstrated the potential of carrier born aviation to function as the decisive element of sea power. Those rejecting the primacy of the battleship pointed to the Fleet Problem XIX exercise, which simulated a devastating Japanese air strike against Pearl Harbor three years in advance of the actual event.<sup>24</sup> Unfortunately, these exercises were seen as novelties, and the full potential of the U.S. submarine and aircraft carrier forces remained largely unrecognized or ignored until after the bulk of the Pacific Fleet was destroyed on 7 December 1941.

After Pearl Harbor, the U.S. Navy had no alternative but to revise its naval strategy and prosecute the war with the only available resources: submarines, which in typical Mahanian fashion had been ignored by the Japanese during the attack, and aircraft carriers, which had fortunately been away from Pearl Harbor when the Japanese struck.<sup>25</sup> Deprived of its primary weapon, the U.S. Navy had little recourse but to initiate unrestricted submarine warfare throughout the Pacific and husband its aircraft carriers until such time as the fleet could be reconstituted as an offensive force. This task took several months during which the Japanese, mostly unopposed, expanded and consolidated their control over the Pacific.<sup>26</sup> It was not until the Battle of Guadalcanal in August 1942, that the Pacific Fleet emerged as a balanced offensive naval force, and even then, its centerpiece consisted of three aircraft carriers supported by only one battleship.<sup>27</sup> This type of tactical hierarchy would remain the norm as the battleship became more and more of a support platform, providing air defense for carriers during over the horizon sea

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<sup>23</sup> Crowl, 1986, 475.

<sup>24</sup> History of the USS SARATOGA (CV 3). 2005. Chief of Naval Operations webpage. Accessed 16 November 2005, available from: <http://www.chinfo.navy.mil/navpalib/ships/carriers/histories/cv03-saratoga/cv03-saratoga.html>; Internet.

<sup>25</sup> Symonds, 1995, 140.

<sup>26</sup> Ibid, 142-146.

<sup>27</sup> Love, R.W. Jr., *History of the U.S. Navy Volume Two: 1942-1992*. (Harrisburg, PA: Stackpole Books, 1992), 42-43.

engagements fought primarily between formations of ships and enemy air wings and naval gunfire support operations during amphibious landings.<sup>28</sup>

The war at sea in the Atlantic from 1941 to 1945 turned out to resemble, in one important aspect at least, the struggle waged between 1914 and 1918, but on a far larger scale.<sup>29</sup> The sinking of the HMS HOOD notwithstanding, Germany again proved incapable of achieving any significant victory over Allied naval forces and resorted to unrestricted U-Boat warfare aimed at crippling Great Britain's ability to sustain its war effort.<sup>30</sup> Capital ships proved to be mostly irrelevant during the Battle for the Atlantic and European theatre of combat, with the noted exception of providing naval gunfire support operations during the amphibious assault operations,<sup>31</sup> as smaller, more maneuverable ships proved more adaptable to the myriad of operations required.<sup>32</sup>

#### **E. THE ROLE OF SEA POWER IN THE COLD WAR**

The U.S. Navy found itself in uncharted waters when World War II finally came to a close in 1945. After the war, the fleet possessed more ships and sailors than in any other period in its history and had decimated one great naval power while outpacing the sea denial war of attrition strategy of another.<sup>33</sup> Without an adversary to challenge the U.S. Navy's control of the seas, the Navy found itself facing a new type of struggle: a fight with the newly established U.S. Air Force over resources and funding that quickly came to threaten the continued existence of the very fleet which the Navy's leadership maintained (in true Mahanian fashion) had been the deciding factor during the war in the Pacific.<sup>34</sup>

Although the Air Force found great success in spreading its new strategic bombing religion, the Navy successfully maintained much of its force structure, especially its naval aviation assets, and struggled to find a meaningful role in the

<sup>28</sup> Love, R.W. Jr., *History of the U.S. Navy Volume Two*, 235-237, & 261-263.

<sup>29</sup> Symonds, 1995, 156.

<sup>30</sup> Isby, D., "The Zenith of 'Modern War' 1939-1945" in *Atlas of World Military History*, ed. Richard Brooks. (New York: Barnes & Noble Books, 2000), 210-211.

<sup>31</sup> Love, *History of the U.S. Navy Volume Two*, 164-167.

<sup>32</sup> Ibid, 100-101.

<sup>33</sup> Baer, G.W., *One Hundred Years of Sea Power: The U.S. Navy, 1890-1990*. (Stanford: Stanford University Press, 1993), 275-279.

<sup>34</sup> Baer, 1993, 275-280.

blossoming nuclear age. Not surprisingly, the new naval strategy which emerged was not really that different from what it had been before. The new strategy played to the existing strengths of the Navy's fleet, its inherent mobility, and rising suspicions of the Soviet Union. In short, the U.S. Navy found its salvation in the form of the forward deployed battle group.<sup>35</sup> This new (yet old) concept was reborn out of circumstance in February 1946 when President Truman dispatched the USS MISSOURI and a group of escorts to the Mediterranean Sea as a show of force aimed at deterring aggression between Turkey and Greece.<sup>36</sup> This deployment was followed-up in August 1946 with the deployment of the USS FRANKLIN D. ROOSEVELT, the world's largest aircraft carrier, to the eastern Mediterranean Sea as a show of force intended to deter a potential Soviet invasion of Turkey.<sup>37</sup>

The Navy bankrolled the success of these deployments into a revised naval strategy of deterrence through continuous forward deployment around the world. This strategy further buoyed its position against Air Force strategic bombing doctrine by providing a close range, relatively sustainable air strike capability.<sup>38</sup> Not only could Navy battle groups operate for extended periods in close proximity to a potential adversary, they could do so with little or no theatre land-based support and offered the flexibility of worldwide redeployment. The success of these first few Mediterranean deployments was so well received that the Navy established an entirely forward deployed Mediterranean command structure in January 1948, which later became the 6th Fleet.<sup>39</sup>

Ironically, the revitalization of the U.S. Navy in the Mediterranean would also impel and encourage the Soviet Union to build its own navy – allowing both sides to adopt and justify a series of mutually reinforcing Mahanian strategies.<sup>40</sup> Like Germany in two wars before them, the Soviet Union, clearly the dominant land power in Europe, selectively interpreted Mahan's prescriptions and sought to make itself into a dominant

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<sup>35</sup> Love, *History of the U.S. Navy Volume Two*, 283-285.

<sup>36</sup> Baer, 1993, 282-283.

<sup>37</sup> Ibid.

<sup>38</sup> Symonds, 1995, 191-192.

<sup>39</sup> Love, *History of the U.S. Navy Volume Two*, 284-285.

<sup>40</sup> Malia, M., *The Soviet Tragedy: A History of Socialism in Russia, 1917-1991*. (New York: The Free Press, 1994), 371.

sea power as well - regardless of the fact it had no real strategic need to do so. As a mostly self-sustaining entity and the largest territorial power in both Europe and Asia, the Soviet Union had little to gain strategically and much to lose monetarily in developing a deep water naval capacity similar to that already possessed by the United States. The one noted exception to the Soviet Union's strategically questionable attempt to build a world-class navy, was the development of a submarine force that eventually became its most credible strategic asset with the development of the nuclear powered ballistic missile submarine.<sup>41</sup>

As the Cold War progressed, the Soviet Navy became a worthy opponent for the U.S. Navy, one used by Secretary of the Navy John F. Lehman to justify the creation of a 600 ship navy. Lehman's dream fleet consisted of some 15 carrier battle groups, 4 battleship battle groups, 250 various cruisers, destroyers, and frigates, 100 attack submarines, 40 ballistic missile submarines, and enough amphibious operations ships to land 2 entire Marine amphibious brigades.<sup>42</sup> In the event of war with the Soviet Union, what became known as "The Maritime Strategy" dictated that the U.S. Navy would use its 600 ship fleet to sweep the Soviet Navy from the seas and attack the very heart of the Soviet Union's submarine fleets on the Kola Peninsula. Once the Soviet Navy had been eliminated, an amphibious landing force, along with pre-staged land components in Europe, would catch the Soviet Army in a giant pincher movement and destroy them in detail.<sup>43</sup> The Soviet economy would later collapse under the strain of its military expenditures, a great deal of which had been dedicated to building a world-class Navy. By the time the Cold War came to an end in 1989, the U.S. Navy had not quite achieved its 600 ship goal.<sup>44</sup>

## **F. THE ROLE OF SEA POWER IN THE POST-COLD WAR ENVIRONMENT**

The end of the Cold War ushered in an era eerily similar to that of the late 1940's: the Navy once again emerged victorious from a long and hard fought military

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<sup>41</sup> Grove, E., *The Future of Sea Power*. (Annapolis: Naval Institute Press, 1990), 94-95, 133-138.

<sup>42</sup> Lehman, 2001, 360-364.

<sup>43</sup> Lehman, 2001, 360-364.

<sup>44</sup> Naval History Center, 2005, Maritime Business Strategies webpage. Accessed 10 January 2005, available from: <http://www.coltoncompany.com/shipbldg/statistics/force.htm>; Internet.

engagement with a powerful and threatening enemy, only to find itself facing an even more challenging political struggle to justify its continued existence.<sup>45</sup> While in the 1950's the emergence of a strong and threatening Soviet Navy would revitalize the U.S. Navy and obviate criticisms of its obsolescence and irrelevance,<sup>46</sup> history would prove to be less accommodating in the 1990's. Despite all of the predictions and warnings based largely upon entrenched Mahanian logic, a near peer naval competitor continuously failed to emerge on the Navy's horizon.

By 1992, the overall U.S. defense budget had been reduced by twenty-five percent as compared to that of 1985, imparting terrible repercussions to all branches of the military, but to the Navy in particular.<sup>47</sup> Contrary to the Navy's long term strategic planning, President George H.W. Bush and Secretary of Defense Richard Cheney ordered the decommissioning of nearly 100 vessels over the course of just two years, reducing the Navy's total number of commissioned vessels from 570 in 1990 to only 471 in 1992 (see Table 1 below).<sup>48</sup> Over the 1990's, the Navy's leadership scrambled to find justification to prevent any additional fleet reductions. Eventually, the Navy's ultimate defense would come to be embodied in a single, powerful buzzword, which has come to dominate U.S. naval thinking, writing, and planning ever since: "Transformation."

During the early 1990's, transformation was a somewhat nebulous and vague concept. As the Navy's leadership would discover, the decision to initiate transformation would prove to be far easier than determining exactly how the service should be transformed. In September 1992, the Navy published a strategy statement entitled *From the Sea*, which, over the course of only 10 pages, included no less than 18 references to "new" initiatives aimed at revitalizing the Navy.<sup>49</sup> Two years later, this strategic guidance was updated and reissued as *Forward . . . From the Sea*, outlining an additional

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<sup>45</sup> Baer, G.W., *One Hundred Years of Sea Power: The U.S. Navy, 1890-1990*. (Stanford: Stanford University Press, 1996), 289-292.

<sup>46</sup> Ibid.

<sup>47</sup> Love, R.W. Jr., *History of the U.S. Navy Volume Two: 1942-1991*. (Harrisburg, PA: Stackpole Books, 1992), 801.

<sup>48</sup> Naval History Center, 2005, Internet.

<sup>49</sup> O'Keefe, S., Kelso, F. B., and Mundy, C. E. Jr. 1992 ". . . From the Sea: Preparing the Naval Service for the 21<sup>st</sup> Century." Chief of Naval Information webpage. Accessed 20 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/policy/fromsea/fromsea.txt>: Internet.



4 “new” initiatives and 12 subsequent “shifts” of focus intended to fine-tune the guidance provided in the former directive.<sup>50</sup> While certainly welcomed by nations and peoples all over the world, the post-Cold War “peace dividend” posed an especially troubling proposition for the United States Navy as it struggled to justify its continued existence in the absence of a powerful, capable, and, most importantly from a budgetary standpoint, a readily apparent competitor.<sup>51</sup> When no such challenger emerged after the decline of the Soviet Navy, Mahanian logic, creative reasoning, and extrapolation were used to imply competition where none existed.<sup>52</sup>

Table 1. U.S. Navy Force Structure since World War II (After Naval History Center, 2005, Maritime Business Strategies webpage. Accessed 10 January 2005, available from: <http://www.coltoncompany.com/shipbldg/statistics/force.htm>; Internet.)

<i>Year</i>	<i>BB</i>	<i>CV</i>	<i>CVE</i>	<i>CA</i>	<i>DD</i>	<i>FF</i>	<i>SS</i>	<i>SSBN</i>	<i>Cmd.</i>	<i>M</i>	<i>P</i>	<i>L</i>	<i>A</i>	<i>Totals</i>
1945	23	28	71	72	377	361	232	-	-	586	1204	2547	1267	6768
1950	1	11	4	13	137	10	72	-	-	56	33	79	218	634
1955	3	21	3	17	249	64	108	1	-	112	15	175	262	1030
1960	-	23	-	13	226	41	106	7	1	81	4	113	197	812
1965	-	25	-	27	221	39	104	30	2	84	-	135	213	880
1970	-	19	-	31	155	47	103	41	-	64	15	97	171	743
1975	-	15	-	27	102	64	75	41	-	34	14	64	123	559
1980	-	13	-	26	94	71	82	40	3	25	3	63	110	530
1985	2	13	-	30	69	110	100	37	4	21	6	58	121	571
1990	4	13	-	43	57	99	93	33	4	22	6	59	137	570
1991	1	15	-	47	47	93	87	34	4	22	6	61	112	529
1992	-	14	-	49	40	67	85	30	4	16	6	58	102	471
1993	-	13	-	52	37	59	88	22	4	15	2	52	110	454
1994	-	12	-	35	41	51	88	18	4	16	7	38	94	404
1995	-	12	-	32	47	49	83	16	4	18	12	39	80	392
1996	-	12	-	31	51	43	79	17	4	20	13	40	67	377
1997	-	12	-	30	56	42	73	18	4	24	13	41	52	365
1998	-	12	-	29	50	38	65	18	4	26	13	40	62	357
1999	-	12	-	27	52	37	58	18	4	29	13	40	62	352
2000	-	12	-	27	54	35	56	18	-	27	13	39	60	341
2001	-	12	-	27	54	35	54	18	-	27	13	39	58	337

<sup>50</sup> Dalton, J.H., Borda, J.M., and Mundy, C.E. Jr. 1994. "Forward . . . From the Sea." Chief of Naval Information webpage. Accessed 20 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/policy/fromsea/forward.txt>; Internet.

<sup>51</sup> Lehman, J., *On Seas of Glory: Heroic Men, Great Ships, and Epic Battles of the American Navy*. (New York: The Free Press, 2001), 400-401.

<sup>52</sup> Barnett, T.P.M., *The Pentagon's New Map: War and Peace in the Twenty-First Century*. (New York: G.P. Putnam's Sons, 2004), 67-79.

Conventional wisdom at the time dictated that war planning and force structure were driven by threat based analysis, meaning the Navy should structure itself to confront the most powerful threat it might be called upon to address. As had been the case throughout the Cold War, the Soviet Navy provided the obvious standard against which its force structure had been designed.<sup>53</sup> The Achilles heel of this type of “threat based” analysis was that it concentrated solely on the principal threat (the Soviet Union) while glossing over the “lesser included” threats (everything other than the Soviet Union), assuming “that if we built [a force structure] for the Big One, then that same mix of forces would adequately handle all the smaller threats, but not vice versa.”<sup>54</sup> In the early 1990’s, recognizing the Soviet Union’s collapse, the United States Navy considered what type of force structure it needed in a post-Cold War security environment. This resulted in what has become known as the Manthorpe Curve (see Figure 1 below): a graphic depiction of the Office of Naval Intelligence’s (ONI) future threat prediction.<sup>55</sup>

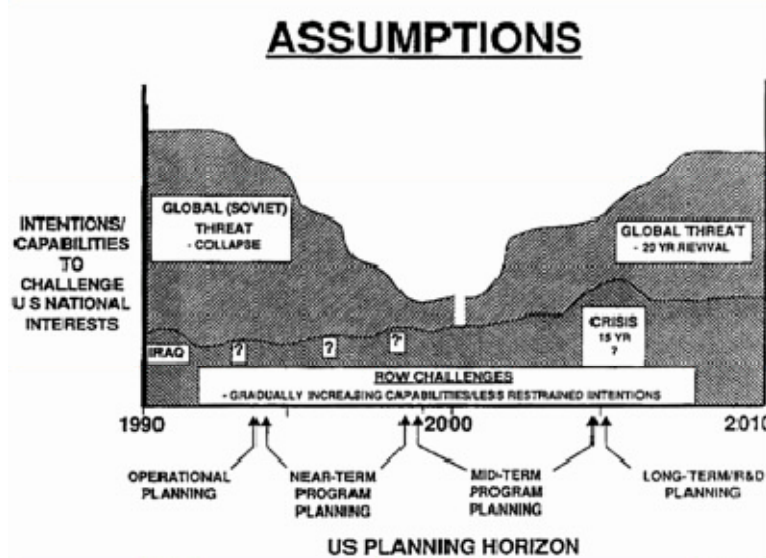


Figure 1. The Manthorpe Curve (From: Barnett, T.P.M. 2004. Thomas P.M. Barnett webpage. Accessed 30 January 2004, available from: [http://www.thomaspmbarnett.com/pnm/manthorpe\\_curve.htm](http://www.thomaspmbarnett.com/pnm/manthorpe_curve.htm); Internet.)

ONI predicted the decline of the Soviet Union would occur gradually over the course of about 10 years and that the threat it had presented would be replaced sometime

<sup>53</sup> Barnett, T.P.M., 59-79.

<sup>54</sup> Ibid, 67.

<sup>55</sup> Ibid, 63-79.

around the year 2000 by a then undetermined global “near-peer” competitor. ONI identified these near peer threats as China, North Korea, or possibly even a reconstituted Soviet/Russian threat.<sup>56</sup> Also depicted was a lower, yet steadily increasing Rest of the World (ROW) threat, commonly referred to as the “lesser included,” which represented the growing regional threats and instabilities ONI predicted would arise as the United States and Soviet Union scaled back their global military presence.<sup>57</sup>

The significance of the Manthorpe Curve is readily apparent: it envisioned a future threat environment that would be very similar, if not identical, to the one the Navy’s force structure had been built to defeat. Using the Manthorpe Curve’s prediction, the Navy justified strategic, planning, and programmatic decisions aimed at maintaining its preexisting force structure.<sup>58</sup> Unfortunately, by concentrating solely on the premise of a rising near peer competitor, ONI and the Navy’s leadership inadvertently served to perpetuate an increasingly obsolete Cold War mentality based on entrenched Mahanian logic: one which would unintentionally handicap the Navy’s ability to address the growing number of “lesser included” emerging world threats which did not exhibit the same form, capabilities, or intentions as its former Soviet adversary.<sup>59</sup>

As the 20th Century came to a close, the Navy found itself waging two separate (yet not entirely new) campaigns: (1) an internal, intellectual debate to determine what type of force structure would be most beneficial in the post-Cold War security environment; and (2) an external struggle to maintain solvency and relevance in an era of rapidly increasing procurement and operational costs. The overlap and interaction between these two campaigns resulted in a series of plans and programs aimed at satisfying the Navy's need to update its platforms, refine its organization, and develop new strategies to operate in the new security environment. The most recent iteration of this planning is provided by the Navy's Transformation Roadmap of 2003, in which the Navy outlines a series of progressive initiatives aimed at reorganizing the fleet in the short-term while simultaneously transforming itself, over the long term, into a force

<sup>56</sup> Cohen, W.S. 1997. "Quadrennial Defense Review." Defense Link webpage. Accessed 16 February 2005, available from: <http://www.defenselink.mil/pubs/qdr/index.html>; Internet.

<sup>57</sup> Barnett, 2004, 69.

<sup>58</sup> O’Keefe, Kelso, and Mundy, 1992, Internet.

<sup>59</sup> Barnett, 2004, 76-77.

capable of flourishing in the dynamic security environment envisioned by the 2001 Department of Defense (DoD) Quadrennial Defense Force Review (QDR) Report and Joint Vision 2020.

#### **G. THE NAVY'S CURRENT STRATEGIC DILEMMA**

In direct comparison with its sister services, the platforms which make up the U.S. Navy's fleet are extremely expensive, have much longer life-cycles, take years to build, and exhibit far less ability to be modified in order to undertake missions they were never designed to address. Although important to all military branches, long term strategic vision and careful planning is even more critical for the Navy because initiatives undertaken in the present tend to have very little, if any, impact on the strategic value of the current force, but will wholly dictate the missions and capabilities of the fleet which will sail years into the future. Given this understanding it is not hard to understand how for the last fifteen years the Navy has struggled with its near impossible burden: developing a cohesive and viable naval strategy to addresses a radically altered and quickly evolving threat environment while retaining the ability to implement and execute the elected strategy despite the strategic constraints of the preexisting fleet.

In a very real sense, the Navy finds itself being pulled in every direction at once, trying to satisfy increasing operational commitments, ensure long term readiness, maintain an adequate force structure, design and procure replacement platforms, and to ensure all of these efforts support the current strategy while providing a bridge to the future strategy, whatever it may actually turn out to be 20 years into the future. The Navy's ability to satisfy these competing interests has been severely restricted by reductions in the purchasing power of its budget, a reality which is inescapable and unlikely to change anytime in the near future. The Bush Administration has succeeded in achieving billions of dollars in supplemental defense appropriations during the last three years, but this increased spending has been used to address the staggering costs of ongoing operations in Iraq and Afghanistan. None of this supplemental spending has made any impact on the Navy's ability to overcome the realities of its strategic and procurement dilemma.

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### **III. NEAR-TERM AND MID-TERM TRANSFORMATION CHALLENGES**

#### **A. A TRANSFORMATION THAT NEVER FULLY MATERIALIZED**

The Navy maintained a mostly steady course through the 1990's, convinced a rising near peer competitor would eventually emerge, yet it still made a substantial effort to consider the viability of new strategies and encouraged debate within its various communities as to the future force structure. While, on one hand, this type of intercommunity debate and competition plays a healthy and necessary role in ensuring the Navy pursues the best and most suitable strategic course of action, it can also be detrimental to the long term well being of the force – especially in times of decreased military spending which inevitably results in inter-service competition for resources. During such periods of budgetary famine, those programs which can be best justified and explained in terms relative costs and benefits and framed within an overarching strategy have the best chance of survival while those which fail to achieve or sustain widespread support wither and die in increasing numbers. This cycle tells the tale of naval transformation in post-Cold War era.

Over the course of the 1990's, the Navy generated thousands of articles, concepts, directives, plans, and studies which considered and debated the various merits of naval transformation. But despite all of this transformational writing, very few of these concepts could generate the momentum and support necessary to make the leap from the drawing board to the fleet. As a point of illustration, from the period of 1990 to the present date three new combatant vessel designs entered fleet service: the Arleigh Burke Class Guided Missile Destroyer (DDG 51 Class), the Seawolf Class Nuclear Attack Submarine (SSN 21 Class), and the Virginia Class Nuclear Attack Submarine (SSN 774 Class).<sup>60</sup> While three new combatant platforms in 15 years may seem like a good record, it must be remembered that the research, development, and procurement of two of these vessels, the Arleigh Burke Class DDG and Seawolf Class SSN, was completed prior to

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<sup>60</sup> Global Security Organization. 2005. Global Security Organization webpage. Accessed 10 January 2005, available from: <http://www.globalsecurity.org/military/systems/ship/index.html>; Internet.

the conclusion of the Cold War.<sup>61</sup> Additionally, while more than 40 Arleigh Burke Class DDG's are currently active in the fleet, only three Seawolf Class SSN's and one Virginia Class SSN have been added to the Navy's active duty inventory.<sup>62</sup> In practical terms, this means that of the 288 U.S. Navy ships in active commission,<sup>63</sup> only 16% of the total force represents designs incorporated after the end of the Cold War, with far less than 1% of the total force having been designed after the fall of the Soviet Union. It is sobering to consider that approximately 70% of the active duty navy has been in commission for more than 15 years, over half of the professed 33 year life-cycle expectancy of a modern warship, and also that a full 99% majority of the Navy's current force structure represents Cold War security planning and procurement initiatives.<sup>64</sup>

## **B. TRANSFORMATION IN THE FLEET**

Although an analysis considering only these platform statistics might seem to indicate the Navy has completely "failed" to transform itself over the last 15 years, this is not entirely true. The Navy successfully fielded, and is continuing to implement, some of its "transformational" initiatives. However, a large portion of these near to mid term efforts in reality represent nothing more than stop-gap measures aimed at bridging the growing divide between the Navy's ever increasing number of new missions and its legacy platforms.<sup>65</sup> A case in point is the recently implemented Fleet Response Plan (FRP) which has made significant modifications in terms of fleet training and certification in order to allow greater flexibility in ship employment cycles and to ensure greater numbers of fleet formations are available for responding to rapidly emerging security contingencies.<sup>66</sup> Instead of deploying 12 rigidly configured carrier battle group (CVBG) formations, the FRP offers increased flexibility by redistributing existing formations into infinitely configurable formations consisting of up to 12 carrier strike

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<sup>61</sup> Love, 2002, 801 and Global Security Organization webpage, 2005, Internet.

<sup>62</sup> Global Security Organization webpage, 2005, Internet.

<sup>63</sup> Status of the U.S. Navy. 2005. Chief of Naval Information webpage. Accessed 24 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/news/www/status.html>; Internet.

<sup>64</sup> Global Security Organization webpage, 2005, Internet.

<sup>65</sup> "Transforming the Navy's Surface Combatant Force," Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tnsf\\_may03.htm](http://www.globalsecurity.org/military/library/report/cbo/tnsf_may03.htm); Internet.

<sup>66</sup> "Fleet Response Plan," 2005. Global Security Organization webpage. Accessed 17 November 2005, available from: <http://www.globalsecurity.org/military/ops/frp.htm>; Internet.

groups (CSG's), in essence scaled-down CVBG's, as many surface action groups (SAG's), independent groups of surface combatants, and/or expeditionary strike groups (ESG's), amphibious assault formations supported by surface combatant escorts, as necessary to address tactical needs as determined by the specific tactical and strategic situation.<sup>67</sup>

Implementation of the FRP marks a significant departure for the Navy in terms of how it organizes and employs its fleet formations. However, this type of change has very little impact on the strategic utility of the fleet in being. Reorganization is not the same as altering the composition of the fleet itself in order for any significant transformation to meet a new strategy. No amount of reorganization will alter the stark fact that while the platforms which comprise the vast majority of the Navy's current fleet would be perfectly capable of meeting a Soviet style force in direct combat, they are much less suited to undertake the peacekeeping and stability operations the Navy finds itself being tasked with. Furthermore, the current fleet structure remains unsuited to fight in the shallow littoral environment into which an increasing number of its potential adversaries have retreated.<sup>68</sup>

An overwhelming amount of research and debate fueled the transformation bubble of the 1990's, but most of the actual concepts envisioned during this period simply fizzled out and died, falling victim to either shrinking procurement budgets or rapidly changing strategic priorities.<sup>69</sup> In example, DD 21, billed as the destroyer to lead the Navy into the 21st century died on the drawing board long before the new century dawned, only to be revived later and re-designated DDX. Regardless of its rejuvenation, the "land attack destroyer" remains a highly contested, debated, and uncertain project that has yet to advance beyond the research and design stage of development<sup>70</sup> – costing hundreds of millions of dollars of research and development funding which could have been used to advance other programs and initiatives.

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<sup>67</sup> Global Security Organization webpage, 2005, Internet.

<sup>68</sup> Marx, P.H. "Barbarians at the Gate." U.S. Naval Institute webpage. Accessed 03 August 2005, available from: <http://www.usni.org/proceedings/Articles04/PRO05marx.htm>; Internet.

<sup>69</sup> Global Security Organization webpage, 2005, Internet.

<sup>70</sup> Federation of American Scientists. 2005. Federation of American Scientists Webpage. Accessed 06 March 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/index.html>; Internet.



Littoral combat was another post-Cold War transformational priority espoused throughout both . . . *From the Sea*<sup>71</sup> and *Forward . . . From the Sea*.<sup>72</sup> Unfortunately, the “streetfighter” concept intended to rectify the Navy’s “brown water” deficiencies did not even fare as well or develop as far as DD 21.<sup>73</sup> The “arsenal ship,” envisioned as a high-capacity Tomahawk cruise missile and Naval Gunfire Support strike platform, was the Navy’s last great stillborn concept of 1990’s, which, like all of its transformational siblings, not only failed to enter fleet service, but also never even made it off the drawing board.<sup>74</sup> While it is readily apparent the Navy expended a tremendous amount of time, effort, and money considering, evaluating, and debating various transformational initiatives throughout the 1990’s, its inability to translate these efforts into new platforms have resulted in little, if any, real change in terms of the fleets composition or capabilities.

### **C. THE TRANSITION FROM THREAT BASED TO CAPABILITIES BASED MILITARY PLANNING**

Over the course of the Cold War the U.S. Navy benefited greatly from the relative stability of the security environment and its existing fleet is the collective result of some fifty years of incremental strategic planning and preparation aimed at defeating the Soviet Navy in fleet combat on the high seas. Paradoxically, the benefits and liabilities resulting from such an extended period of relative stability were neither readily apparent to nor fully appreciated until after the confrontation came to a close. While the Cold War era provided the Navy a fairly well defined arena of competition, a clear understanding as to capabilities and limitations of the enemy's forces, and a somewhat consistent notion as to how to best structure its own forces to counteract these characteristics, the post-Cold War security environment has proven to be anything but stable and consistent. In the absence of a readily apparent opponent, the Navy has struggled to determine how to proceed: should the fleet remain the same or should it be modified and if so, how?

Although these same questions still linger, the 1997 QDR outlined DoD’s efforts to facilitate a “revolution in military affairs” (RMA) intended to harness the technological

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<sup>71</sup> O’keefe, Kelso, and Mundy, 1994, Internet.

<sup>72</sup> Dalton, Borda, and Mundy, 1994, Internet.

<sup>73</sup> Global Security Organization webpage, 2005, Internet.

<sup>74</sup> Federation of American Scientists webpage, 2005, Internet.

power of communication and information systems and use them as a springboard to leapfrog ahead of potential adversaries.<sup>75</sup> Unfortunately, the DoD neither completely realized nor capitalized on its intended technological RMA by the time of the 2001 *Quadrennial Defense Review*. Although not entirely dead, the RMA became increasingly overshadowed by the emerging notion of capabilities based military planning.<sup>76</sup>

Unlike the threat based planning espoused by the Manthorpe Curve, which ignored anything and everything beyond the primary threat, capabilities based planning seeks to establish a military force structure capable of defeating a broad range of adversarial capabilities rather than simply leveraging technology to defeat one specific threat, i.e. the Soviet Union or the nebulous near peer competitor.<sup>77</sup> For all its apparent logic and professed strengths, however, capabilities based planning has one critical weakness: although it considers a range of adversarial capabilities, the individual services retain an inherent ability to determine which specific capabilities they intend to address within the overall identified range. For the Navy, with its long life-cycle fleet and overwhelming number of legacy platforms, this has resulted in an unintentional reversal of prerogatives: a strategy designed to accommodate the limitations of existing platforms rather than platforms designed to accommodate the requirements of an overarching strategy.

Surprisingly, the DoD's incorporation of capabilities based planning would ultimately serve to revive or revitalize many of the transformational concepts and platforms which had been considered during the course of the 1990's, even though most of their new iterations would bear only a casual resemblance to their predecessors. For the Navy this meant a return to ideas that first surfaced during the early 1990's. For example, the Arsenal ship is no longer a ship, but has resurfaced as a cadre of four converted Ohio Class Nuclear Ballistic Missile Submarines, each of which are in the process of trading in their 24 Trident missiles in exchange for 154 Tomahawk cruise

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<sup>75</sup> Cohen, 1997, Internet.

<sup>76</sup> Rumsfeld, D.H. 2001. "Quadrennial Defense Review." Commonwealth Institute Webpage. Accessed 10 March 2005, available from: <http://www.comw.org/qdr/qdr2001.pdf>; Internet.

<sup>77</sup> Davis, P.K. n.d. "Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis, and Transformation." Rand Corporation webpage. Accessed 02 March 2005, available from: <http://www.rand.org/publications/MR/MR1513/MR1513.pdf>; Internet

Missiles and 66 Navy Seals.<sup>78</sup> Streetfighter has been resurrected as the Littoral Combat Ship (LCS), an all-purpose, high-speed vessel equipped with unmanned, remote controlled mission packages and intended to give the Navy a dedicated “brown water” littoral fighting capability.<sup>79</sup> DD 21 has been re-designated as DDX and, although research and design continues, no substantial progress has been made to advance this program beyond its continuing research and development phase.<sup>80</sup>

Taken at face value, the adoption of capabilities based planning aimed at a range of potential capabilities would appear to be a breath of fresh air in terms of force planning and procurement; however, the subsequent everything that’s old is new again rejuvenation of many of these leftover transformational initiatives seems to contradict this notion. In fact, it is difficult to imagine how two such radically different approaches to force planning could result in almost identical prescriptions in terms of necessary programs and platforms – especially since no other nation in the world is building or operating a primarily deepwater capital ship fleet. Regardless of which type of threat planning is used to justify its initiatives, the Navy appears intent on maintaining those core competencies and platforms it feels most comfortable with: aircraft carriers, deep-draft capital ships, and deep-diving nuclear submarines.

#### **D. THE FRUSTRATING EXAMPLE OF DD (21)**

The Navy’s most ambitious effort towards fielding a new surface combatant platform has been the DD (X). It is also the most resounding example of naval transformation gone awry. Originally conceived as DD (21) in the mid 1990’s and designated the ZUMWALT Class, in honor of former Chief of Naval Operations Admiral Elmo R. "Bud" Zumwalt Jr.,<sup>81</sup> the platform touted as the “21st century destroyer”<sup>82</sup> failed

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<sup>78</sup> Global Security Organization webpage, 2005, Internet.

<sup>79</sup> "Littoral Combat Ship Concept of Operations." 2003. Global Security Organization Webpage. Accessed 10 January 2005, available from: <http://www.globalsecurity.org/military/library/report/2003/LCSCONOPS.htm>; Internet.

<sup>80</sup> Global Security Organization webpage, 2005, Internet.

<sup>81</sup> "President Names New Ship Class After Adm. Zumwalt," Federation of American Scientists webpage. Accessed 03 August 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/docs/000705-dd21-zumwalt.htm>; Internet.

<sup>82</sup> Murphy, D. J. Jr., Memorandum for Program Executive Officer for Surface Combatants, Federation of American Scientists website. Accessed 03 August 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/docs/971217-21st.htm>; Internet.

to even last out the 20th century in which it was conceived. Research and development cost overruns, overambitious propulsion systems specifications, and wild swings in strategic vision all conspired against the project leading to its eventual scuttling in 2001.<sup>83</sup>

Although disappointing to those closest to the project, the cancellation of DD (21) was probably a blessing in disguise. Had the ZUMWALT Class made it into fleet service, it would have probably fared little better than the SEAWOLF Class Nuclear Attack Submarine, which proved to be nothing more than an exponentially higher priced platform with almost identical capabilities as the vessel it was intended to replace.<sup>84</sup> Despite the cancellation of DD (21), the Navy was determined to roll many of the ideas and technologies envisioned for DD (21) into a new “land attack” platform, which it designated DD (X).<sup>85</sup> Beyond the DD (X) platform itself, the Navy designated the still undeveloped destroyer as the lead vessel in its Future Surface Combatant (FSC) family, intending to capitalize on its basic hull, engineering systems, and sensor designs and use them as a foundation for the spiral development of a follow-on generation of cruisers (CG (X)), amphibious ships (LHA (R)), and aircraft carriers (CVN 21).<sup>86</sup>

Amidst these efforts to create follow-on replacements for its current surface combatant vessels, the Navy’s analysis of its current capabilities and future requirements once again resulted in the clear recognition of a critical vulnerability in its force structure: the lack of a shallow draft vessel capable of fighting in the littoral environment.<sup>87</sup> Given the previously mentioned budgetary constraints and the existing capabilities in its current inventory, it the Navy decided to focus its main priority on developing the Littoral

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<sup>83</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-21-prog.htm>; Internet.

<sup>84</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ssn-21.htm>; Internet.

<sup>85</sup> DD (X) History, Program Executive Office Ships webpage. Accessed 03 August 2005, available from: <http://peos.crane.navy.mil/ddx/history.htm>; Internet.

<sup>86</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-x.htm>; Internet.

<sup>87</sup> What is LCS?, Program Executive Office Ships webpage. Accessed 03 August 2005, available from: <http://peoships.crane.navy.mil/lcs/program.htm>; Internet.

Combat Ship platform, a much smaller and lower cost platform intended to enhance, extend, and compliment the Navy's overall combat abilities.<sup>88</sup>

The Navy's decision to refocus its transformational priorities did not obviate the need for continued development of the DD (X) or FSC family of vessels, rather it accentuated the Navy's overarching desire to achieve meaningful transformation by adopting new platforms which would address elements of naval combat which had either been unnecessary, unfeasible, or overshadowed by the Cold War security environment. It did, however, require a reprioritization, reallocation, and revision of the DD (X) and FSC programs in order to free up funding necessary to advance the design and construction of the LCS platform. In all estimations, the Navy will eventually need to proceed with construction of the DD (X) platform in order to retain a modern and robust open ocean combat capability and to support the intended spiral development of the follow-on family of future warships. However, there is a significant danger that delays, budgetary constraints, and the rising cost of naval construction will hamper, deter, or further delay the arrival of the DD (X) platform, a development which would obviously reverberate negatively throughout the FSC family.

#### **E. THE GROWING COST OF NAVAL TRANSFORMATION**

Beyond the debate over which specific platforms to procure, the Navy faces increasing difficulty determining how to pay for any additional platforms in an era of soaring construction costs and relatively fixed procurement budgets.<sup>89</sup> As a comparison between Table 2 and Figure 2 below will demonstrate, the expected unit cost of the Navy's desired DD (X) and CG (X) platforms considered in relation to the projected shipbuilding budget will severely limit the number of new platforms the Navy will be able to procure, thereby necessitating either a dramatic increase in shipbuilding funds or reliance on a much smaller overall force structure than the Navy either desires or currently possesses.<sup>90</sup>

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<sup>88</sup> "Modernizing the Surface Combatant Force and the Implications for the Navy's Budget," Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tnsf\\_may03\\_chapter1.htm](http://www.globalsecurity.org/military/library/report/cbo/tnsf_may03_chapter1.htm); Internet.

<sup>89</sup> Cavas, C. P., "Clark Calls for Shifting R&D Funds to Shipbuilding," *Navy Times*, 25 July 2005, p 18.

<sup>90</sup> Cavas, C. P., "Navy Seeks Ways to Skirt Tight Shipbuilding Budgets," *Navy Times*, 18 April 2005, 24.

According to the Congressional Budget Office, “the Navy would need to spend \$15.6 billion a year between 2005 and 2022 to build its 375-ship fleet at DoD’s current cost estimates, or \$19.1 billion a year through 2022 if historical trends in cost growth continued.”<sup>91</sup> While there is contention regarding these figures and their implications,<sup>92</sup> even assuming they are correct, the very budgetary projection provided in the same report, and reflected in Figure 2, clearly demonstrates the best possible future case will be for the Navy to achieve the \$15 billion budget required to maintain a fleet of approximately 290 vessels.<sup>93</sup> More likely, the Navy will have to accept and manage a further reduction of its force structure.<sup>94</sup>

In addition to its aging surface ships and submarines, the Navy also faces a growing challenge in maintaining a balanced fleet of combat and support aircraft. As depicted in Figure 2 below, the Navy plans to spend approximately three times as much money on aircraft procurement and modernization over the course of the next 15 to 17 years as compared to ship construction. A large portion of this funding will be dedicated to procuring the naval variant of the Joint Strike Fighter (JSF), a program which will still result in a net loss of almost 40 airframes than originally programmed despite an overall price increase of almost \$11 billion due to cost overruns and procurement delays.<sup>95</sup>

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<sup>91</sup> "The Long-Term Implications of Current Defense Plans: Summary Update for Fiscal Year 2005," Congressional Budget Office webpage. Accessed 03 August 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=5864 &sequence=0>; Internet.

<sup>92</sup> Cavas, C. P., “11-Carrier Navy: JFK on the Chopping Block, but Mayport’s Not out of the Running,” *Navy Times*, 14 February 2005, 14.

<sup>93</sup> "The Long-Term Implications of Current Defense Plans," 2005, Internet.

<sup>94</sup> "Navy Budget Insufficient, Says U.S. Rep. Gene Taylor," United States House of Representatives webpage. Accessed 03 August 2005, available from: <http://www.house.gov/genetaylor/navy.021805.htm>; Internet.

<sup>95</sup> "The Long-Term Implications of Current Defense Plans," 2005, Internet.

Table 2. Average Cost of Procurement and Operation of U.S. Navy Vessels (All figures rounded and adjusted to represent 2005 dollars)

Ship Class	Average Procurement Cost Per Unit	Average Operational Cost Per Unit
FFG 7	\$561 Million <sup>96</sup>	\$19.4 Million <sup>97</sup>
DD 963	\$936 Million <sup>98</sup>	\$42.5 Million <sup>99</sup>
CG 47	\$1 Billion <sup>100</sup>	\$34 Million <sup>101</sup>
DDG 51	\$900 Million <sup>102</sup>	\$24.3 Million <sup>103</sup>
SSN 688	\$1.3 Billion <sup>104</sup>	\$21 Million <sup>105</sup>
CVN 68/77	\$4 Billion <sup>106</sup>	\$194 Million <sup>107</sup>
LCS	\$350 Million <sup>108</sup>	TBD
DD (X)	\$1.9 Billion <sup>109</sup>	TBD
CG (X)	\$2.2 Billion <sup>110</sup>	TBD

<sup>96</sup> Couhat, J.L., *Combat Fleets of the World, 194-1985*. Translated by A.D. Baker. (Annapolis: Naval Institute Press, 1984). Accessed 03 August 2005, available from: <http://www.indwes.edu/Faculty/bcupp/combflt.htm>; Internet.

<sup>97</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ffg-7-specs.htm>; Internet.

<sup>98</sup> Military Equipment Guide, Military.com webpage. Accessed 03 August 2005, available from: <http://www.military.com/Resources/EQG/EQGmain?file=DD963&cat=v&lev=2>; Internet.

<sup>99</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-963-specs.htm>; Internet.

<sup>100</sup> U.S. Navy Fact File, Chief of Naval Operations webpage. Accessed 03 August 2005, available from: <http://www.chinfo.navy.mil/navpalib/factfile/ships/ship-cru.html>; Internet.

<sup>101</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.military.com/Resources/EQG/EQGmain?file=DD963&cat=v&lev=2>; Internet.

<sup>102</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ddg-51-build.htm>; Internet

<sup>103</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ddg-51-specs.htm>; Internet.

<sup>104</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ssn-688-specs.htm>; Internet.

<sup>105</sup> Ibid.

<sup>106</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/cvn-68-specs.htm>; Internet.

<sup>107</sup> Ibid.

<sup>108</sup> Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tnsf\\_may03\\_appendix.htm](http://www.globalsecurity.org/military/library/report/cbo/tnsf_may03_appendix.htm); Internet.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid.

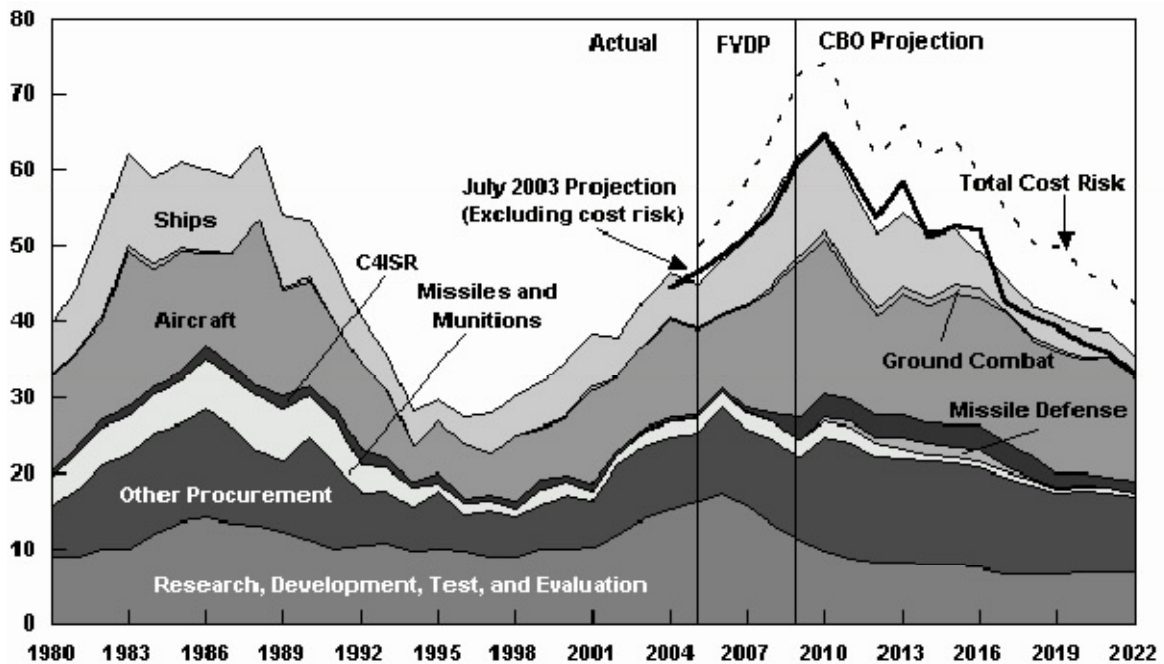


Figure 2. Projected Navy and Marine Corps Resources for Investment (from: <sup>1</sup> The Long-Term Implications of Current Defense Plans: Summary Update for Fiscal Year 2005, Congressional Budget Office webpage. Accessed 03 August 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=5864 &sequence=0>; Internet)

#### F. INFERENCES FROM NEAR AND MID-TERM TRANSFORMATIONAL INITIATIVES

The Navy's experiences in the post-Cold War security environment and its ongoing prosecution of the Global War on Terrorism clearly reveal weaknesses and inadequacies in the platforms which make up its current force structure. Despite an increasing recognition of these deficiencies, soaring construction costs, rising employment commitments, and shifts in strategic priorities have all served to confound, complicate, and impede the Navy's efforts to translate its vision of transformation into new platforms which can make this vision a reality. The Navy's progression from a Cold War deterrent force to peacetime service was neither pleasant nor easy and the unexpected and rapid transition to the post-9/11 security environment is proving to be no better.

The Navy has succeeded in developing, testing, and fielding transformational concepts aimed at altering and improving the efficiencies involved in operating,



maintaining, and employing its preexisting platforms and assets; however, these types of initiatives, although critically important, are not enough. In order to truly transform itself into a newer, better balanced and more capable force, the Navy must reach a point where it can leave behind its legacy platforms and develop new platforms. Rather than simply modifying its existing platforms to marginally accomplish tasks and missions they were never intended to perform, the Navy will never be truly transformed until it succeeds in fielding new platforms designed from their inception to address the needs of the post-Cold War, post-9/11 security environment.

The Navy has also made progress in researching and designing new platforms; however, this progress has been slow and somewhat disjointed. Paradoxically, even despite the costs involved, the Navy's inability to field DD (21) can be seen as a positive development as, had it actually entered fleet service, it would probably have proven to be no more capable of addressing either the current or projected security environments than the DDG (51) or CG (47) classes of warships it was intended to replace, even despite its more advanced technology and substantially higher price. The Navy made another difficult, yet practical, decision when it decided to accelerate development of the LCS platform. In both of these instances, the Navy served to reconfirm its commitment to relevant transformation – rather than blindly progressing with programs already in place and calling it transformation, the Navy instead chose to reprioritize its programs in hopes of achieving real transformational progress.

These types of re-directive decisions are difficult, require bold visionary guidance, and, as demonstrated by the previously mentioned JSF example, almost always result in increased costs to the effected programs. This having been said, the discussed reassessments and readjustments of the Navy's transformational initiatives appear to have been both necessary and timely and any long-term negative implications from these actions should be far outweighed by the benefits these platforms will bring to the fleet in terms of the new capabilities they offer. Caution must always be taken, however, because additional revisions of the Navy's current transformation plan will not only result in additional programmatic delays and increased procurement and development costs, but may also result in increased scrutiny from members of Congress who will ultimately play a critical role in determining the future of the Navy through budgetary allocation. Should

Congress come to question the Navy's ability to manage its own transformation or to lose confidence in the programs and platforms the Navy seeks to obtain, the consequences would be disastrous.

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## **IV. LONG-TERM TRANSFORMATION CHALLENGES**

### **A. AMPHIBIOUS WARFARE: DAYS OF FUTURE PASSED**

Since the end of World War II, the United States Navy and Marine Corps have consistently demonstrated an unmatched ability to rapidly respond to military and political developments around the world. While this speed and agility of response has certainly served to enable and support the realization of national interests through simultaneous deterrence of adversaries and reassurance of allies, it would be naive and unrealistic to believe a naval presence alone has ever been or ever will be sufficient to achieve the nation's desired ends. The sad reality is that naval power, like air power, is severely limited in its ability to influence the course of events as they unfold because of three critical factors: endurance, range, and scope. Regardless of technological advances, the overall combat power of any naval force remains constrained by the limited amount of weaponry it can employ, the range at which it can project its combat power, and the amount of time it can sustain independent combat operations.

While seaborne forces are mostly unrestricted in projecting their combat power over the 70% of the world which is covered by water, their over-land reach is generally limited to a few hundred miles for maritime aircraft and/or missiles and as little as 10 to 15 miles when considering conventional gunfire systems and sensors. In the case of major wars, these restrictions and limitations have historically relegated naval forces to supporting roles, dedicating the largest portions of their wartime efforts providing transport for and logistics to land forces and escorting and protecting merchant shipping. This sad reality does not coincide with theories promoted by many of history's greatest naval strategists, including Alfred Thayer Mahan, who have failed to understand that while naval forces can greatly influence the prosecution of wars, only land armies can win them. Control of the seas simply has not been, and probably never will be, sufficient to guarantee the entirety of the nation's security interests and/or political policies.

Amphibious assault operations present one area of notable exception, wherein the capability for naval forces to launch direct landward assaults offer a unique opportunity for seaborne forces to move beyond their traditional status as a supporting force and

temporarily play a primary role in prosecuting land combat operations. Historically, when they have been attempted, amphibious assault operations have been of limited utility because they have only served one function: to achieve localized forcible entry into an enemy's territory in order to establish a secured beachhead which can then be used by land forces to support follow-on land combat operations. While the Second World War and the Korean War provide numerous examples of successful forced entry amphibious operations, such as the Allied landings at Normandy in 1944<sup>111</sup> or at Inchon in 1950,<sup>112</sup> the vast majority of post-1945 amphibious operations have either been entirely unopposed, such as the 1982 landing of U.S. Marines in Lebanon,<sup>113</sup> or indirectly opposed, such as during the 1982 Falklands War.<sup>114</sup>

These most recent historical examples seem to reveal a rather counter-intuitive, and potentially disastrous trend in naval warfare which might lead the casual observer to believe modern amphibious operations are relatively safe, easy, and effective. This conclusion, despite the happy coincidences of recent events, is easily refuted by an overwhelming abundance of evidence which outlines the unprecedented proliferation of relatively cheap and widely accessible area-denial technologies and systems which have become available during this same period of time. Anti-ship mines and cruise missiles, kinetic and non-kinetic air defense systems, diesel submarines, fast patrol boats, and mechanical and electronic jamming devices, as well as early warning, tracking, and deception systems are widely available to countries and non-state actors who want these capabilities.<sup>115</sup>

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<sup>111</sup> Parker, R.A.C., *The Second World War: A Short History*. (New York: Oxford University Press, 1989), 195-200.

<sup>112</sup> Lehman, J.F., *On Seas of Glory: Heroic Men, Great Ships, and Epic Battles of the American Navy*. (New York: The Free Press, 2001), 307.

<sup>113</sup> Love, R.W., *History of the U.S. Navy Volume Two: 1942-1991*. (Harrisburg: Stackpole Books, 1992), 734-735.

<sup>114</sup> Hastings, M. and Jenkins, S., *The Battle for the Falklands*. (New York: W.W. Norton and Company, 1983), 193-199.

<sup>115</sup> Krepinevich, A., Watts, B., and Work, R., "Meeting the Anti-Area and Access Denial Challenge." Center for Strategic and Budgetary Assessments webpage. Accessed 06 September 2005, available from: [http://www.csbaonline.org/4Publications/Archive/R.20030520.Meeting\\_the\\_Anti-A/R.20030520.Meeting\\_the\\_Anti-A.pdf](http://www.csbaonline.org/4Publications/Archive/R.20030520.Meeting_the_Anti-A/R.20030520.Meeting_the_Anti-A.pdf); Internet.

Despite their mostly favorable history of success, amphibious assault operations are not only very difficult, dangerous, complex, and expensive, in terms of manpower and material, but they are also very limited in terms of strategic employability and potential benefits. Generally speaking, successful amphibious assault operations require conditions and circumstances which are not commonly available: favorable geography, fair weather, the element of surprise, robust intelligence, and the opportunity for advanced preparation of the landing zone in order to clear it of any mines and/or obstacles.<sup>116</sup> Even assuming these conditions are available, the landing force itself must possess overwhelming combat strength in order to overcome even the weakest opposition.<sup>117</sup> The size and composition of the U.S. assault force employed at Normandy can be used to illustrate the effort of force required for an amphibious assault to succeed against a robust defense. Not accounting for Allied units or equipment, it consisted of: 3 battleships, 9 cruisers, 20 destroyers, 4 attack transports, 93 mine vessels, 175 tank landing craft, 55 troop landing craft, more than 100 miscellaneous support craft, and some 11,000 combat aircraft, not to mention more than 250,000 combat troops, of which more than 130,000 were landed during the first 13 hours of the operation.<sup>118</sup> Furthermore, an amphibious assault of this scale would not have been possible without an advanced land base of operations located in relatively proximity to the target from which to prepare and stage the operation, namely Great Britain.<sup>119</sup>

Given advances in technology, contemporary proponents of amphibious assault operations are quick to point out how the Normandy invasion is an inappropriate measure of the force necessary to achieve success under modern circumstances.<sup>120</sup> However, while fundamentally correct, this statement is commonly used to draw the wrong conclusions. The U.S. Navy and Marine Corps has leveraged, and continues to leverage,

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<sup>116</sup> Office of the Chief of Naval Operations Expeditionary Warfare webpage. Accessed 04 September 2005, available from: <http://www.exwar.org/Htm/8000PopE5.htm>; Internet.

<sup>117</sup> Asthon, D.F., "Tarawa: Testing Ground for The Amphibious Assault." Global Security Organization webpage. Accessed 04 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1989/ADF.htm>; Internet.

<sup>118</sup> Love, 1992, 162-177.

<sup>119</sup> Ibid.

<sup>120</sup> Pierce, T., "Maneuver Warfare And OTH Amphibious Assaults." Global Security Organization webpage. Accessed 05 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1989/PT.htm>; Internet.

advances in weapons and information technologies to provide amphibious assault forces dramatic increases in their combat capabilities, especially in terms of freedom and speed of tactical maneuver and overall operational flexibility. However, technological advances have bestowed just as many benefits to potential adversaries who wish to offset these capabilities, many of which are cheaper to buy and easier to use, thereby allowing them to be fielded in greater numbers to defend larger areas.<sup>121</sup> Rather than simplify and enable forced-entry amphibious assault operations, the double-edged sword of progress seems to have offset the comparative advantages imparted to either force; re-leveling the field of competition and reemphasizing the need for overwhelming combat power to achieve success in terms of amphibious assault operations.<sup>122</sup>

As previously mentioned, amphibious assault operations have traditionally represented the initial combat phase of prolonged engagements intended to establish a staging area for follow-on combat operations. But following the Korean War, the vast majority of what navies have deemed amphibious operations have consisted of nothing more than the debarkation of troops and equipment under non-combat conditions, mostly in established harbors utilizing preexisting maritime terminals.<sup>123</sup> Indeed, the most enlightening lesson to be drawn from the U.S. Navy and Marine Corps' recent past is the feigned amphibious landing of the 1992 Gulf War, in which a viable opportunity to perform an amphibious assault under actual combat conditions was completely ruled out because the combatant commander "decided that the amphibious assault could not have been accomplished without a significant loss of men and equipment."<sup>124</sup> This particular case reveals the strategic and tactical limitations of amphibious warfare capabilities in a hostile zone. These vulnerabilities are not effected by the Navy's apparent wealth of technology and experience.<sup>125</sup>

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<sup>121</sup> Krepinevich, Watts, and Work, 2005, Internet.

<sup>122</sup> Brush, D.L., "The Opposed Amphibious Assault Dilemma." Global Security Organization webpage. Accessed 04 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1992/BDL.htm>; Internet.

<sup>123</sup> "The Future of the Navy's Amphibious and Maritime Prepositioning Forces," Congressional Budget Office webpage. Accessed 07 September 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=6003&sequence=0>; Internet.

<sup>124</sup> Brush, 2005, Internet.

<sup>125</sup> Brush, 2005, Internet.

## **B. SEA BASING: SETTING UP SHIP IN THE ENEMIES FRONT YARD**

The noted lack of amphibious assault activity over the last 50 years inspires different impressions in opposing factions. Detractors see it as justification for abandoning this type of capability entirely, while proponents cite the need to maintain amphibious forces in order to ensure some level of proficiency and capability exist within our range of available responses should the appropriate situation arise.<sup>126</sup> With the ending of the Cold War and the subsequent prosecution of the Global War on Terror (GWOT), U.S. strategists, military leaders, and politicians have come to see amphibious warfare as having renewed potential as previously cooperative allies and coalition partners have progressively become less accommodating in terms of overseas basing rights, status of forces agreements, and general air, land, and sea access agreements.<sup>127</sup>

The answer to these problems, according to the U.S. Navy, Marine Corps, and key leaders within the Department of Defense, is “Sea Basing,” a retooled and re-imagined version of amphibious warfare with one key distinction: instead of securing a beachhead to support follow-on combat operations, amphibious assault forces will utilize advanced delivery vehicles to maneuver directly from their seaborne transports to their primary targets, allowing them to bypass enemy forces and/or defenses in the process (see Figure 3 below).<sup>128</sup> Known as “Sea to Objective Maneuver,” instead of employing overwhelming force in an attritional type of combat, this type of engagement would rely on quick, precise surgical strikes against an enemy’s critical centers of gravity, destroying their ability to fight without necessarily causing extensive damage or loss of life.<sup>129</sup> Even more importantly, Sea Basing promises to afford the United States unconditional access

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<sup>126</sup> Turner, S., "Is the U.S. Navy being Marginalized?" Naval War College website. Accessed 10 September 2005, available from: <http://www.nwc.navy.mil/press/Review/2003/Summer/art4-su3.htm>; Internet.

<sup>127</sup> Center for Strategic and Budgetary Assessments webpage. Accessed 09 September 2005, available from: [http://www.csbaonline.org/4Publications/Archive/P.20000927.Preparing\\_For\\_The\\_/P.20000927.Preparing\\_For\\_The\\_.htm](http://www.csbaonline.org/4Publications/Archive/P.20000927.Preparing_For_The_/P.20000927.Preparing_For_The_.htm); Internet.

<sup>128</sup> Clark, V., "Sea Power 21: Projecting Decisive Joint Capabilities." Navy Office of Information website. Accessed 02 September 2005, available from: <http://www.chinfo.navy.mil/navpalib/cno/proceedings.html>; Internet.

<sup>129</sup> Klien, J.J. and Morales, R., "Sea Basing Isn't just about the Sea." U.S. Naval Institute webpage. Accessed 12 September 2005, available from: <http://www.usni.org/proceedings/Articles04/PRO01klein.htm>; Internet.



to an enemy's territory, overcoming the increasingly problematic need to secure and maintain access rights from an ally in contiguous proximity to the battle-space.<sup>130</sup>

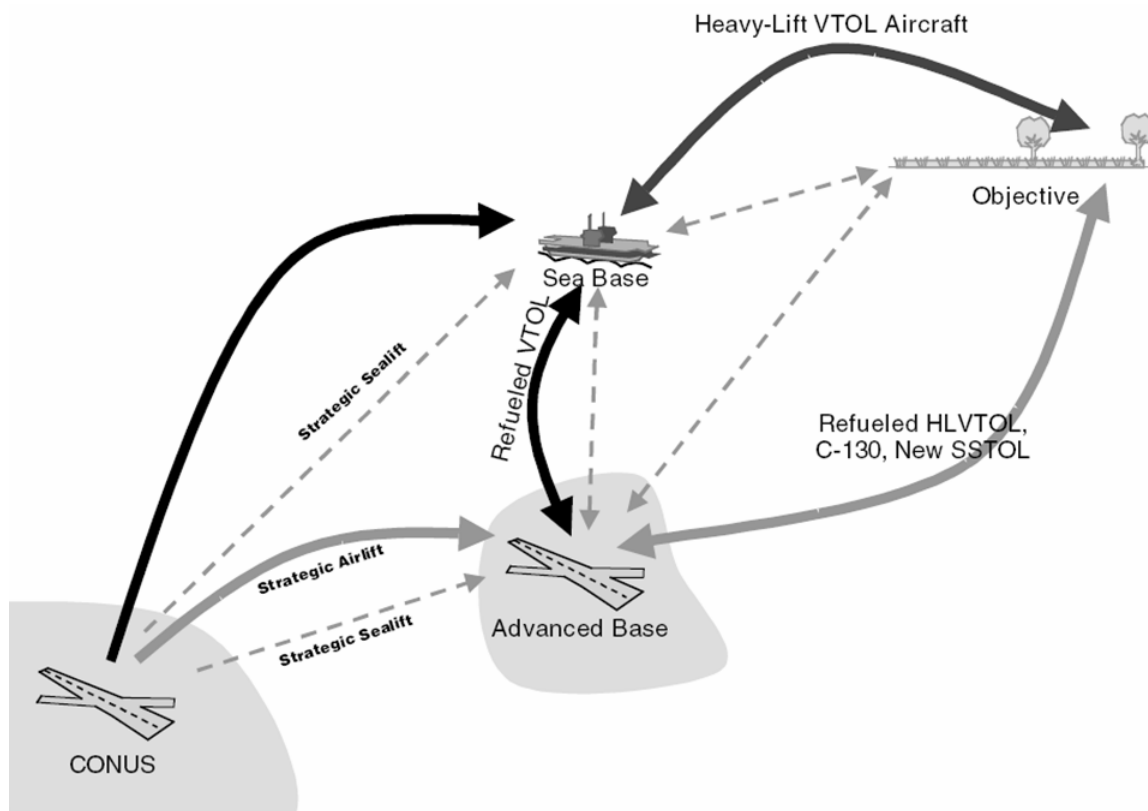


Figure 3. Sea Basing and Sea to Objective Maneuver Concept of Operations (after: Committee on Sea Basing: Ensuring Joint Force Access from the Sea Naval Studies Board. The National Academies Press webpage. Accessed 22 November 2005, available from: <http://www.nap.edu/catalog/11370.html>; Internet.)

The vertical lift aspect of Sea Basing is also intended to overcome one of the most critical vulnerabilities existing within the Navy's current fleet arsenal: the ability to clear landing zones and approaches of anti-ship naval mines in advance of amphibious assault forces.<sup>131</sup> According to the commander of U.S. Marine Corps forces during Desert Shield and Desert Storm, Lt. Gen. Walter Boomer, the main reason "an amphibious

<sup>130</sup> "Champion of 'A New American Way of War.'" Office of Force Transformation webpage. Accessed 05 September 2005, available from: [http://www.of.t.osd.mil/library/library\\_files/article\\_199\\_SEAPOW%20MAGAZINE%20JUNE%202003.doc](http://www.of.t.osd.mil/library/library_files/article_199_SEAPOW%20MAGAZINE%20JUNE%202003.doc); Internet.

<sup>131</sup> Brush, 2005, Internet.

assault was not undertaken [during the first Gulf War was] because of the mines."<sup>132</sup> Despite a repeated acknowledgment of this deficiency and an aggressive program intended to double the number of fleet anti-mine platforms, the present day Navy still lacks a sufficient anti-mine capability. Ironically, the Navy currently plans to decommission 4 of its existing anti-mine warfare platforms during fiscal year 2006,<sup>133</sup> a move which would effectively reduce the surface-based anti-mine force by almost 8% in a single year.<sup>134</sup>

### **C. THE INTENDED TRANSITION FROM UNLIKELY CONTINGENCY TO PRIMARY OPTION**

The utility of this new version of amphibious assault is envisioned as anything but limited and situational. To the contrary, it is being promoted by many as the very solution to all of the United States' future anti-access and area denial woes. Testifying before the Congressional Budgetary Commission in 2006, Secretary of Defense Rumsfeld espoused the need "to project concentrated naval power more quickly to confront unexpected threats," stating that the Sea Basing concept would "allow expeditionary strike forces to project power quickly from floating littorals without relying on land bases."<sup>135</sup> A 2004 Naval Institute Press article, coauthored by a Navy Lieutenant Commander and an Army Major, contends:

Sea Basing's single greatest advantage is the increased options it will provide through sea to objective maneuver. Having the ability to employ, move, and supply forces from a maritime environment will give our national leaders and combatant commanders the strategic flexibility to plan for and respond to crises anywhere in the world. Moreover, this flexibility will allow for appropriate measured responses with minimal

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<sup>132</sup> Ibid.

<sup>133</sup> Dorsey, J., "Navy plans to trim its fleet by 10 ships this fiscal year." Virginia Pilot webpage. Accessed 15 November 2005, available from: <http://home.hamptonroads.com/stories/story.cfm?story=94315&ran=232044>; Internet.

<sup>134</sup> MCM 1 Avenger Class and MHC 51 Osprey Class Ship Lists. Global Security Organization webpage. Accessed 20 November 2005, available from: <http://www.globalsecurity.org/military/systems/ship/mcm-1-unit.htm> and <http://www.globalsecurity.org/military/systems/ship/mhc-51-unit.htm>; Internet.

<sup>135</sup> Rumsfeld, D.H., testimony before the Congressional Budgetary Committee, Global Security Organization webpage. Accessed 11 September 2005, available from: [http://www.globalsecurity.org/military/library/congress/2005\\_hr/050216-rumsfeld.pdf](http://www.globalsecurity.org/military/library/congress/2005_hr/050216-rumsfeld.pdf); Internet.

staging requirements to many troubled regions where U.S. combat power or presence is needed.<sup>136</sup>

The Department of Defense’s Joint Integrating Concept for Sea Basing further describes the concept as providing “commanders with greater flexibility to rapidly and effectively build and integrate joint capabilities during the early stages of operations with minimal or no access to nearby land bases.”<sup>137</sup> Along with removing the need for contiguous land bases of operations, proponents envision Sea to Objective Maneuver as allowing "rapid and continuous" combat operations supported directly from the Sea Base as opposed to traditional amphibious operations which offer the enemy, in the event they cannot prevent the establishment of an initial beachhead, a window of opportunity to counterattack the amphibious assault force before it can break out of the landing zone (see Figure 4 below).

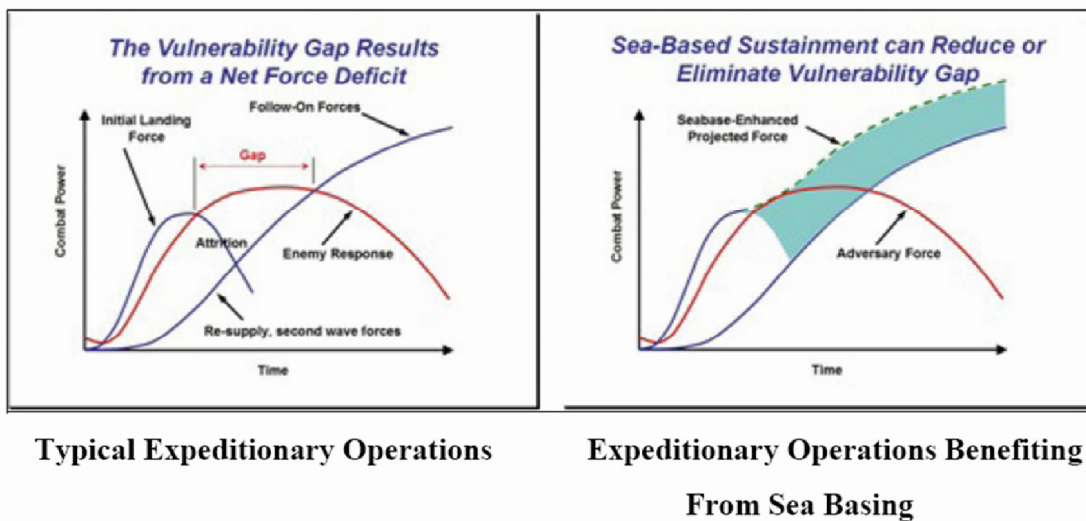


Figure 4. Timeline Comparison between Traditional Amphibious Assault Operations and Conceived Sea to Objective Maneuver Operations Supported by a Sea Base (after: Sea Basing Program: Sea Basing Perspective Within the Triad of Sea Power 21. AMI International webpage. Accessed 22 November 2005, available from: <http://www.amiinter.com/SeaBasingProgramNov2004.pdf>; Internet.)

It remains to be seen, however, how effective this concept will be in terms of fulfilling these promises because the vast majority of the platforms and capabilities

<sup>136</sup> Klien and Morales, 2005, Internet.

<sup>137</sup> "Sea Basing Joint Integrating Concept," Defense Technical Information Center website. Accessed 09 September 2005, available from: [http://www.dtic.mil/futurejointwarfare/concepts/jic\\_seabasing.doc](http://www.dtic.mil/futurejointwarfare/concepts/jic_seabasing.doc); Internet.

needed to realize the current vision do not exist. Platforms such as the Heavy Lift LCAC's (HLLCAC's), High Speed Vessels (HSV's), Utility Landing Craft (LCU(R)), and Expeditionary Fighting Vehicles (EFV's) which will comprise the Maritime Pre-Positioning Force (Future) (MPF(F))<sup>138</sup> remain in the early stages of research and development. Of all the envisioned platforms, the MV-22 Osprey has progressed the farthest and is currently undergoing advanced field testing. However, the long term viability of this particular program is also suspect due to cost overrides and repeated catastrophic performance failures.<sup>139</sup>

#### **D. WHAT THE READINGS FAIL TO MENTION**

Despite these purported benefits and strengths, numerous critical questions remain to be answered. If as recently as 1992 amphibious assault operations were considered to be so prohibitively costly as to prevent a combatant commander from considering them as a viable combat option, what makes Sea Basing and Sea to Objective Maneuver so much more attractive? If area denial strategies and anti-access capabilities are so disruptive to land based forces, how would Sea Based forces be less susceptible to their effects and/or more capable of countering them? How effective would Sea to Objective Maneuver be against a landlocked enemy, especially if the intermediate coastal states refuse to allow assault forces transitory privileges? Assuming the surgical strikes launched from the Sea Base do bring a quick conventional victory, would the limited combat force available be capable of addressing an insurgent uprising which may emerge in the post-conflict reconstruction phase of operations? Sadly, little or no consideration is provided to any of these questions in the available reading.

In one way, the lack of consideration in regards to these issues is not necessarily surprising because Sea Basing and Sea to Objective Maneuver themselves are developmental concepts which are still being modified and updated by experimentation and field testing. Conversely, answers to these questions are absolutely critical in determining the feasibility of these concepts before excessive funding is allocated to their

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<sup>138</sup> Maritime Prepositioning Force (Future) MPF(F) / Seabase. Global Security Organization webpage. Accessed 21 November 2005, available from: <http://www.globalsecurity.org/military/systems/ship/seabase.htm>; Internet.

<sup>139</sup> V-22 Osprey Testing. Global Security Organization webpage. Accessed 21 November 2005, available from: <http://www.globalsecurity.org/military/systems/aircraft/v-22-testing.htm>; Internet.

development. The various implementations of the Sea Basing concept will require the development and procurement of between one<sup>140</sup> to four new classes of ships and at least two new airframes.<sup>141</sup> Given the Navy's previously discussed problems with ship construction and airframe procurement (see Chapter 3), the Navy will likely experience even greater difficulty maintaining the long-term research and development costs necessary to achieve a robust Sea Basing capability. While some level of development is necessary to validate the Sea Basing and Sea to Objective Maneuver concepts, the following excerpt taken from a recent Congressional Budget Office demonstrates concerns about the viability of such a development program:

Carrying out those plans would require the Navy to spend an average of \$2.4 billion a year over the next three decades to buy new amphibious and maritime prepositioning ships--more than twice what it has spent on those categories of ships since 1980. At the same time, the Navy has modernization plans for other types of ships that, if fully implemented, would also require more resources than the Navy now spends on ship construction.<sup>142</sup>

#### **E. INFERENCES FROM LONG-TERM TRANSFORMATIONAL INITIATIVES**

Amphibious assault has always been a risky and potentially costly form of warfare requiring specific enabling conditions which offer limited opportunities for employment. Despite these characteristics, amphibious assaults have proven to be highly effective, even under combat conditions, provided adequate resources and combat force capabilities were available to overwhelm the enemy's defensive measures. It must be noted, however, that success in terms of amphibious assault operations is a highly relative measure as even the positive examples cited herein have generally proven themselves to be quite costly in terms of manpower and material losses.

The post-9/11 security environment presents the United States with several previously unforeseen security challenges, including increased difficulty in terms of sustaining favorable foreign basing and access agreements. Aging platforms and

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<sup>140</sup> Cavas, C. P., "Big Changes for Sea Base," *Navy Times*, 01 August 2005, 10.

<sup>141</sup> Clark, 2005, Internet.

<sup>142</sup> "The Future of the Navy's Amphibious and Maritime Prepositioning Forces," Congressional Budget Office webpage. Accessed 07 September 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=6003&sequence=0>; Internet.

increased operational commitments continue to stretch forces thin while inspiring increased competition for already constrained resources. The U.S. Navy and Marine Corps team have responded to these challenges by offering a vision of Sea Basing and Sea to Objective Maneuver through which they hope to provide increased flexibility, speed, and ease of response on a global scale while requiring fewer numbers of forward deployed forces and little or no contiguous land based support.

From a conceptual point of view, Sea Basing and Sea to Objective Maneuver seem to offer a panacea to the nation's future security needs, but many potential limitations and liabilities within these concepts remain unresolved. In the short term, it is almost impossible to imagine Sea Basing and Sea to Objective Maneuver ever being able to fulfill the promises made by their proponents who openly profess their intention to embrace the strengths of amphibious assault and marry it to technological advances in an effort to address the deficiencies of land based combat forces while simultaneously overlooking the liabilities and limitations of the proposed remedy itself. No matter how desirable their vision of the future, there is currently no practical plan that can bring this vision to fruition given the reality of ongoing budgetary constraints and the competing interests of other programs that address more pressing needs.

If Sea Basing and Sea to Objective Maneuver are to survive and mature, they will require generous amounts of both time and money. The Navy's current timeline will require 30 years at best to fully render and deliver the systems necessary in sufficient numbers to make this concept fully functional. Not only is this overly optimistic in terms of steady and sustained budgeting and visionary guidance, it also assumes future advances in technology will further benefit Sea Basing and Sea to Objective Maneuver's ability to overpower defense and gain access rather than tipping the balance of capabilities in favor of area denial and anti-access systems. Such long-term developments are highly unlikely as unforeseen changes in the future security environment, uncertain budgetary preferences, and future leadership priorities are more likely to vary radically over time rather than remaining consistently dedicated to these still unproven concepts.

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## V. CONCLUSIONS

### A. A NAVY FOR EVERY OCCASION

There should be no doubt or question that today's U.S. Navy is the greatest naval combatant force to ever sail the deep waters of the world oceans. However, this statement also reveals the most glaring vulnerability of today's Navy: a decisive imbalance in composition and capabilities. The ships and submarines which currently sail under the U.S. flag are the product of over 50 years of incremental strategic adjustments aimed at building a fleet which would offset and overpower the naval might of the Soviet Union. Unfortunately, while this fleet was almost perfectly attuned to wage and win such a competition, it has proven to be less suited to address the wide range of fast patrol boats, diesel submarines, and anti-ship mines which populate the littoral environments that will characterize the future battle-space.

The U.S. Navy has now wholly succeeded in achieving the very control of the seas which Alfred Thayer Mahan so highly coveted, but to what avail? As the Navy learned to a limited degree following World War II and is now rediscovering, the strategic logic for building and operating a robust Mahanian style fleet of capital ships quickly evaporates in the absence of an enemy who does not possess the same. Consequently, the Navy's current mastery of the seas can be understood to have far less to do with the strength and capabilities of the existing fleet and much more to do with the limited scope of its current and future adversaries' strategic concerns and increasing rejection of the desirability of blue-water naval forces capable of global power projection.

For these very reasons, naval transformation should be seen as the most important issues concerning the U.S. Navy. The results of today's ongoing efforts will ultimately determine the type, structure, size, and ability, and capability of the future force available to both defend the nation and support its national security interests around the globe. The overwhelming amount of time, effort, and cost which will be necessary to bring naval transformation to its full fruition requires that the Navy succeed not just in altering the composition of its fleet, but also in terms of how effective and suitable its transformation proves to be in relation to the future threat. The absolute worst possible outcome possible



would be for the Navy to fully succeed in implementing its transformation plan only to discover itself even less capable or more poorly suited to the security environment in which it finds itself operating in 2020, 2040, or even 2060.

## **B. AN EVOLVING NOTION OF SEA POWER FOR AN EVOLVING WORLD**

After more than 100 years of operating exclusively under the prescriptions of Mahanian sea power, the Navy must accept several unattractive truths of sea power: wars may be lost at sea, but they cannot be won there; seaborne forces are inherently limited in their ability to influence events ashore; and any viable sea power strategy must consider and include capabilities for fighting dynamic naval engagements in the shallow littorals and contiguous landward approaches. These truths not only need to be embraced, they must be used to build the foundation for future strategic planning initiatives so that a bridge can be made from today's fleet, which is fundamentally flawed due to its predominant reliance on capital ships, to a more balanced future fleet which incorporates a well rounded mix of both shallow water hulls designed to fight in the littorals as well as deep water capital ships. Such a fleet would be best suited to ensuring continued control of the seas in order to support extended range supply and logistics as well as combat capabilities to counter increasing numbers of adversaries who primarily employ high-speed patrol craft and diesel submarines in the shallow littorals and contiguous landward approaches.

## **C. ULTIMATE SUCCESS IS DEPENDANT UPON SHORT AND MID-TERM EFFORTS**

The Navy's current transformation plan is progressive in nature and any hope of long term success will be directly dependent upon short term and mid-term results both in terms of foundational preparation and continuing budgetary support. The more the Navy fails or falters over the course of the short and mid-term, the more its long term goals and plans will be placed in jeopardy. Counterintuitively, however, some amount of short term failure, although certainly not desirable, may actually impart greater long term benefits if lessons learned from these events are used to update and modify future planning. One such example is the reprioritization of development for the LCS platform

over DD (X), as such a move will allow the fleet to enhance its overall capabilities by incorporating new types of platforms instead of just replacing existing hulls with higher-cost variants of themselves.

The Navy has invested a great deal of time and effort in generating the Transformation Roadmap; however, it should never assume the weaknesses and shortfalls in its current force will be overcome by simply implementing the transformation plan as it currently exists. The transformation plan must be seen as exactly that – a plan. Not a binding commitment carved in stone, but a guide which must be constantly reevaluated and reconsidered in light of emerging information and experience in order to ensure the most feasible and suitable long-term outcome. At the same time, care must be taken to avoid excessive alterations to the existing plan as too many dramatic shifts of the transformational rudder will doubtlessly result in increased costs in terms of time, effort, and money, as well as the unwanted potential to inspire trepidation in the halls of Congress. The former possibility is bad enough, but the latter could completely scuttle the Navy's ability to achieve meaningful transformation regardless of its overall strategic necessity or value.

The Navy's short-term transformational initiatives do seem to be following these prescriptions and are meeting with positive results in terms of better facilitating the employment of the fleet's current assets. Through continued development and procurement of new platforms, the Navy is seeking to balance the composition of its fleet which, in turn, will better position the force to meet and more easily address the nation's security needs of the post-Cold War, post-9/11 security environment. The lessons learned from procuring and operating these new platforms will enable the Navy to further evaluate, determine, and adjust its ongoing transformational initiatives in order to maintain existing capabilities while expanding and enhancing its future capabilities. Again, transformation itself must be understood to be a continuously evolutionary process: success today is required to facilitate success tomorrow, which is therein essential for continued success beyond tomorrow.

#### **D. SEA BASING: ENSURING ACCESS OR BREAKING THE BANK?**

Sea Basing and Sea to Objective Maneuver form the nucleus of the Navy's farthest reaching transformational vision, a vision which will doubtlessly evolve radically

over time as budgetary constraints and lessons gleaned from ongoing research and development efforts are incorporated into the Navy's strategic calculus. There is no doubt that amphibious assault operations, even despite their inherent strategic and tactical limitations, are a valuable component of the Navy and Marine Corps' arsenal of capabilities. However, given the potential costs and harsh realities involved, it is hard to imagine a future reality wherein this type of warfare will ever be able to move beyond the realm of a limited contingency option and take a primary role as the preferred method of delivering and sustaining landward combat power.

The criticisms and counterarguments presented herein are not intended to refute the future utility of amphibious assault operations or even some future implementation of Sea Basing and/or Sea to Objective Maneuver. However, they are intended to illuminate potential flaws and shortcomings in the program as it is currently envisioned. Amphibious assault operations, even with all their perceived liabilities and limitations, offer critically important capabilities to U.S. combatant commanders which, given the right circumstances, may very well one day represent the only viable option for realizing the nations security interests. When and if this day comes, the Navy and Marine Corps must be prepared and ready to exercise this option; however, in the short-term, the U.S. Navy has a more vested interest in finding ways to maintain and sustain its already thinly spread force structure. It would be ill advised for the Navy to commit the bulk of its limited resources on aggressive research and development of these concepts when, despite a wealth of unrealistic strategic promises and projections, more and more evidence is indicating that the Navy will not be able to afford to build and operate the numbers and types of platforms required to make Sea Basing perform as advertised. If the Navy does elect to proceed despite the growing signs of danger, the long-term results will probably be less than optimal, especially if the Navy once again finds itself fielding a higher cost iteration of limited amphibious capabilities already present in the fleet.

#### **E. HOW I LEARNED TO STOP WORRYING AND LOVE TRANSFORMATION**

Similar to the rise of the Soviet Navy after World War II, the Navy's involvement in prosecuting the ongoing Global War on Terrorism offers an opportunity which, if used properly, can revitalize the Navy and allow it to embrace a naval strategy far more

complex, realistic, and suitable than that promoted by the Mahanian logic which has held sway over all of the worlds great navies for the last 100 years. As the greatest of the great navies to ever sail, no course of action could be more suitable for the U.S. Navy than harnessing the full potential of naval transformation and using it to build a vibrant, well-balanced 21st century fleet capable of defeating any and every adversary regardless of its size, composition, and skill - not just a blue water force of capital ships, but also a robust contingent of brown water littoral combat craft. In short, a fleet worthy of the U.S. Navy's fine heritage and proud history.

Change is never easy and the more dramatic the change the harder it is to accomplish, but the U.S. Navy has repeatedly proved itself equal to every challenge it has faced and there is every reason to believe it will once again rise to the occasion. The journey will probably not be marked by fair winds and following seas, but the Navy will weather the storm one way or another. Where, exactly, the Navy's Naval Transformation Roadmap leads remains to be seen and the ultimate outcome will be determined by a discrete combination of time, vision, and money. If the Navy can maintain a unified yet realistic strategic vision, updating and revising the transformation roadmap as necessary to correct its course along the way, and sustain budgetary and programmatic support long enough for its mid-term programs to reach maturity, it will most likely succeed in instilling meaningful, necessary, and long overdue force structure transformation. In turn, successful transformation will provide the United States with a better-balanced and more capable Navy – one which is better suited to address the ever increasing range of adversaries and capabilities it will be called upon to counter throughout the current security environment and beyond.

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## BIBLIOGRAPHY

Asthan, D.F., "Tarawa: Testing Ground for The Amphibious Assault." Global Security Organization webpage. Accessed 04 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1989/ADF.htm>; Internet.

Baer, G.W., *One Hundred Years of Sea Power: The U.S. Navy, 1890-1990*. (Stanford: Stanford University Press, 1993).

Barnett, T.P.M., *The Pentagon's New Map: War and Peace in the Twenty-First Century*. (New York: G.P. Putnam's Sons, 2004).

Barnett, T.P.M. 2004. Thomas P.M. Barnett webpage. Accessed 30 January 2004, available from: [http://www.thomaspmbarnett.com/pnm/manthorpe\\_curve.htm](http://www.thomaspmbarnett.com/pnm/manthorpe_curve.htm); Internet.

Brooks, R., "Storm of Steel 1914-1916" in *Atlas of World Military History*, ed. Richard Brooks. (New York: Barnes & Noble Books, 2000).

Brush, D.L., "The Opposed Amphibious Assault Dilemma." Global Security Organization webpage. Accessed 04 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1992/BDL.htm>; Internet.

Cavas, C. P., "11-Carrier Navy: JFK on the Chopping Block, but Mayport's Not out of the Running," *Navy Times*, 14 February 2005.

Cavas, C. P., "Big Changes for Sea Base," *Navy Times*, 01 August 2005.

Cavas, C. P., "Clark Calls for Shifting R&D Funds to Shipbuilding," *Navy Times*, 25 July 2005.

Cavas, C. P., "Navy Seeks Ways to Skirt Tight Shipbuilding Budgets," *Navy Times*, 18 April 2005.

Center for Strategic and Budgetary Assessments webpage. Accessed 09 September 2005, available from: [http://www.csbaonline.org/4Publications/Archive/P.20000927.Preparing\\_For\\_The\\_/P.20000927.Preparing\\_For\\_The\\_.htm](http://www.csbaonline.org/4Publications/Archive/P.20000927.Preparing_For_The_/P.20000927.Preparing_For_The_.htm); Internet.

"Champion of 'A New American Way of War.'" Office of Force Transformation webpage. Accessed 05 September 2005, available from: [http://www.oft.osd.mil/library/library\\_files/article\\_199\\_SEAPOWER%20MAGAZINE%20JUNE%202003.doc](http://www.oft.osd.mil/library/library_files/article_199_SEAPOWER%20MAGAZINE%20JUNE%202003.doc); Internet.

Clark, V., "Sea Power 21: Projecting Decisive Joint Capabilities." Navy Office of Information website. Accessed 02 September 2005, available from: <http://www.chinfo.navy.mil/navpalib/cno/proceedings.html>; Internet.

Cohen, W.S. 1997. "Quadrennial Defense Review." Defense Link webpage. Accessed 16 February 2005, available from: <http://www.defenselink.mil/pubs/qdr/index.html>; Internet.

Committee on Sea Basing: Ensuring Joint Force Access from the Sea Naval Studies Board. The National Academies Press webpage. Accessed 22 November 2005, available from: <http://www.nap.edu/catalog/11370.html>; Internet.

Couhat, J.L., *Combat Fleets of the World, 194-1985*. Translated by A.D. Baker. (Annapolis: Naval Institute Press, 1984). Accessed 03 August 2005, available from: <http://www.indwes.edu/Faculty/bcupp/combflt.htm>; Internet.

Crowl, P.A., "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, ed. Peter Paret. (Princeton: Princeton University Press, 1986).

Dalton, J.H., Borda, J.M., and Mundy, C.E. Jr. 1994. "Forward . . . From the Sea." Chief of Naval Information webpage. Accessed 20 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/policy/fromsea/forward.txt>; Internet.

Davis, P.K. n.d. "Analytic Architecture for Capabilities-Based Planning, Mission-System Analysis, and Transformation." Rand Corporation webpage. Accessed 02 March 2005, available from: <http://www.rand.org/publications/MR/MR1513/MR1513.pdf>; Internet.

DD (X) History, Program Executive Office Ships webpage. Accessed 03 August 2005, available from: <http://peos.crane.navy.mil/ddx/history.htm>; Internet.

Dorsey, J., "Navy plans to trim its fleet by 10 ships this fiscal year." Virginia Pilot webpage. Accessed 15 November 2005, available from: <http://home.hamptonroads.com/stories/story.cfm?story=94315&ran=232044>; Internet.

Federation of American Scientists. 2005. Federation of American Scientists Webpage. Accessed 06 March 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/index.html>; Internet.

Fleet Response Plan, 2005. Global Security Organization webpage. Accessed 17 November 2005, available from: <http://www.globalsecurity.org/military/ops/frp.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tnsf\\_may03\\_appendix.htm](http://www.globalsecurity.org/military/library/report/cbo/tnsf_may03_appendix.htm); Internet.

Global Security Organization webpage. Accessed 10 January 2005, available from: <http://www.globalsecurity.org/military/systems/ship/index.html>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/cvn-68-specs.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-21-prog.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-963-specs.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/dd-x.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ddg-51-build.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ffg-7-specs.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ddg-51-specs.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ssn-21.htm>; Internet.

Global Security Organization webpage. Accessed 03 August 2005, available from: <http://www.globalsecurity.org/military/systems/ship/ssn-688-specs.htm>; Internet.

Grove, E., *The Future of Sea Power*. (Annapolis: Naval Institute Press, 1990).

Hastings, M. and Jenkins, S., *The Battle for the Falklands*. (New York: W.W. Norton and Company, 1983).

History of the USS SARATOGA (CV 3). 2005. Chief of Naval Operations webpage. Accessed 16 November 2005, available from: <http://www.chinfo.navy.mil/navpalib/ships/carriers/histories/cv03-saratoga/cv03-saratoga.html>; Internet.

Isby, D., "The Zenith of 'Modern War' 1939-1945" in *Atlas of World Military History*, ed. Richard Brooks. ((New York: Barnes & Noble Books, 2000).

Kennedy, P.M., *The Rise and Fall of British Naval Mastery*. (New York: Humanity Books, 1998).

Klien, J.J. and Morales, R., "Sea Basing Isn't just about the Sea." U.S. Naval Institute webpage. Accessed 12 September 2005, available from: <http://www.usni.org/proceedings/Articles04/PRO01klein.htm>; Internet.

Krepinevich, A., Watts, B., and Work, R., "Meeting the Anti-Area and Access Denial Challenge." Center for Strategic and Budgetary Assessments webpage. Accessed 06 September 2005, available from: [http://www.csbaonline.org/4Publications/Archive/R.20030520.Meeting\\_the\\_Anti-A/R.20030520.Meeting\\_the\\_Anti-A.pdf](http://www.csbaonline.org/4Publications/Archive/R.20030520.Meeting_the_Anti-A/R.20030520.Meeting_the_Anti-A.pdf); Internet.

Lehman, J.F., *On Seas of Glory: Heroic Men, Great Ships, and Epic Battles of the American Navy*. (New York: The Free Press, 2001).

Littoral Combat Ship Concept of Operations. 2003. Global Security Organization Webpage. Accessed 10 January 2005, available from: <http://www.globalsecurity.org/military/library/report/2003/LCSCONOPS.htm>; Internet.

Love, R.W. Jr., *History of the U.S. Navy Volume One: 1775-1941*. (Harrisburg, PA: Stackpole Books, 1992).

Love, R.W. Jr., *History of the U.S. Navy Volume Two: 1942-1992*. (Harrisburg, PA: Stackpole Books, 1992).

Malia, M., *The Soviet Tragedy: A History of Socialism in Russia, 1917-1991*. (New York: The Free Press, 1994).



Maritime Prepositioning Force (Future) MPF(F) / Seabase. Global Security Organization webpage. Accessed 21 November 2005, available from: <http://www.globalsecurity.org/military/systems/ship/seabase.htm>; Internet.

Marx, P.H. "Barbarians at the Gate." U.S. Naval Institute webpage. Accessed 03 August 2005, available from: <http://www.usni.org/proceedings/Articles04/PRO05marx.htm>; Internet.

MCM 1 Avenger Class and MHC 51 Osprey Class Ship Lists. Global Security Organization webpage. Accessed 20 November 2005, available from: <http://www.globalsecurity.org/military/systems/ship/mcm-1-unit.htm> and <http://www.globalsecurity.org/military/systems/ship/mhc-51-unit.htm>; Internet.

Military Equipment Guide, Military.com webpage. Accessed 03 August 2005, available from: <http://www.military.com/Resources/EQG/EQGmain?file=DD963&cat=v&lev=2>; Internet.

"Modernizing the Surface Combatant Force and the Implications for the Navy's Budget," Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tncsf\\_may03\\_chapter1.htm](http://www.globalsecurity.org/military/library/report/cbo/tncsf_may03_chapter1.htm); Internet.

Murphy, D. J. Jr., Memorandum for Program Executive Officer for Surface Combatants, Federation of American Scientists website. Accessed 03 August 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/docs/971217-21st.htm>; Internet.

Naval History Center, 2005, Maritime Business Strategies webpage. Accessed 10 January 2005, available from: <http://www.coltoncompany.com/shipbldg/statistics/force.htm>; Internet.

"Navy Budget Insufficient, Says U.S. Rep. Gene Taylor," United States House of Representatives webpage. Accessed 03 August 2005, available from: <http://www.house.gov/genetaylor/navy.021805.htm>; Internet.

Office of the Chief of Naval Operations Expeditionary Warfare webpage. Accessed 04 September 2005, available from: <http://www.exwar.org/Htm/8000PopE5.htm>; Internet.

O'Keefe, S., Kelso, F. B., and Mundy, C. E. Jr. 1992, ". . . From the Sea: Preparing the Naval Service for the 21<sup>st</sup> Century." Chief of Naval Information webpage. Accessed 20 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/policy/fromsea/fromsea.txt>; Internet.

Parker, R.A.C., *The Second World War: A Short History*. (New York: Oxford University Press, 1989).

Pierce, T., "Maneuver Warfare And OTH Amphibious Assaults." Global Security Organization webpage. Accessed 05 September 2005, available from: <http://www.globalsecurity.org/military/library/report/1989/PT.htm>; Internet.

"President Names New Ship Class After Adm. Zumwalt," Federation of American Scientists webpage. Accessed 03 August 2005, available from: <http://www.fas.org/man/dod-101/sys/ship/docs/000705-dd21-zumwalt.htm>; Internet.

Rodgers, J., 2004. "Locals weigh in on Rumsfeld comments." New Hampshire Public Radio webpage. Accessed 28 January 2004, available from: [http://www.nhpr.org/view\\_content/7805/](http://www.nhpr.org/view_content/7805/); Internet.

Rumsfeld, D.H. 2001. "Quadrennial Defense Review." Commonwealth Institute Webpage. Accessed 10 March 2005, available from: <http://www.comw.org/qdr/qdr2001.pdf>; Internet.

Rumsfeld, D.H., testimony before the Congressional Budgetary Committee, Global Security Organization webpage. Accessed 11 September 2005, available from: [http://www.globalsecurity.org/military/library/congress/2005\\_hr/050216-rumsfeld.pdf](http://www.globalsecurity.org/military/library/congress/2005_hr/050216-rumsfeld.pdf); Internet.

Status of the U.S. Navy. 2005. Chief of Naval Information webpage. Accessed 24 March 2005, available from: <http://www.chinfo.navy.mil/navpalib/news/www/status.html>; Internet.

Sea Basing Joint Integrating Concept, Defense Technical Information Center website. Accessed 09 September 2005, available from: [http://www.dtic.mil/futurejointwarfare/concepts/jic\\_seabasing.doc](http://www.dtic.mil/futurejointwarfare/concepts/jic_seabasing.doc); Internet.

"Sea Basing Program: Sea Basing Perspective Within the Triad of Sea Power 21." AMI International webpage. Accessed 22 November 2005, available from: <http://www.amiinter.com/SeaBasingProgramNov2004.pdf>; Internet.

Symonds, C.L., *Historical Atlas of the U.S. Navy*. (Annapolis: Naval Institute Press, 1995).

"The Future of the Navy's Amphibious and Maritime Prepositioning Forces," Congressional Budget Office webpage. Accessed 07 September 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=6003&sequence=0>; Internet.

"The Long-Term Implications of Current Defense Plans: Summary Update for Fiscal Year 2005," Congressional Budget Office webpage. Accessed 03 August 2005, available from: <http://www.cbo.gov/showdoc.cfm?index=5864&sequence=0>; Internet.

"Transforming the Navy's Surface Combatant Force," Global Security Organization webpage. Accessed 03 August 2005, available from: [http://www.globalsecurity.org/military/library/report/cbo/tncsf\\_may03.htm](http://www.globalsecurity.org/military/library/report/cbo/tncsf_may03.htm); Internet.

Turner, S., "Is the U.S. Navy being Marginalized?" Naval War College website. Accessed 10 September 2005, available from: <http://www.nwc.navy.mil/press/Review/2003/Summer/art4-su3.htm>; Internet.

U.S. Navy Fact File, Chief of Naval Operations webpage. Accessed 03 August 2005, available from: <http://www.chinfo.navy.mil/navpalib/factfile/ships/ship-cru.html>; Internet.

V-22 Osprey Testing. Global Security Organization webpage. Accessed 21 November 2005, available from: <http://www.globalsecurity.org/military/systems/aircraft/v-22-testing.htm>; Internet.

"What is LCS?," Program Executive Office Ships webpage. Accessed 03 August 2005, available from: <http://peoships.crane.navy.mil/lcs/program.htm>; Internet.

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