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**NAVAL POSTGRADUATE SCHOOL  
MONTEREY, CALIFORNIA**



**THESIS**

**DTIC QUALITY INSPECTED 4**

**SPECIAL OPERATIONS IN LITTORAL  
WARFARE**

by

Sidney T. Ellington

December, 1995

Thesis Advisor:

Daniel Moran

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The purpose of this thesis is to investigate the characteristics presented by operations in the littoral region and to examine the unique capabilities SOF provide the battle group commander in littoral operations. This thesis will then examine the degree to which mission success in littoral operations might be affected by the effective integration and use of SOF in conjunction with Naval Expeditionary Forces within the current naval carrier battle group command and control organization.

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**SPECIAL OPERATIONS IN LITTORAL WARFARE**

Sidney T. Ellington  
Lieutenant, United States Navy  
B.A., University of Oklahoma, 1985

Submitted in partial fulfillment  
of the requirements for the degree of

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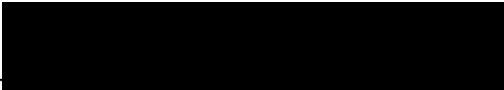
**December 1995**

Author:

  
Sidney T. Ellington

Approved by:

  
Daniel Moran, Thesis Advisor

  
W.M. Dunaway, Second Reader

  
Dr. Frank Teti, Chairman

Department of National Security Affairs



## ABSTRACT

Increasingly, changes in the international environment, coupled with a reduction in U.S. military force structure, have shrunk the size and number of deploying amphibious and carrier battle groups. The impact on the reduced size of the deploying battle groups is that they are being tasked to respond to a larger diversity of military operations. Within those operations Special Operations Forces (SOF) could provide flexibility and a wide range of capabilities which could be used by the battle group commander to increase his area of influence in operations during a peacetime crisis response.

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## EXECUTIVE SUMMARY

The Navy's ". . . From the Sea" concept, as put forth in the 1992 White Paper of the same name, and its follow-on document "Forward . . . From the Sea," emphasize a shift in focus away from open ocean, blue-water operations against a global maritime threat as embodied in the Soviet Navy, toward a focus on littoral operations.

The littoral environment, however, differs greatly from a blue-water open ocean environment. The littorals present the battle group commander with unique challenges, including the requirement to conduct routine or offensive operations in shallow waters, tidal zones, coastlines ringed by coral reefs, and choke points. These difficulties have been traditionally the responsibility of the "gator navy" and were of little concern to the battle group commander. However, in light of the changes in the strategic vision of the Navy, the unique challenges of the littoral environment are of increasing concern to the naval planners and operational commanders. Many of these unique challenges could be partially overcome by the capabilities of the Special Operations Forces (SOF), which, when used as a sensor or weapons system, could be used to extend the battle group commander's area of influence into his area of interest.

Yet, despite the debate, which is being spearheaded by the Naval Doctrine Command in Norfolk, Virginia, over exactly how to integrate the ARG/MEU (SOC) into the CVBG, the element of Special Operations Forces is virtually being overlooked. Proof of this can be found by examining the Navy's

current battle group command and control organization, which is based on the Composite Warfare Commander concept.

The CWC concept is the operational structure for organizing warfighting elements with an Aircraft Carrier Battle Group (CVBG). It was developed during the Cold War and is designed as a way for tactical commanders to maintain control of battle group and aircraft combat elements while responding to the burgeoning growth of potential air, surface, and sub-surface threats. These threats were brought on by technological breakthroughs, such as the anti-ship cruise missile and the nuclear powered attack submarine. CWC is primarily defensive in nature in that it provides for maximum protection of the carrier battle group's offensive capability as embodied in the carrier's strike aircraft. It maximizes the efficacy of the at-sea Officer and Tactical Command (OTC) by streamlining on-scene command, control, and communications (C3) procedures.

With the fall of the Soviet Union, the strategic landscape has changed, and the strategic vision for the Navy as it heads toward the 21st century has changed as well. Yet, the CWC doctrine has yet to be changed in light of the strategic reorientation toward littoral operations. Thus, the Navy is operating under an operational paradigm inadequately matched to the current tactical environment.

With the dwindling number of U.S. overseas bases and declining amounts of amphibious lift, the CVBG becomes increasingly important in responding to regional crises in the littoral zone. Consequently, the CVBG will

play an increasingly larger role in U.S. military operations in littoral waters. Thus, it is time we took a hard look at the way the CVBG goes about its business and tried to update the CWC doctrine to bring it into alignment with the current operational requirements. The first step toward a revision of CWC doctrine could be completed by integrating Special Operations Forces into CWC by creating a Special Operations Warfare Commander who can provide the battle force commander with the same level of specialized expertise which resides in the other warfare areas encompassed in the CWC doctrine.

The benefits to the CVBG staff are enormous. First, the battle group commander will have an officer running special operations who has spent his entire military career involved in joint and maritime special operations. In the event that the battle group commander becomes a JTF commander, his Special Operations Warfare Commander is an obvious choice to become the JSOTF commander.

As for the benefits of integrating SOF into the battle group organization, in addition to increasing the battle group commander's sphere of influence and ability to coordinate military operations at all levels of conflict, SOF can be used as a sensor or weapons system. Communications technology enables the SOF unit to be time-activated, event-activated, or command-activated. In an ever changing crisis scenario, the SOF can also be halted at the last minute if needed.

## I. INTRODUCTION

### A. BACKGROUND

#### 1. A Changing World Situation

When the Soviet Union collapsed in 1990, the world situation began to change dramatically. The 1994 National Security Strategy of the United States proclaimed that a "new era" was upon America, and that the security environment had been "radically transformed."<sup>1</sup>

The transformation of the security environment was the direct result of the eruption of the many ethnic, religious, territorial, and economic tensions which were previously held in check by the pressures of bipolar global competition which had existed during the Cold War. Much of the underdeveloped world began to experience dangerous trends which continue today, including: a withering away of central governments, a rise of tribal and regional domains, an unchecked spread of disease and famine, and a growing pervasiveness of war.<sup>2</sup>

#### 2. The ". . . From the Sea" Concept as a New Maritime Focus

With the end of the Cold War, America's naval leaders were faced with a world which no longer held a major maritime power other than their own. This situation produced a fundamental shift in priorities of the Navy and

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<sup>1</sup> A *National Security Strategy of Engagement and Enlargement*, Washington, D.C., July 1994, p.1.

<sup>2</sup> Kaplan, Robert D., "The Coming Anarchy," *The Atlantic Monthly*, February, 1994, p. 48.



Marine Corps. With the publication of ". . . From the Sea" in 1992, the Department of the Navy defined the strategic concept intended to carry the Naval Service beyond the Cold War and into the 21st century. ". . . From the Sea" signaled a change in focus for the Naval Service away from deep, blue water operations conducted on the open sea against a global threat. The focus of today's Naval Service is toward power projection and the employment of naval forces from the sea to influence events in the littoral regions of the world.<sup>3</sup>

What this means for the Navy is that military forces will continue to come ashore from the sea to conduct operations that are different in nature from the classic Plan, Embark, Rehearse, Move, and Assault (PERMA) amphibious operation.<sup>4</sup> Non-combatant evacuation operations (NEOs), humanitarian assistance operations, peace enforcement operations, and the like will be the rule rather than the exception. While these types of operations have often been built around an amphibious ready group (ARG) with its accompanying marine expeditionary unit-special operations capable (MEU-SOC), the declining availability of amphibious lift will constrain not only the size of the landing force, but also its availability. As a consequence, the carrier battle group (CVBG), created and organized for blue-water operations against a global maritime threat, will play an increasingly larger role in the littoral

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<sup>3</sup> Department of the Navy, Washington, D.C., "Forward...From the Sea", p. 1.

<sup>4</sup> Semmler, Karl, Commander, USN, "CWC and Amphibious Warfare Integration: An Introductory Concept for Naval Expeditionary Forces," (forthcoming), p. 2.

operations of the future and should include capabilities to conduct military operations across the continuum of this new spectrum of conflict. Yet, despite the publication of ". . . From the Sea," the Navy is not adequately addressing the operational requirements for the current political and tactical environment presented by the employment of the carrier battle group in littoral operations. One needs only to look at the command and control organization of the deploying carrier battle groups to see that this is true. To fully explore the operational role the carrier battle group will play in littoral operations, the littoral region itself and its importance must first be clearly defined.

## **B. THE LITTORAL REGION**

### **1. What Are Littoral Regions?**

Littoral regions are defined as "those areas adjacent to the oceans and seas that are within direct control of and vulnerable to the striking power of sea-based forces."<sup>5</sup> As the Navy shifts its focus to the complex operating environment of these littorals, the maritime forces are faced with new challenges. ". . . From the Sea" describes the littoral as a region characterized by "confined and congested water and air space."<sup>6</sup> This phrase points toward unique problems which the littoral region presents for maritime forces. Examples of these unique challenges are reefs, tides, shallow water, mines,

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<sup>5</sup> Semmler, Karl, Commander, USN, "CWC and Amphibious Warfare Integration: An Introductory Concept for Naval Expeditionary Forces," (forthcoming), p.2.

<sup>6</sup> Department of the Navy, Washington, D.C., "...From the Sea", 1992, p. 6.

underwater obstacles, and civilian marine and air traffic, not present during general war. Historically, these are the regions in which navies have had to obtain complete control in order to conduct a strategic movement of men and material, or to place them ashore where they were able to achieve victory by occupying the terrain of the enemy. If, to insure the safe transportation of the troops, a navy found it necessary to fight a decisive engagement at sea, then this was useful too. However, the blue-water engagement has generally been a means of influencing results on land, not an end in itself. Numerous battles of World War II, particularly during the amphibious campaigns of the Pacific, exemplify this. A more recent example is the Falklands War in 1981.

## **2. Why the Littoral Region is Important**

As we head into the 21st century, the littoral regions of the world will become more important militarily. Most of the earth's population lives within 50 miles of the sea.<sup>7</sup> As populations continue to grow, it is predicted that between now and the year 2025, ninety-five percent of the world's population growth will be in the poorest areas of the globe, the majority of which are in the littoral zone.<sup>8</sup> The result will be that the littoral regions of the globe will become even more underdeveloped and more unstable in the future. At the same time, land basing abroad is becoming less feasible for various political and fiscal reasons, so power will have to be projected in whole or in part from

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<sup>7</sup> Trost, Carlisle A. H., Admiral, USN, "Maritime Strategy for the 1990s," *U.S. Naval Institute Proceedings*, *Naval Review Edition*, 1990, p. 94.

<sup>8</sup> Kennedy, Paul, *Preparing for the Twenty-First Century*, New York, Vintage Books, 1993, p. 24.

the sea.<sup>9</sup> This power projection role has traditionally been centered around the carrier battle group. During the years following World War II, U.S. maritime power was built around the aircraft carrier. The surface Navy's tactical organization was built around the enhancement and support of the carrier's capabilities. The result was the modern carrier battle group.

The CVBG has been focused on blue water operations for the last fifty years. Command and control doctrine for these carrier battle groups has evolved into what is now known as the Composite Warfare Commander (CWC) doctrine. This doctrine was developed as a means of meeting the multitude of threats to the force posed by technological developments such as the anti-ship cruise missile and the nuclear powered attack submarine, and long-range shore based strike aircraft. CWC was also developed to meet the information management requirements of modern naval operating forces. While this tactical organization proved highly successful on the high seas, "the littoral poses its greatest challenges to operations because forces must straddle a dynamic environment mastering abrupt transitions from blue-water and shifting tides to dry land."<sup>10</sup>

The dynamics of littoral operations vary dramatically from those normally contemplated by the carrier battle group commander. Negotiating shallow water to insert a Special Operations Force (SOF) unit is an entirely

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<sup>9</sup> Mundy, Carl E., Jr., General, USMC, "Thunder and Lightning: Joint Littoral Warfare," *Joint Force Quarterly*, National Defense University Publications, Spring 1994, p. 45.

<sup>10</sup>*Ibid.*, p. 47.

different operation from a more conventional carrier based strike operation. With this in mind, this thesis argues that the current naval assets and task organization of the modern CVBG is sub-optimized in a littoral environment. The equipment and tactical organization of the modern CVBG were developed during the Cold War and they have not been changed in light of contemporary national requirements. From strategic, operational, and tactical perspectives, the challenge facing the Navy in a littoral environment is huge. Operations in the often compressed battlespace of littoral regions hinder the multilayered defense of the carrier battle group as it projects landward. The vast number of military threats, air and surface traffic congestion, and natural obstacles presented by the littorals complicate the carrier battle group commander's employment of forces, especially in the area of command and control. Special Operations Forces are one ingredient that can be put to use in littoral operations to help clear the picture.

### **C. PURPOSE**

Despite the seemingly rich operating environment presented by the littorals, Special Operations Forces have been left completely out of the operational concept enunciated in the ". . . From the Sea" concept. Yet, SOF brings to the table distinctive capabilities from which the CVBG commander could draw to enable him to better optimize his assets. The purpose of this thesis is three-fold: to investigate the unique characteristics and challenges presented by operations in the littoral region; to investigate the unique

group commander in a littoral environment; and to examine the current battle group command and control organization with regard to the integration of SOF.



## **II. THE UNIQUE CHALLENGES OF THE LITTORAL ENVIRONMENT**

As the focus of maritime operations shifts to the complex operating environment of the "littorals" or coastlines of the earth, the maritime forces are immediately faced with a challenging operating environment. "... From the Sea" describes the littoral environment as a region characterized by "confined and congested water and air space."<sup>11</sup> Characteristics which confine and congest the water and air space can be physical obstacles which are either natural or man-made. There are also other challenges such as rules of engagement or small enemy gun boats which the battle group commander must overcome in a littoral environment. The purpose of this chapter is to explore the unique challenges which a littoral environment presents to our maritime forces using historical case study analysis.

### **A. NATURAL CHALLENGES IN A LITTORAL ENVIRONMENT**

#### **1. The Coral Reef**

As the fleet moves into the littoral regions of the world, in many areas the first obstacle which must be overcome is a coral reef. In general, coral reefs flourish in the warm waters of the tropical and subtropical areas.<sup>12</sup> The two areas where coral reefs abound are:

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<sup>11</sup>Department of the Navy, Washington, D.C., "...From the Sea", 1991, p. 6.

<sup>12</sup>Gross, M. Grant, *Oceanography: A View of the Earth*, New Jersey, Prentice-Hall, Inc., 1982, p. 309.



- the Indo-Pacific region from the east coast of Africa through the islands of the Western Pacific to Hawaii and
- the Western Atlantic region from Bermuda to Brazil

One of the most famous historic examples of the role played by an unexpected coral reef took place at the Battle of Tarawa during World War II. In 1942, Admiral Raymond Spruance's staff began detailed planning for an amphibious assault on Betio Island of the Tarawa atoll, which was located in the group of islands known as the Gilberts. The staff quickly realized that the coral reef surrounding the islands could pose a serious threat to orderly movement ashore. All available tidal information was scrutinized, and it was soon discovered that the available charts of the Tarawa waters were inaccurate. Admiral Spruance then brought a group of Australian and New Zealand officers who had knowledge of the area to his headquarters in Pearl Harbor. The staff enlisted the services of several British officers and civilians who had lived in the various islands of the Gilberts group.<sup>13</sup> The questions the staff needed these experts to answer all involved hydrographic data. For example, how much water passed over the inner coral barrier shelf at high tide? What was the depth of the lagoon passage?

When all calculations were made, it was estimated that, at best, there would be no more than five feet of water covering the reef at H-hour.<sup>14</sup> Since

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<sup>13</sup>Hoyt, Edwin P., *Storm Over the Gilberts*, New York, van Nostrand Reinhold Company, 1978, p. 42.

<sup>14</sup>McKiernan, Patrick L., "Tarawa: The Tide that Failed," *U.S. Naval Institute Proceedings*, February, 1962, p. 39.

a fully loaded LCVP, or Higgins boat, the main landing craft of the period, drew four feet of water, the best the Navy-Marine Corps planners could hope for was 12 inches of water between the reef and the bottom of the landing boats.<sup>15</sup>

While it is true that some tracked vehicles were used during the assault, most of the Marines were loaded onto Higgins boats. As fate would have it, the estimates concerning the tides proved inaccurate, and the boats stuck on the reef. The Marines were forced to disembark hundreds of yards offshore, wading through shallow water and intense enemy fire, with devastating results.

Following the Battle for Tarawa, the United States Navy began developing new equipment to enable the landing force to overcome the hazards of the coral reef. Today's modern Amphibious Ready Group (ARG) and its accompanying Marine Expeditionary Unit (Special Operations Capable) (MEU(SOC)) deploys with a tracked vehicle platoon of approximately twelve tractors, enough to land all members of the waterborne landing force in one trip.<sup>16</sup> However, not all military operations in littoral regions will involve the ARG/MEU(SOC) team. The given political situation may be too sensitive to allow overt use of these assets. The 1961 Bay of Pigs invasion was just such a case.

During the Eisenhower administration, planning for a covert para-military operation against the leftist regime of Cuba's Fidel Castro was

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<sup>15</sup>Stockman, James R., Captain, USMC, *The Battle for Tarawa*, Division of Public Information, United States Marine Corps, Washington, D. C., 1947, p. 4.

<sup>16</sup>Exact compliment of tracked vehicles tend to vary from deployment to deployment, depending on the expected mission.

authorized. Although this operation was planned and executed by the Central Intelligence Agency (CIA), the tactics used during the operation involved landing a well-armed and organized strike force of several hundred men on the Cuban coast via the sea; thus the study of this case is very relevant to littoral operations.

Overall, the final concept of the operation called for a night landing via waterborne craft on a remote Cuban beach. Aerial photographs studied during the planning phase revealed a strip of coral fringing one of the landing beaches. This coral strip was mistaken for a kelp bed by the operations planning cell.<sup>17</sup> The result of this mistake was disastrous for the landing force. Some of the landing launches sank on the reef. Others stopped short of the reef and disembarked their troops into chest-deep water to wade ashore. The force's LCUs (Landing Craft Utility), which carried tanks and other heavy equipment, had to wait for high tide at dawn before being able to proceed to the beach. The operational time table fell further and further behind schedule. Although the entire force and its equipment was supposed to have been unloaded and the fleet withdrawn before daylight, as the sun rose on the morning of D-day, the entire battalion and most of its supplies had not yet been unloaded. Thus, they were sitting ducks for an attack by Fidel Castro's air forces.<sup>18</sup>

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<sup>17</sup>Wyden, Peter, *The Bay of Pigs: The Untold Story*, New York, Simon and Schuster Publishers, 1979, p. 87.

<sup>18</sup>Vandenbroucke, Lucien S., New York, Oxford University Press, 1993, p. 43.

In summary, the cases of Tarawa and the Bay of Pigs shed light on the potential hazards which the coral reef poses on littoral operations. While in the end, many factors contributed to the success of Tarawa and the failure of the Bay of Pigs invasion, the coral reefs which were encountered in both operations had a negative impact on these littoral operations.

## **2. Tides and Tidal Ranges**

Oceanographers refer to tides as the pulse of the ocean.<sup>19</sup> Their effects are felt most keenly in the littoral areas, where the periodic rise and fall of the ocean surface cause the intertidal zone to alternate between submersion and exposure. The previous section pointed out the difficulties presented by coral reefs, and the tides are closely related characteristics of the littoral environment and must also be examined. Historically, the range of the tide alone has not normally caused serious difficulties for the littoral warfare commander. However, it must be noted that the tidal range of any given area is unique, and sometimes extreme. The landing at Inchon in September of 1950 proves that the difficulties presented by an unfavorable tidal range must be overcome in order to achieve a strategic military objective.

At the time of the outbreak of hostilities on the Korean peninsula in 1950, the top thinkers among the Department of Defense believed that large scale amphibious operations would never occur again. Yet, the accomplishment of

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<sup>19</sup>Gross, M. Grant, *Oceanography: A View of the Earth*, New Jersey, Prentice-Hall, Inc., 1982, p. 238.

the Navy-Marine Corps team at Inchon helped turn the tide of the war, at least temporarily.

The opening scenario of the Korean War is familiar to students of military history. Briefly, on 25 June, 1950, the North Koreans "struck like a cobra",<sup>20</sup> and the South Koreans, along with their American allies, were driven back, forming a perimeter at the bottom of the Korean peninsula, around the port city of Pusan.

By early July, General Douglas MacArthur had already conceived his vision for defeating the communist forces. His plan called for a seaborne attack against the North Korean lines of communication which had been left vulnerable in the rear as the main communist armies concentrated themselves heavily in the south, intent on pushing the allied defenders of the Pusan perimeter into the sea. Since Seoul was the focal point of the North Korean supply and communications lines, this became the General's desired target. To capture Seoul, the General envisioned an amphibious landing at Inchon.

*a. Tactical Considerations*

Tactically, from a naval perspective, an amphibious landing at Inchon was ill-advised. Amphibious doctrine of 1950 set out the following seven criteria for a landing area. These were:

1. Ability of naval forces to support the assault and follow-up operations

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<sup>20</sup>MacArthur, Douglas, General, U.S. Army, *Reminiscences*, Time, Inc, 1964, p. 328.

2. Availability of shelter from unfavorable sea and weather
3. Compatibility of beaches and their approaches to size, draft, maneuverability, and beaching characteristics of assault ships and landing craft
4. Knowledge of offshore hydrography
5. Extent of minable waters
6. Conditions which might affect enemy ability to defeat mine clearance efforts
7. Facilities for unloading and how these may be impaired<sup>21</sup>

As an amphibious objective, Inchon violated all seven criteria.<sup>22</sup> The biggest problem facing the amphibious planners was the tide. Korea's western shoreline had huge tides which averaged 29-feet, and at their peak reached 36-feet. The tidal range of Inchon itself was 32-feet.<sup>23</sup> Except at high tide, the port of Inchon was reduced to "wide, oozing, gray mudflats, rendering it wholly unusable by moving boats."<sup>24</sup> The channel itself was so shallow and narrow that it would be able to accommodate only destroyers, which were not considered very good amphibious assault gunfire support platforms.<sup>25</sup> The main approach would be taken up Flying Fish Channel to the Salee River,

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<sup>21</sup>Heinl, Robert D., Jr., Colonel, USMC, "The Nucleus for Victory at High Tide," *The Marine Corps Gazette*, September 1967, pp 20-28. This article outlines all seven criteria.

<sup>22</sup>Manchester, William, *American Caesar*, Canada, Little, Brown, and Company, 1978, p. 575.

<sup>23</sup>Cagle, Malcolm W., CDR, USN, "Inchon: The Analysis of a Gamble," *U.S. Naval Institute Proceedings*, January, 1954, p. 47.

<sup>24</sup>Manchester, p. 574.

<sup>25</sup>Cagle, p. 47.

where tidal currents reached 7 to 8 knots, close to the speed of an LCVP.<sup>26</sup> In addition to the tides and currents, Inchon waters were eminently minable and were commanded by heights and islands well suited for batteries that could shoot minesweepers out of the water.<sup>27</sup> The narrow, winding, and shallow channel had no room for turning or maneuver. A sunken or disabled ship in this area would block the approach. There were only a few days in which the tide would be high enough to accommodate amphibious ships and landing craft. However, on these dates, the high tide crested first at dawn, which was too early for the troop transport ships to navigate beforehand in the narrow, unlit passage. The second time the high tide crested on that day was after sundown, which was too late for a daylight landing.

*b. Strategic Considerations*

Despite the tactical problem associated with a landing at Inchon, MacArthur knew the strategic advantages which would be gained by a successful landing outweighed the tactical considerations. He argued first that Seoul, as Korea's ancient capital and first city, was of huge psychological significance. The general wanted to achieve the psychological advantage by capturing Seoul and restoring Korean President Rhee as soon as possible.<sup>28</sup> Second, both highways and railroads fanned outward to the north and to the

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<sup>26</sup>Heinl, Robert D., Jr., Colonel, USMC, "The Nucleus for Victory at High Tide," *Marine Corps Gazette*, September 1967, p. 22.

<sup>27</sup>*Ibid.*, p. 23.

<sup>28</sup>Willoughby, Charles A., Major General, U.S. Army, and John Chamberlain, *MacArthur: 1941-1951*, New York, McGraw-Hill Book Company, Inc. 1954, p. 374.

south from Seoul. The North Koreans used these networks to transport supplies southward to their advancing front. By capturing Seoul, MacArthur would be able to cut completely the North Korean Supply lines, creating a two-front war for the North Korean Army and thereby neutralizing the enemy's fighting power.<sup>29</sup> Thirdly, the national telephone and telegraph nets radiated from Seoul. Finally, Kimpo Airport, Korea's largest and best airport, lay between Inchon and Seoul.<sup>30</sup>

After much debate, MacArthur's plan was approved. Through detailed planning and the ability to stick to a precise landing schedule, Inchon proved to be a huge success. The landing at Inchon shows, for the purpose of this study, that in a littoral environment, optimum hydrographic conditions for power projection ashore may not be obtainable. The landing at Inchon was undertaken, despite its unsuitability for amphibious operations, due to strategic considerations. The tidal problem at Inchon presented the Navy with its most difficult challenge and its most heralded success in its history of littoral operations.

### **3. The Shallow Water of a Littoral Environment**

A detailed study of the history of American Naval warfare reveals numerous instances in which conflict in the shallow waters of the coastal and

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<sup>29</sup>Willoughby, Charles A., Major General, U.S. Army, and John Chamberlain, *MacArthur: 1941-1951*, New York, McGraw-Hill Book Company, Inc., 1954, p. 374.

<sup>30</sup>Heinl, Robert D., Jr., Colonel, USMC, "The Nucleus for Victory at High Tide," *Marine Corps Gazette*, September 1967, p. 23.



riverine environment has played a significant role. A partial list of examples of these conflicts includes the American Revolution, the War of 1812, the Mexican War, the Seminole and Creek Wars of the Florida Everglades, the Civil War, Vietnam, and Desert Storm. Despite the recurring need for a coastal and or riverine warfare capability, the focus on this capability has not been continuous. In each instance throughout history, once the necessity passed, these unique shallow water warfare capabilities were shelved, and the Navy returned its focus to "blue water"<sup>31</sup> operations. With the publication of ". . . From the Sea" and the follow-on document "Forward . . . From the Sea", coastal and riverine operations, or those operations which take place in the littoral regions, are once again at the forefront of Naval tactical thought.

At present, there is no solid, clear-cut definition of the littoral region. "Forward...From the Sea" defines the littoral region as an area adjacent to a country's coastline<sup>32</sup> Yet, the NSW/USMC Riverine Operations Handbook refers to the coastal area as a part of riverine warfare. It defines the riverine area as follows:

The riverine area is an inland or *coastal area* comprising both land and water, characterized by limited lines of communications (LOCs), with extensive water surface transportation and communications.<sup>33</sup>

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<sup>31</sup>The term "blue-water" refers to classic naval operations conducted in deep water, away from the confines of the coast.

<sup>32</sup>"Forward...From the Sea", Department of the Navy, Washington, D.C., p. 1.

<sup>33</sup>Naval Special Warfare Tactical Memorandum, "NSW/USMC Riverine Operations Handbook," 01 January 1993, p. 2-1.

The purpose of exploring shallow water operations, whether they be coastal or riverine, is not to determine a specific definition, but rather to examine the unique challenges present in a shallow water environment. Shallow water areas include swamps, deltas, river systems, streams, canals, and inundated areas as well as waters along a coastline. They are significant because most major population centers are located on coasts, lakes, rivers, and inland waterways.<sup>34</sup> In less developed countries, coastal and inland waterways "serve as the centers of life".<sup>35</sup> Many of our potential adversaries have navies whose largest vessels would be considered small craft by U.S. standards. Yet these small, shallow draft vessels are well suited to the shallow waters of the coastal and riverine environment. Our conventional navy is a navy of global dimensions whose deep draft vessels are unable to operate in these types of environments. Yet, control of the coastal and riverine areas is vital to our navy in order, as in the case of the Vietnam conflict, to eliminate the flow of munitions and supplies into an adversary's borders via these river and coastal highways.

When America first became involved in Southeast Asia, no coastal or riverine patrol craft had been in the Navy's inventory. The Communists were suspected of bringing supplies into South Vietnam from the sea. The South Vietnamese Navy, with its American advisors, patrolled the coastal waterways

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<sup>34</sup>Naval Special Warfare Tactical Memorandum, "NSW/USMC Riverine Operations Handbook," 01 January 1993, p. 2-1.

<sup>35</sup>Freitas, Mark and Braddock W. Treadway, "The Stygian Myth: U.S. Riverine Operations against the Guerrilla," Thesis, Naval Postgraduate School, Monterey, California, December 1994, p. 5.

in junks, the traditional Oriental sailing vessels. As early as 1961, Vice President Lyndon B. Johnson recognized the need to increase assistance to the Vietnamese Navy "to enable it to protect the coast against infiltration from the North and to patrol the inland waterways used extensively by the Viet Cong."<sup>36</sup>

The Vung-Ro<sup>37</sup> incident of 3 March 1965, proved beyond a shadow of a doubt that North Vietnam was infiltrating supplies to the Viet Cong by sea. General William Westmoreland, the Commander of Armed Forces in Vietnam, requested the Navy send representatives to plan and execute a counter operation to the now proven sea infiltration.<sup>38</sup>

In the final outcome, the U.S. Naval representatives called for an increased role for U.S. Naval participation. They outlined two types of sea-infiltration: trawler traffic and seagoing junks. The trawlers were coming down from North Vietnam well clear of the coast to avoid any coastal junk patrols and then making a perpendicular dash toward the coast at the point of debarkation. The seagoing junks were the second type of vessel used for

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<sup>36</sup>Cutler, Thomas J., Lieutenant Commander, USN, *Brown Water, Black Berets: The Untold Story of the U.S. Navy's Courageous Campaigns on Vietnam's Rivers and Coastal Waterways*, New York, Simon and Schuster, Inc., 1988, p. 21.

<sup>37</sup>The Vung-Ro incident was an attack by U.S. Forces on a camouflaged trawler which was infiltrating supplies from North Vietnam into South Vietnam in 1965. The trawler was hit by repeated air strikes and eventually ran aground and was captured. The captured vessel revealed solid proof that infiltration of war making supplies was being conducted by North Vietnam. U.S. forces recovered huge amounts of ammunition, small arms, and medical supplies. Labels on the contraband revealed the sources were Communist China, the Soviet Union, Czechoslovakia, and East Germany. The American forces also uncovered papers proving the ship's crew were members of the North Vietnamese military operating under orders. The incident took place in the vicinity of the Bay of Vung-Ro; hence the name.

<sup>38</sup>Cutler, p. 69.

infiltration. Their tactics involved moving along the shore, in the shallow waters along the coastline, mingling with the legitimate native traffic.

To interdict both kinds of traffic, the U.S. extended the patrol effort to as far out as forty miles from shore. The U.S. would be allowed to stop, board, search, and, if necessary, capture or destroy any hostile or suspicious craft found. The operation was code named *Market Time*.

By April of 1965, the U.S. Navy had jumped into *Operation Market Time* with both feet. Twenty-eight U.S. Navy destroyers, destroyer escorts, and minesweepers were participating in *Market Time* patrols. However, the draft of these vessels limited how close to shore they could go. The shallow water of the littoral environment rendered the conventional naval vessels incapable of fully accomplishing the mission. The U.S. Navy had no patrol craft in its inventory at that time and had to go through the lengthy process of obtaining them.<sup>39</sup>

The importance of *Operation Market Time* for this study is to highlight the fact that the shallow waters of a littoral environment can impede conventional U.S. Naval forces achieving maximum success. The Navy, one of global dimensions, was sub-optimized in the littoral waters of Southeast Asia. The U.S. Navy needed specialized shallow draft coastal patrol craft to complete its *Market Time* mission of search and seizure.

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<sup>39</sup>Cutler, Thomas J., Lieutenant Commander, USN, *Brown Water, Black Berets: The Untold Story of the U.S. Navy's Courageous Campaigns on Vietnam's Rivers and Coastal Waterways*, New York, Simon and Schuster, Inc., 1988, pp. 116-117.

#### 4. Terrain of the Hinterland

As the maritime forces move into the littorals, the terrain of the hinterland becomes a factor which must be dealt with by the CVBG. Terrain of the coastal regions are different for each part of the globe. From the gradual coastal gradients and desert terrain of the Persian Gulf to the cliff coastlines of Normandy, all types of terrain must be overcome in order to accomplish the mission.

One of the most unique challenges presented by terrain for the Navy took place in the Viet Cong infested Plain of Reeds during the Vietnam War. This was an area located due west of Saigon and north of the Mekong River complex. The Plain of Reeds was a flat, perennially inundated marshland measuring thirty-by-seventy miles. The water depth in the Plain of Reeds varied from one foot to six feet depending upon the season. It was covered with a dense growth of aquatic grass and reeds which ranged in height from three to twelve feet. Even the villages in this area were dry only half of the year. The area was described by one Vietnam veteran as "extraordinarily inhospitable: difficult to navigate by boat, impossible to negotiate by other means."<sup>40</sup> The Navy answered this challenge by developing and using the patrol air cushion vehicle, or PACV, a predecessor to the modern LCAC, or landing craft, air cushion.

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<sup>40</sup> Cutler, Thomas J., Lieutenant Commander, USN, *Brown Water, Black Berets: The Untold Story of the U.S. Navy's Courageous Campaigns on Vietnam's Rivers and Coastal Waterways*, New York, Simon and Schuster, Inc., 1988, p. 165.

## **B. THE MAN-MADE CHALLENGES OF THE LITTORAL ENVIRONMENT**

### **1. Mines**

Mines located in the shallow and very shallow<sup>41</sup> waters of the littoral environment have the same effect on the movement of naval vessels that a minefield has on forces ashore: they slow the movement and channel the forces into killing zones.<sup>42</sup> Mines can impede the safe execution of U.S. Naval activities and constrain the ability of the United States to pursue the nation's interests.

The proliferation of mines and mine technology has allowed even the poorest nation the ability to possess state-of-the-art mine technology at a relatively low cost. They have proven to be an inexpensive yet very effective means for a nation to frustrate a far superior naval force, or for a superior force to attain its goals with limited risk or investment.

This fact has been proven many times throughout history. A most recent example can be found during *Operation Desert Storm*. During the war, the 4th and 5th Marine Expeditionary Brigades froze an estimated six Iraqi divisions in place by the mere threat of an amphibious assault. This threat, however,

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<sup>41</sup> In mine warfare terminology the term "very shallow water", or VSW, refers to those mines located from the outer edge of the surf zone to the two and one half fathom curve, or 21 feet. The term "shallow water" refers to those mines located between 21 and 40 feet in depth.

<sup>42</sup>Kobell, Kenneth M., Lieutenant Colonel, USMCR, "Putting America's 911 Force on Hold," *U.S. Naval Institute Proceedings*, September, 1995, p. 73.

never materialized. The Amphibious Forces under Rear Admiral LePlant never assaulted the beaches of Kuwait because of Iraqi mine warfare.

The ease with which Saddam Hussein was able to counter our amphibious assault is readily apparent to our potential enemies. Today, mines are regarded as the "weapon of choice" for most nations. They are cheap, simple to use and reliable. Mines are produced in great numbers at a relatively low cost. Large numbers can be stockpiled without a constant need for expensive maintenance routines. For our potential enemies, the use of the mine in littoral waters causes a disproportionately great investment in forces and technology. For those who would deny use of the littoral region, the virtues of mine warfare are impressive.<sup>43</sup>

Most vessels can be readily adapted to lay mines in the littoral region very easily. An indigenous fishing boat is an ideal way for a potential enemy to mine littoral waters clandestinely and deny freedom of movement to U.S. forces.

If impeding passage in shallow and very shallow waters is not enough, the mine threat in the surf zone and the beach zone<sup>44</sup> is particularly high to over the beach (OTB) operations and to the amphibious assault, where an extraordinary array of mines may be employed, ranging from both moored and

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<sup>43</sup>Cashman, T. Michael, Lieutenant, USN, "Sweeping Changes for Mine Warfare: Controlling the Mine Threat," Thesis, Naval Postgraduate School, Monterey, California, December 1994, p. 15.

<sup>44</sup>In mine warfare terminology, mines in the surf zone are those from a depth of 10 feet inshore to the beach and those in the beach zone are located from the low-water mark to approximately 100 yards inland.

bottom planted mines to small anti-personnel and anti-tank land mines secured to obstacles.<sup>45</sup>

In sum, as the U.S. experience in *Operation Desert Storm* shows, the psychological and physical threat of mines in a littoral environment can cause the United States to alter battle plans and tactics. The suspected presence of a minefield can suffice to bring maritime operations in the area to a halt. Mines are a low cost, conventional deterrent that may prove decisive to the outcome of littoral operations. As a result, the United States Navy ceded a considerable amount of its strategic agility in the littoral region during the Persian Gulf War. Fortunately, other military options aside from an amphibious assault were available, and the Iraqis were soundly defeated.

## **2. Coastal Defenses**

As long as ships have sailed to sea and attempted to operate against a foreign shore, they have had to deal with enemy coastal defenses. Usually the threat is strongest when located at a choke point. During World War I, Turkish field guns mounted on the heights of the Gallipoli peninsula and mobile field guns in the Asiatic ravines prevented the British Navy from being able to clear the Dardanelles of mines and move toward Constantinople. Ultimately, the failures of the Navy to clear those straits forced the British to attempt an

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<sup>45</sup>Kobbell, Kenneth M., Lieutenant Colonel, USMCR, "Putting America's 911 Force on Hold," *U.S. Naval Institute Proceedings*, September 1995, p. 73.



amphibious landing on Gallipoli as the best hope for opening a way to Constantinople.<sup>46</sup>

A more contemporary example of the effect of coastal defenses at a choke point is seen in the Straits of Hormuz. During *Operation Earnest Will*, it was in these straits that U.S. Naval shipping was most vulnerable. The Iranian Revolutionary Guard operated out of Bandar Abbas Naval Base opposite the narrow strait. At their disposal were fast attack boats, armed hovercraft, combat helicopters, and the silkworm missiles located on Qeshm Island in the Strait.<sup>47</sup> While no U.S. vessels were attacked by Silkworms while transiting the straits, the assets still exist, and in the event of hostilities, could pose a serious threat to U.S. shipping once again.

As long as the battle group operates in littoral waters, it is under a higher threat of possible attack by enemy stationary or mobile coastal defenses.

### **3. Obstacles**

The use of underwater obstacles to inhibit landing craft is almost as old as littoral warfare itself. Examples of the use of underwater obstacles can be found during World War II in both the European and Pacific Theaters. At Normandy, the Germans, knowing of the inevitable Allied attack, prepared formidable beach defenses using heavy steel and concrete underwater obstacles to stave in Allied landing craft and disable tracked vehicles and tanks. Yet the

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<sup>46</sup> Potter, E. B., *Seapower: A Naval History*, New Jersey, Prentice-Hall, 1960, pp. 412-420.

<sup>47</sup> Chapin, Stephen R., Lieutenant (junior grade), USN, "Countering Guerrillas in the Gulf," *U. S. Naval Institute Proceedings*, January, 1988, p. 67.

use of this rather primitive form of coastal defense has not gone away with the passage of time. During *Operation Desert Storm*, Saddam Hussein's Iraqi Army placed obstacles along the Kuwaiti coastline to hinder any possible Allied landing.

## C. OTHER UNIQUE CHALLENGES IN A LITTORAL ENVIRONMENT

### 1. Rules of Engagement

Rules of Engagement (ROE) are written to provide the battle group commander guidance, while he is deployed, on appropriate action by his forces under peacetime circumstances, in crises, and in the event of war.<sup>48</sup> They are the primary means by which the National Command Authority (NCA), in conjunction with the Joint Chiefs of Staff (JCS), provide this guidance to the CVBG commander.

For the CVBG commander, ROE represent limitations on his freedom to dispose his forces as he sees fit. However, ROE are designed not to interfere with the commander's right and responsibility to protect his forces against either attack or an imminent threat of attack.<sup>49</sup> It is the requirement to determine a contact's intent which, in the littoral region, can complicate a commander's decision-making and battle management problem.

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<sup>48</sup> Sagan, Scott D., "Rules of Engagement" in *Avoiding War: Problems in Crisis Management*, ed. Alexander L. George, Oxford, Westview Press, 1991, p. 444.

<sup>49</sup> Roach, J. Ashley, Captain, JAGC, USN, "Rules of Engagement," *Naval War College Review*, January, 1983, p. 48.

The purpose of this sub-section is not to delve into a detailed discussion of ROE, but rather to point out that as the battle group moves into the littoral regions, the amount of both hostile and non-hostile air and waterborne traffic increases. The very nature of the littoral region, in a time of crisis, increases the situational tension for the commander.

In deep, blue water operations, an approaching radar blip can be identified and reacted to more thoroughly and methodically. In the open ocean environment, hostile intent may be more easy for the commander to determine. If a contact is heading straight toward the commander's unit, which is miles from land, it is easier to determine the intent than if the unit is steaming in a "box" ten to fifteen nautical miles from land and that same radar blip appears on the operator's screen.

Two recent examples illustrate this point: the May 17, 1987, Iraqi EXOCET missile attack on the *USS Stark* (FFG-31), and the July 3, 1988, downing of an Iranian airliner by the *USS Vincennes* (CG-49). Both incidents took place in the Persian Gulf during the Iran-Iraq War. The Persian Gulf is rife with small fishing boat activity and commercial airliners, creating a plethora of contacts for any shipboard Tactical Action Officer (TAO) to handle. Their importance is in showing the difficulty for the commander, operating in a littoral environment, in determining, through the use of his assigned ROE, when, where, against whom, or how force is to be used.

The *Stark* incident occurred on the evening of May 17, 1987, while the *USS Stark* was on escort patrol duty protecting oil tankers in the Persian Gulf.

The *Stark* was warned by a U.S. Airborne Warning and Control System (AWACS) plane that an Iraqi Air Force Mirage F-1 aircraft was flying along the Saudi Arabian coast. The *Stark* picked up the fighter on its own radar when it was seventy miles from the ship. The *Stark* broadcast a standard warning to the approaching aircraft when it was twelve miles out. By this time, the aircraft had already fired an EXOCET missile and was in the process of firing a second. Two EXOCET missiles hit the ship, and thirty seven U.S. sailors were killed.<sup>50</sup>

Throughout the year after the *Stark* incident, the Iran-Iraq War continued to simmer, and U.S. Naval operations in the Persian Gulf increased in scope and intensity. During the first six months of 1988, Iran conducted forty-two attacks on tankers in the Persian Gulf. Their main tactics were using speedboats and frigate gunfire. The Iranians also laid numerous naval mines. Iraq, on the other hand, launched twenty-seven attacks, primarily using missile-armed jets.<sup>51</sup> In March, U.S. helicopters on a reconnaissance mission were fired upon by Iranian forces, and in April, the *USS Samuel B. Roberts* struck an Iranian mine laid well outside the declared war-exclusion zone. In response to the *Roberts* incident, President Reagan ordered a retaliatory attack against Iranian oil platforms in the southern gulf.<sup>52</sup>

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<sup>50</sup> Vlahos, M. "The Stark Report", *U.S. Naval Institute Proceedings*, Naval Review Edition, May 1988, pp. 63-67.

<sup>51</sup> O'Rourke, Ronald, "Gulf Ops," *U.S. Naval Institute Proceedings*, May, 1989, p. 43.

<sup>52</sup> Langston, Bud, "The Air View: Operation Praying Mantis," and J. B. Perkins III, "The Surface View: Operation Praying Mantis," both in *U.S. Naval Institute Proceedings*, May 1989, pp. 54-70.

In the midst of ever rising tensions, on the morning of July 3, 1988, a U.S. helicopter from the *USS Vincennes* was fired upon by Iranian gunboats. The *Vincennes* immediately approached these gunboats and opened fire. During this surface engagement, an Iranian commercial airliner took off from a joint military-civilian airfield on the Iranian coast. This aircraft was misidentified by the *Vincennes*' commander, and, when the airliner failed to respond to repeated radio warnings to change its course and stay clear from the *Vincennes*, the ship fired two Standard missiles against the aircraft. Iran Air Flight 655 was destroyed, and all 290 passengers and crew were killed.<sup>53</sup>

These two incidents show how daily traffic activity in the confined and congested littoral region can create a situation where the commander has a difficult time balancing two competing requirements: the need for the commander to use force effectively to achieve the objective of an offensive or defensive mission, and his desire not to use military force in unnecessary circumstances or in an excessively aggressive manner. In an attempt to help deployed commanders, ROE in a littoral operating environment will continue to be written and rewritten as situations change. The environment of the littorals is rich with radar return, creating uncertainty in the problem solving and decision making process of command and control. Thus, the commander in a littoral operation will be faced with more ROE to prevent the uncertainty

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<sup>53</sup> Friedman, Norman, "The Vincennes Incident," *U.S. Naval Institute Proceedings*, May, 1989, pp. 87-92.

from causing unwanted or inadvertent courses of action like those of the *Stark* and the *Vincennes*.

## 2. Increased Intel Requirements

As the battlegroup shifts its focus from blue water operations to the littorals, the type of intelligence needed changes as well. Once the battle group begins projecting power ashore, a whole new series of very important questions must be answered. In many instances, the battle group will no longer be able to rely on massive, indiscriminate force. Instead, the battle group commander will be required to use discriminate force against those critical centers of gravity which will decide the conflict or accomplish the mission. While the CVBG's weapons and sensor systems are continually being upgraded with the newest technologies, and are becoming more and more precise in their accuracy, the precision of the CVBG's weapons systems is "only as good as the intelligence upon which the operation is based."<sup>54</sup>

Today, with the high cost and limited numbers of precise munitions, it is not enough to know how to target buildings or integrated air defense systems in general; rather, the CVBG commander will need to know, for example, *which* window of *which* building to hit, and at *what* time it must be hit in order to meet his operational objective with minimal force and minimal collateral damage.

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<sup>54</sup> Smith, Edward A., Captain, USN, "Putting it Through the Right Window," *U.S. Naval Institute Proceedings*, June, 1995, p. 38.

The CVBG commander's identification of centers of gravity, as well as his assessment of the consequences of their neutralization, must be at least as precise as the weapon he intends to use.<sup>55</sup>

During the Cold War, the focus of intelligence collection and analysis was directed toward the Soviet Union. As a result, third world intel data bases are "very often out of date, spotty, and inaccurate."<sup>56</sup> For the CVBG commander, his intel data base and battle group sensor systems will not be able to answer many of his critical questions; for example, what is the water depth at the pier at Mogadishu?

### **3. Enemy Small Gun Boats**

Many of our potential adversaries in the littoral regions of the globe possess a coastal navy. These navies do not seek a decisive battle with the main force ships but rely instead on tactics which will badger their enemies. A coastal navy will use terrain and local navigational skills to its advantage, and in a worse case scenario, operate with the support of land based aircraft, behind minefields and under the cover of shore batteries.<sup>57</sup>

As the battle group moves into the littoral region, it will naturally pick up numerous surface contacts on its surface search radars. Some of these contacts will be harmless indigenous craft such as fishing vessels. Others could

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<sup>55</sup>Smith, Edward A., Captain, USN, "Putting it Through the Right Window," *U.S. Naval Institute Proceedings*, June, 1995, p. 39.

<sup>56</sup>*Ibid.*, p. 40.

<sup>57</sup>Borrensen, Jacob, "The Seapower of the Coastal State," *Seapower: Theory and Practice*, London, F. Cass, 1994, p. 149.

be hostile small gun boats. The weapons systems and sensor systems of the surface platforms of the battlegroup are sub-optimized when combatting the small gun boat threat in a littoral environment. The surface search and fire control radars are not able to detect small radar cross section (RCS) surface threats. The surface to surface missile systems, such as the Harpoon, have minimum range limitations, seeker acquisition constraints, and limited missile inventories which make them unsuitable against small RCS, aluminum or fiberglass hulled targets.<sup>58</sup>

When operating in restricted waters, choke points, and near land, the battle group's surface vessels must defend against a variety of small surface threats, ranging from patrol boats to pleasure craft. The Navy experienced patrol craft attacks against its ships as recently as the late 1980s during the Iran-Iraq War. During *Operation Earnest Will*, the Iranian Revolutionary Guard, better known as the *Pasdaran*, grew to become the largest single threat to shipping in the Gulf.<sup>59</sup> Dispersed onto a number of islands in the region,<sup>60</sup> the *Pasdaran* operated in high speed, small attack boats armed with bow mounted light machine guns and Soviet-made rocket propelled grenades.<sup>61</sup> The

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<sup>58</sup> Department of the Navy, Washington, D.C., "Minor Caliber Gun Tactics Against the Small Boat Threat," *Commander, Naval Surface Warfare Development Group TACMEMO U24450-1-93*, p. 1-1.

<sup>59</sup> Chapin, Stephen R., Lieutenant (junior grade), USN, "Countering Guerrillas in the Gulf," *U.S. Naval Institute Proceedings*, January 1988, p. 67.

<sup>60</sup> Cushman, John H., Jr., "Iran's Guards Seen as No. 1 in the Military," *The New York Times*, 30 August 1987, p. A15.

<sup>61</sup> McDonald, Wesley L., Admiral, USN (Ret), "The Convoy Mission," *U.S. Naval Institute Proceedings*, May, 1988, p. 42.



advantage to the Iranian government of using high speed gun boats was that the operators could be selective of their targets, choosing when, where, and whom to attack to their best advantage.

In littoral operations, the unique problems presented by the Iranian example could confront the CVBG commander on a routine basis.

#### **4. Enemy Diesel Submarines**

As the Navy shifts its tactical focus from an open ocean threat to a nearland, shallow water threat, the submarine threat changes as well. During the Cold War, the battle group anti-submarine warfare (ASW) tactical focus was primarily on an open ocean, nuclear submarine threat. Today, the ASW focus is on a coastal, diesel submarine threat.

The surface ships of the battle group, operating in the shallow, noisy waters of the littorals, are at an increased disadvantage when conducting ASW. The disadvantages of littoral ASW operations to the battle group's ASW sensor systems are numerous.

First, the convergence zone sound channel acoustic pathway is practically eliminated in the littoral region. Wave action and large numbers of surface contacts in the littorals result in extremely high levels of ambient noise, which leads to numerous false contacts.

Second, coastal currents give bottom features, such as pinnacles and wrecks, an apparent doppler, which further complicates contact classification in the littorals.

Third, freshwater runoff from continental rivers causes high variability in the sound speed profile (SSP) structure, causing degraded range accuracy predictions and degraded fire control solutions.

Fourth, sound has the ability to propagate through the bottom of the coastal waterway, making contact localization almost impossible. For example, a sonobuoy operating near a diesel submarine target may not detect it, while a sonobuoy several miles away may gain contact due to the fact that sound can be propagated through a sand, gravel, or mud bottom.

Fifth, while it is true that diesel submarines operate at periscope depth a majority of the time, and thus become vulnerable to surface search radar detection, at the same time landmass interference and shadowing by the submarine itself can affect those same shipboard radars.

Finally, the use of the tactical towed array sonar (TACTAS) is significantly degraded in the littoral region. Frequent maneuvering by the towing ship is required in the littorals to avoid coastal shipping traffic. This maneuvering plus the very quiet signature of a diesel submarine operating on battery propulsion in a higher than normal, noisy nearland acoustic environment makes detection by the TACTAS nearly impossible.<sup>62</sup>

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<sup>62</sup> Department of the Navy, Washington, D.C., "Surface Ship Tactics to Counter the Diesel Submarine in a Littoral Environment," *Commander, Naval Surface Warfare Development Group TACMEMO SZ5550-1-94*, pp. 2-2 through 2-3.

#### D. SUMMARY

This chapter has explored the unique challenges to maritime forces operating in a littoral environment. Some of these challenges are easily overcome by the modern Amphibious Ready Group (ARG). However, with the decreasing amount of amphibious lift which our navy is currently experiencing, it is wrong to assume the ARG will always be readily available to handle every crisis which confronts our nation. The CVBG has been the backbone of our Navy since World War II. As the CVBG moves from blue water to brown water, it "must maintain the ability to operate independently and, when required, to execute operational maneuver from the sea."<sup>63</sup> The CVBG's weapons systems and sensor systems, designed for blue water operations against a global maritime threat, become sub-optimized in a littoral environment. For example: current ASW systems cannot easily locate and track diesel submarines operating in shallow water; the phased-array radars of an Aegis Cruiser cannot detect a mobile surface-to-surface missile as it moves to the coast; the surface search radars of warships cannot easily distinguish between threatening small gun boats and the non-threatening fishing vessels. When operating in the littoral regions, the CVBG seeks to extend its forces in a screen to protect its high value units by engaging the enemy at a range outside of his weapon release envelopes. When the blue water warships of the CVBG enter the confined waters of the littoral area, the fundamental relationships of

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<sup>63</sup> Boorda, J. M., Admiral, USN, "The Navy-Marine Corps Team: Looking Ahead," *Marine Corps Gazette*, March 1995, p. 24.

maneuverability and firepower are upset.<sup>64</sup> In the near-shore littoral operation, the ships are forced to operate inside of the radius of coastal missile batteries and land-based aircraft. Terrain becomes a factor and accordingly, the ships adopt a tightly packed, defensive posture in the hope that all of their sensor and weapons systems combine to detect and defeat the air threat coming off the shore. Despite technological advances in weapon systems and the presence of continuous airborne early warning, during *Operation Desert Storm*, the coalition ships were surprised and unable to respond effectively to two Iraqi Silkworm Anti-Ship Missiles (ASM) fired at them. The first missile missed, and the second was shot down by two snap-fired British Sea Darts, but not before the missile threat had thrown the coalition defenses into confusion and turmoil.

In the war-at-sea scenario, the blue water environment provides each area warfare commander with a near-homogeneous media and virtually unlimited space in which to operate. The primary factor separating area of influence from area of interest is range. Visually, this would appear as a somewhat irregularly shaped onion, representing the effective ranges of various sensor and weapon systems which surround the battle group. With the kill or be killed rules of engagement assumed by most war at sea scenarios, the emphasis would be on extending effective ranges to locate and destroy an adversary before he does likewise. In an expeditionary scenario taking place in a littoral environment with varying levels of conflict, areas of influence and

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<sup>64</sup>Ya'ari, Yedidia, "The Littoral Arena: A Word of Caution," *Naval War College Review*, Spring 1995, p. 7-8.

areas of interest are not so neatly defined. Distance is no longer the primary factor effecting the capabilities of sensor and weapon systems. The environment, the terrain, and even the ROE play a much larger role in determining a commander's overall capabilities. In a littoral environment, the CVBG Commander's area of interest may be within the range, but not necessarily the capabilities, of his sensor and weapons systems.

### **III. UNIQUE CAPABILITIES SOF BRINGS TO THE LITTORAL ENVIRONMENT**

There is a wide variety of operations that SOF can conduct in the littoral environment in support of not only the Naval Expeditionary Force (NEF), but the Carrier Battle Group (CVBG) as well. The most highly publicized SOF mission areas are Direct Action (DA) and Special Reconnaissance (SR). However, there are also numerous other unique mission capabilities which the battle force commander can use to accomplish his strategic and tactical objectives. The purpose of this chapter is to show the many types of unique mission capabilities SOF brings to the littoral environment and to highlight these capabilities using historical examples where available. While some of the historical examples may appear to be sketchy and incomplete, this is because many of the details of these operations are still classified. In the interest of keeping this thesis unclassified, details which are classified have been omitted.

#### **A. DIRECT ACTION MISSIONS: SOF AS A WEAPONS SYSTEM**

Direct action missions are those in which a preplanned application of force is used against a target. Examples of DA missions include raids, ambushes, combat swimmer attacks, stand-off weapons attacks, provision of terminal guidance for precision guided munitions, and sabotage. The objective of the DA mission is to either destroy or degrade a target for a specified period of time. Through the DA mission, the CVBG commander can use SOF as a

weapon system to enhance his ability to carry out the normal force projection role or in conducting specific, limited strike operations. Typically, a DA mission is limited in scope and duration and is conducted against targets inaccessible to or inappropriate for conventional forces or weapons systems.<sup>65</sup> Typical DA targets in a littoral environment for SOF include radar sites, missile batteries, parked aircraft, ships in port or at anchor, command and control nodes, and lines of communication and supply.<sup>66</sup> A short definition and historical example (where available) of each type of DA mission follows.

### **1. The Raid**

The raid is defined as a DA mission which includes the swift penetration of hostile territory to secure information, confuse the enemy or to destroy his installations. It ends with a planned withdrawal upon completion of the assigned mission. The raid can use either close combat or stand-off tactics and is usually directed against fixed point targets. Raids are swift and violent in order to achieve surprise and create maximum havoc for the enemy.<sup>67</sup> Examples of raid missions which can support the battle group commander include attacks on coastal radar sites, SAM batteries, or critical communication nodes.

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<sup>65</sup>Naval Special Warfare Tactical Memorandum (TACMEMO XL 00890-9-93), Naval Special Warfare in Support of Carrier Battle Group Operations (U), p. 6-1.

<sup>66</sup>*Ibid.*, p. 6-2.

<sup>67</sup>*Ibid.*, p. 6-3.

The raid conducted by Number Four Commando of the Royal Army against a German coastal gun battery at Dieppe during World War II is an excellent historical example of SOF being used in a hit-and-run action carried out in support of a large-scale amphibious operation. While the assault on Dieppe was a failure, Number Four Commando, under the command of Lt Col Lord Lovat, achieved complete success. The mission assigned to Number Four Commando was to attack and destroy a large coastal gun battery on the flank of the main assault beach. His commandos conducted a two-pronged, over-the-beach (OTB)<sup>68</sup> landing and made an indirect foot patrol toward the objective at Varengeville. The first party provided fire support for the second party, which conducted an assault on the battery, destroying the coastal guns with explosive charges.<sup>69</sup>

A second example of a successful raid in littoral warfare can be found in the days immediately following the outbreak of the Korean War in June 1950. The Allied lines of defense rapidly deteriorated in the first days of the war as the North Koreans moved southward. The Allies' situation at that time was particularly desperate. The Navy's attempts to interdict the North Korean supply lines -- primarily rail lines -- with naval gunfire were largely unsuccessful, as radar technology of the time was not yet sufficiently advanced

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<sup>68</sup>An over the beach landing is one in which the forces come from the sea via small boats or by swimming. In the case of Dieppe, the Commandos reached shore via small landing craft.

<sup>69</sup>Macksey, Kenneth, *Commando: Hit and Run Combat in World War II*, New York, Stein and Day Publishing Company, 1985, pp. 126-127.



to pinpoint trains moving at night against a darkened landscape. Air bombardment, on the other hand, was only marginally more effective because trains were able to hide in the hundreds of tunnels burrowed into the mountainous coastal terrain. This situation led to the employment of units which conducted onshore raids against North Korean Supply lines.

One of the most effective "behind-the-lines" units of the Korean conflict was that headed by Major Edward F. Dupras of the Marine 1st Amphibious Reconnaissance Company and included personnel from his company as well as members of the Navy's Underwater Demolition Teams (UDT). This *ad hoc* Navy-Marine Corps raiding team was named the Special Operations Group. Between August 14-16, 1950, they conducted the first successful raiding missions of the Korean War. Launched from the *USS Bass*, these units paddled ashore in small rubber boats. Using demolition charges, they destroyed at least three bridges and a handful of tunnel entrances, all the while taking zero casualties.<sup>70</sup>

These two historical examples display the immense flexibility and high degree of leverage which SOF units can provide when used as an alternative weapons system, to the battle group commander operating in the littorals.

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<sup>70</sup>A *History of Naval Special Warfare: World War II to Panama*, The Library of Congress. A Study Prepared for the Office of the Deputy Assistant Secretary of Defense for Forces and Resources, Office of the Assistant Secretary of Defense, Special Operations/Low-Intensity Conflict, Washington D.C. 20301, July 1992, p. 186.

## 2. The Demonstration

SOF forces can also be used by the battle group commander to create a diversion, throwing an enemy into a state of confusion as to U.S. intentions. During *Operation Desert Storm*, SOFs from the Naval Special Warfare Task Group Central fooled the Iraqis into believing they were an amphibious invasion force of several thousand Marines. Several Iraqi divisions were diverted east to repel the phony invasion. This allowed General Norman Schwarzkopf's army to maneuver around to the west.

This operation took place during the hours of darkness on February 23, 1991. The SOF used were members of the Navy's Sea Air Land (SEAL) Teams. Six SEAL swimmer scouts were infiltrated to within 500 yards of the Kuwaiti coast via Zodiac rubber raiding craft. The six SEALs swam to the beach, each stringing out buoys and carrying a haversack packed with 20 pounds of C-4 explosive. The purpose of the buoys was to fool the Iraqis into thinking that they were invasion corridor markers for incoming amphibious ships. The explosives, which were timed to explode at various intervals, were to create the illusion that frogmen were demolishing the Iraqi beach defenses in preparation for a landing.<sup>71</sup> The demonstration was a huge success. All SOF personnel were recovered and sustained zero casualties. Intelligence reports later

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<sup>71</sup>Kelly, Orr, *Brave Men, Dark Waters: The Untold Story of the Navy SEALs*, Novato, CA., Presidio Press, pp. 241-143.

revealed that elements of two separate Iraqi divisions had moved toward the beach immediately after the SEAL operation.<sup>72</sup>

In an age of force reductions, these types of abilities which SOF can bring to the battle group commander can be very useful in his quest to conduct low casualty operations in the littorals.

### **3. The Ambush**

An ambush is a surprise attack on a moving or temporarily halted enemy from a concealed position. The ambush differs from the raid in that it is conducted against a mobile target and is normally conducted along lines of communication, such as roads, paths, rivers, etc.<sup>73</sup> Examples of ambushes which can be used to support the battle group commander could be attacks against a supply line of communication or an attack against a specific enemy movement, such as a mobile surface-to-air missile (SAM) launcher.

The ambush has been used throughout history to enable smaller units to gain the element of surprise against a numerically superior enemy force. It is a military tactic which is a part of our military heritage. The Minutemen used the ambush repeatedly against the British during the American Revolutionary War. The most notable examples were the repeated hasty ambushes of the British by the Colonials during the British Army's return march to Boston following the battles of Lexington and Concord on April 19, 1775.

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<sup>72</sup>"Secret Warriors," Douglas Waller, Newsweek Magazine, June 17, 1991,

<sup>73</sup>NSW TACMEMO XL 0080-9-93, p. 6-4

One hundred and ninety years after Lexington and Concord, American forces operating in Vietnam were still using ambush tactics along roads, paths, rivers and canals to disrupt Viet Cong movement of troops and supplies. A favorite tactic of Special Operations Forces, these men routinely infiltrated into enemy territory and set up ambushes against the VC.

The ambush remains a legitimate tactic today. In an era where the desire to decrease collateral damage is prevalent, the use of overwhelming force to achieve an objective may lead to the collateral damage the U.S. is trying to avoid. In this type of scenario, the battle group commander might choose to use SOF in an ambush mission where the target could be positively identified prior to the commencement of firing.

#### **4. The Combat Swimmer Attack**

The combat swimmer attack is a waterborne infiltration into the target area by swimmers using closed circuit SCUBA. Combat swimmers can conduct raids on harbor or port facilities, implant mines or specialized ordnance on ships or submarines, and can gain access and control designated vessels or facilities. It is a primary mission capability of the maritime component of SOF, which is Naval Special Warfare.

During *Operation Just Cause*, in the Republic of Panama, U.S. Navy SEALs conducted a combat swimmer mission against the PDF Patrol Boat *Presidente Porras* in Balboa Harbor on the night of December 19, 1989. Inserted via small rubber raiding craft, the divers swam to the target using

compass bearings, and attached explosives to the propeller shafts of the target. During extraction, the swim pairs had to avoid a barrage of underwater detonations caused by hand grenades which were tossed overboard by the Panamanian crew aboard the vessel. The operation was a complete success as the *Presidente Porras* was sunk, and all divers were recovered safely.<sup>74</sup>

#### **5. The Stand-Off Weapons Attack and Target Designation**

The stand-off attack is any attack which utilizes a stand-off weapon. The mission could be conducted solely by the SOF unit or it could be a supporting action, such as a forward controller directing fire or providing precision guidance for air, ground or maritime weapons systems. The advantages of the stand-off weapons attack are many. It allows the attacker to strike the target at the maximum effective range of the weapon. This greatly reduces the level of risk to the SOF unit conducting the mission, which increases the overall probability of mission success and unit survivability.

SOF can also conduct target designation missions in support of CVBG strike operations by providing terminal guidance for precision guided munitions or by emplacing final navigation aids, such as beacons, for the strike forces. This type of mission is very time critical and is designed to achieve specific results. It is generally the preferred tactic for delivering highly accurate, heavy

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<sup>74</sup>Operation Just Cause After Action Report, Commander, Naval Special Warfare Group TWO, 3000 Ser N3/S007 20 Feb 90, CAPT J.F. Sandoz, Commanding.

ordnance on target. This capability benefits the battle group commander by reducing the risk of collateral damage.

## 6. Sabotage

When it comes to sabotage, destruction of the enemy arms and supplies by soldiers in uniform is a practiced tactic which is "as old as warfare itself."<sup>75</sup> JCS Pub. 1-02 defines sabotage as an act which is intended to injure, interfere with, or obstruct the national defense of a country by wilfully injuring or destroying any national defense or war material, premises or utilities to include human and natural resources.<sup>76</sup>

The difference between sabotage and a raid mission is that the actual sabotage act is not immediately known or recognized. It takes place over time. The destructive results of the act require time to develop and manifest themselves. During the time it takes for the act to manifest, the perpetrator can be recovered and moved to a secure location. Also, an act of sabotage is not easily attributable. It can be done in such a manner that it is extremely difficult to determine who or what nation did the act or sponsored it.

An interesting historical example took place in the Philippine Islands during the early days of the U.S. involvement in World War II. Unfortunately, the U.S. was the victim of this successful sabotage operation.

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<sup>75</sup>Irwin, William H. and Johnson, Thomas M., *Spies and Saboteurs*, New York, W.W. Norton & Company, Inc., 1943, p. 152.

<sup>76</sup>JCS Pub. 1-02, Department of Defense Dictionary of Military and Associated Terms, 23 March 1994.

Two days after the bombing of Pearl Harbor, the Japanese invaded the Philippine Islands. On December 10, 1941, the Japanese sent a bomber force which struck all of the key U.S. bases on the main island of Luzon in the Philippines, including Cavite Navy Yard, the Army Air Corps Base at Nichols Field, Nielson Field, Vigan, Rosales, La Union, and San Fernando. For all practical purposes, U.S. air power in the Philippines no longer existed. One unit that did not suffer severely during the attack were the boats of Motor Torpedo Boat Squadron Three, under the command of Lieutenant John Duncan Bulkeley, USN. Bulkeley's PT boats had gotten underway as the attacks began and had thus avoided the carnage caused by the Japanese bombers. From that day until the final fall of the Philippine Islands, the PT boats would be some of the very few offensive punches in U.S. possession. While Bulkeley's PT boats may have avoided damage, the large supply of fuel, stored at Cavite Navy Yard, did not. All of it was destroyed.

All that is, except for a small cache, which Bulkeley had the foresight to hide away at Sisiman Bay. Sisiman Bay was a small, secluded cove at the tip of the Bataan Peninsula, away from any U.S. bases. The following morning, the men of MTB Squadron 3 recovered this meager supply of fuel, only to discover that their precious supply of gasoline had been sabotaged. The barrels of fuel contained water, rust, and a kind of waxy substance, which was later discovered to be paraffin. The sabotaged gasoline caused numerous problems for the men of MTB-3 because when the gasoline sprayed out of the carburetor jets, the wax built up until it eventually clogged them. This greatly hindered

the ability of MTB-3 to accomplish its wartime mission. Many times, in the midst of a mission, the boats would have to be stopped and the carburetor jets cleaned. "The men of Squadron 3 would be fighting constant battles against the wax, for there was no other gasoline available."<sup>77</sup>

While this case is not one of sabotage conducted by U.S. SOF, it is interesting and worthwhile to examine because it shows what sabotage can do to an enemy. While the sabotage did not eliminate the U.S. PT boat threat in the Philippines to the Japanese, it greatly decreased MTB-3's operational effectiveness. In a time when it is considered politically wrong to have excessive collateral damage, destroying an enemy's capability may be considered too risky. In this type of scenario, the battle group commander may want to employ SOF in a sabotage mission to greatly degrade the enemy capability without running the risk of loss of life or the excessive damage that a DA mission would involve.

## **7. Personnel Abductions**

During the first hours of *Operation Urgent Fury*, the assault on Grenada, one of the highest priorities for the U.S. was to evacuate the Governor General of Grenada, Sir Paul Scoon. The reason this mission held such high priority was because both the DOS and the JCS planners considered the safety of the Governor General significant to the political legitimacy of *Operation Urgent*

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<sup>77</sup>Breuer, William B., *Sea Wolf: A Biography of John D. Bulkeley, USN*, Novato, CA, Presidio Press, 1989, p. 34.



*Fury*. At that time, Grenada was a member of the British Commonwealth, and thus subject to the Westminster Government. As a representative of the Crown, Sir Paul Scoon's attitude toward intervention was seen as the one link with constitutional authority and, therefore, the legality of such intervention. The Reagan Administration wanted Sir Paul Scoon in a position to reestablish a government. It also needed his blessing for the invasion.<sup>78</sup>

SOF were chosen for this delicate and politically important mission. A SEAL operational unit was tasked to rescue the Governor General and his staff from house arrest at the Governor General's House.

The SEALs conducted a fastrope insertion via helo and entered Government House successfully. They found Scoon, his wife, and nine staff members safe and hiding in the basement. The small contingent of SEALs were able to hold Government House and protect Scoon, but they were not strong enough to fight their way out of the house back to U.S. lines. The SEALs had to wait until the following morning when a Marine company made its way to the mansion with enough manpower to allow the SEALs to depart with Scoon and his party.<sup>79</sup>

Politically, the SEAL effort was a success. Scoon agreed to sign a back dated letter requesting help from the U.S. In the current world political

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<sup>78</sup>Naval Special Warfare Lessons Learned Case Study: Operation Urgent Fury (Grenada), Secret, Department of the Navy, Naval Special Warfare Center, Strategy and Tactics Group, San Diego, California, p. 5-1.

<sup>79</sup>Kelly, Orr, *Brave Men, Dark Waters: The Untold Story of the Navy SEALs*, Novato, CA, Presidio Press, 1992, pp. 205-208.

situation, with governments in many third world countries becoming more and more unstable, these types of "body snatches" may be required again in the future. These types of skills are yet another unique capability which SOF can bring to the littoral environment.

## **8. Sniper Operations**

When sending forces ashore to conduct reconnaissance or selective engagements of targets, one of the best tools the battle group commander has at his disposal is the SOF sniper. This is true for three reasons. First, the SOF sniper is trained extensively in advanced marksmanship techniques. His reliability is, therefore, much higher than that of a standard infantry marksman. Second, the SOF sniper is trained in advanced observation skills which can be exploited by the battle group commander to obtain intelligence. These skills include the use of optics, photography, and sketching techniques. Third, the SOF sniper's stealth and concealment capabilities enable the battle group commander to employ a sniper element in an area while ensuring a minimal chance of compromise.

## **B. SPECIAL RECONNAISSANCE: SOF AS A SENSOR SYSTEM**

Special Reconnaissance (SR) missions are accomplished by SOF units to complement intelligence collection assets and systems by obtaining specific information of strategic or operational significance.<sup>80</sup> SR is a human

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<sup>80</sup>Naval Special Warfare Tactical Memorandum XL 0080-7-89, NSW Special Reconnaissance Operations and Reporting, 01 December 1989, p. 1-3.

intelligence function that places U.S. controlled "eyes on target" in a hostile, denied, or politically sensitive environment. When the battle group commander employs SOF in an SR mission, the SOF are being used as a sensor system. By using SOF as a sensor system, the battle group commander can compensate for the inability of other collection methods to obtain intelligence due to vulnerabilities to weather, terrain-masking and hostile countermeasures.

Basically, SR missions are of two types: intelligence collection and tactical SR. Intelligence collection refers to information that is vital to the battle group, but is not time-critical in a tactical sense. Examples of the intelligence collection SR mission would be collecting and reporting of critical information about the movement of enemy forces or the location and surveillance of critical or sensitive facilities in hostile or denied territory. The tactical SR mission, however, involves the collection of information that is time critical in nature. In many instances, the information is needed to support a tactical mission which is to be conducted by the battle group. Examples of tactical SR missions include pre-strike intel, tipper operations,<sup>81</sup> or post-strike battle damage assessment (BDA).

#### **1. Harbor Penetration**

Sometimes, as was the case when the U.S. first went into Somalia in 1992, the battle group commander must ensure the security of the enemy port.

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<sup>81</sup>The term "tipper operation" refers to an SR mission which is defensive in nature. Tipper ops alert battle group defenses to the time and nature of the possibility of an impending air, surface, or sub-surface attack.

In the case of *Operation Restore Hope* in Somalia in 1992, the Amphibious Task Force was tasked with securing the Mogadishu port to facilitate the off-loading of Maritime Pre-positioned Force (MPF) ships. SOF elements from Naval Special Warfare Task Unit Alpha were used to penetrate the harbor, conduct a thorough reconnaissance of the port area, find a suitable landing site for the Marine boat company which was scheduled to land later in the operation, determine what type of threats might await or hinder the Marines' landing, and, finally, determine whether the port would support a maritime pre-positioned ship off-load.

Once again, SEALs were used for this maritime mission. They were inserted by rigid hulled inflatable boats (RHIBs) just outside the harbor and conducted an underwater swim using closed-circuit SCUBA. Once they had penetrated the harbor, the SEALs surfaced under the piers and next to quay walls and made detailed observations as to the condition of the pier (*i.e.*, whether it had chocks and bollards, the depth of the water, etc.). Once these observations were examined, it was determined that, to ensure the safe docking of the MPF ships, the whole port would have to undergo a hydrographic survey. The final hydrographic survey chart produced by the SEALs made the entire MPF off-load possible.<sup>82</sup>

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<sup>82</sup>Interview, LCDR Rick Jones, NSWTU-Alfa Commander by Dr. John W. Partin, USSOCOM Command Historian, 15 June 1993 at the Naval Amphibious Base, Coronado, California.

## 2. Coastal or Riverine Boat Patrol

The riverine area is an inland or coastal area comprising both land and water. The area is characterized by limited land lines of communication with extensive water surface and/or inland waterways that provide natural routes for surface transportation and communications. In many of the world's less developed coastal regions, navigable waterways exist and roads do not, and our potential enemies will be forced to use waterways. As a result, the assets provided by the Naval Special Warfare Command may be of great importance to the battle force commander to control the waterways and/or interdict hostile movement. These NSW assets include the Coastal Patrol craft and assets of the Special Boat Units (SBU).<sup>83</sup> Use of these SOF assets in the littoral environment by the battle group commander can prevent many of the mistakes made at the beginning of the Vietnam War which were discussed in Chapter II.

A recent example of the use of NSW combatant craft in a coastal environment took place during *Operation Earnest Will* in the Persian Gulf. NSW patrol craft were a critical ingredient in implementing the Navy's patrol and surveillance strategy, the objective of which was to keep the sea lanes in the northern Persian Gulf free from Iranian mining and small boat attacks. NSW patrol craft had the endurance for prolonged missions to monitor, track,

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<sup>83</sup>For a complete list of NSW combat craft and their capabilities, see NSW/USMC Riverine Operations Handbook, XL-0080-1-93, 01 JAN 1993, Naval Special Warfare Center, San Diego, CA, Appendix C.

and counter clandestine Iranian activities. The shallow drafts of these vessels meant they could patrol areas that had not been swept for mines.<sup>84</sup>

During *Operation Desert Storm*, NSW units patrolled the coastal areas along the Kuwaiti, Saudi, and Iraqi borders. These units provided valuable intelligence on enemy coastal defense while increasing Iraqi concern about amphibious landings.

### **3. Underwater Reconnaissance**

Originally, underwater reconnaissance was a mission conducted by Underwater Demolition Teams, who standardized the amphibious reconnaissance and obstacle clearance missions and participated in every amphibious invasion in the Pacific Island campaign during World War II.

Today, Naval Special Warfare Forces, the maritime SOF unit of the Special Operations Command, receive extensive training in the tactics and techniques of hydrographic reconnaissance and the demolition of beach obstacles. The skills which these SOF units use to locate, reconnoiter, and prepare landing sites on designated beaches prior to a landing are of paramount importance to the battle force commander when naval forces are required to conduct any type of amphibious landing. When conducting underwater reconnaissance missions, NSW personnel take soundings and record all underwater data for their assigned area.

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<sup>84</sup>For a complete description of mission specifics, see Special Operations Forces in Operation Earnest Will/Prime Chance I: 1987-1989 (S/NF/WNINTEL), U.S. Special Operations Command, Command Historian, Building 501, MacDill AFB, FL 33608, November 1993, pp. 39-54.

The main history of UDT operations in World War II emanated from the Pacific Theater. Their highly developed methods of operation made the UDT an effective and necessary force. UDT teams took part in combat operations at Borneo, Peleliu, Tinian, Lingayen, Leyte Gulf, Iwo Jima, and Okinawa.<sup>85</sup> During the Korean conflict of 1950, UDT members took part in the amphibious operation at Inchon, performing a variety of tasks -- charting the harbor, placing buoys, and demolishing old hulks that could not be towed away. Their work assured an unimpeded flow of vital supplies to American and South Korean forces fighting ashore.

#### **4. Inland Reconnaissance**

Inland reconnaissance operations have been used throughout the history of littoral warfare to provide the battle group commander essential elements of information. During *Operation Desert Storm*, both Army and Navy SOF conducted numerous SR missions inland, some of which penetrated into Iraq.

The Gulf War was fought on a desert plain. Unfavorable conditions, such as lack of cover and concealment, did not allow the full exploitation of SOF's flexible capabilities. Despite this fact, SOF made unique contributions to the war effort in the area of reconnaissance. SOF units were used to obtain or verify information concerning the capabilities, intentions, and activities of the Iraqis. SOF units also provided target acquisition, area assessment and post-

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<sup>85</sup>For detailed stories of these exploits, see Fane, Francis Douglas, Commander, USNR, *The Naked Warriors*, New York, Appleton-Century-Crofts, Inc., 1956.

strike reconnaissance or BDA. During *Operation Desert Shield*, SOF conducted inland reconnaissance missions which provided border surveillance and provided the United States Central Command (USCENTCOM) with much needed intelligence.

Despite a plethora of sensor systems available to the battle group commander, sometimes the best type of intel is that which comes from having someone with eyes looking at the target. For the SOF unit, reconnaissance is its bread and butter mission. When information provided by the technical sensor systems is not enough, SOF can be used to provide some of what is missing.

### **C. OTHER UNIQUE CAPABILITIES SOF BRINGS TO THE BATTLE GROUP COMMANDER**

While missions in which SOF can enhance the effectiveness of a battle group's sensor systems and weapons systems is the primary focus of this chapter, there are also other unique capabilities which SOF brings to the battle group commander which can enable him to better handle many of the challenges, short of war, with which he is faced. A brief description of these other capabilities are examined below.

#### **1. Non-Combatant Evacuation Operation**

The purpose of the Non-Combatant Evacuation Operation (NEO) is to safely and quickly remove civilian non-combatants from an area outside the United States where they are, or may be, threatened. Generally, NEOs are



conducted for U.S. citizens. The State Department has the lead in conducting NEOs.<sup>86</sup> In an era of unstable third world governments, crises which require NEOs will undoubtedly face the battle group commander often in the future.

In January 1991, in the midst of *Operation Desert Shield*, the United States Ambassador to Somalia requested military assistance to evacuate the American Embassy. Americans and other foreign nationals had sought shelter in the Embassy compound that day as the reign of Somali dictator Said Barre disintegrated into a confused battle for control of Mogadishu.

Despite the priorities of the Gulf War, two Navy amphibious ships were detached from the North Arabian Sea and began steaming at flank speed toward Somalia. While the original plan had been to evacuate the endangered Americans through Mogadishu's international airport utilizing Air Force aircraft operating out of Kenya, the situation in Mogadishu worsened to the point that it was deemed that the Air Force would be unable to land safely at the airport. As a result of the deteriorating situation, the NEO mission fell to the Navy.

The rescue, designated *Eastern Exit*, was conducted over about a twenty-four hour period. Using CH-53 helos and AC-130 gunships to provide overhead fire support, 281 people were successfully evacuated from a bloody civil war. SOF also played a significant role in this operation, as part of the 80-man force which landed at the embassy included a contingent of Navy SEALs. The SOF forces were deemed necessary by the Commander of the Amphibious Task

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<sup>86</sup>Joint Pub. 3-0, Doctrine for Joint Operations, 01 February 1995, p. V-9.

Force (CATF) because he felt that the urban close-quarter battle (CQB) training of the SEALs would be useful . . . just in case. The SEALs were used in this mission to provide security in the Chancery building and protect the Ambassador.<sup>87</sup>

In the end, the operation was a huge success despite being overshadowed by the eve of war in the Persian Gulf. *Eastern Exit* received far less attention than it would have in calmer times. Nevertheless, the CATF's decision to use SOF in this operation displays the value these flexible forces can contribute to contemporary littoral operations.

## 2. Foreign Internal Defense (FID)

Foreign Internal Defense is defined as the participation by civilian and military agencies of a government in any of the action programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency.<sup>88</sup> FID missions are primarily carried out on the basis of indirect support to the host nation. Types of indirect support include training or material assistance to support local forces in executing the mission rather than U.S. forces conducting the mission themselves for the host nation. The key to FID is that it is always directed toward supporting a host nation and their capabilities to overcome an internal threat.

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<sup>87</sup>Siegel, Adam B., *Eastern Exit: The Non-Combatant Evacuation Operation (NEO) from Mogadishu, Somalia, in January 1991*, Center for Naval Analyses, 4401 Ford Avenue, Alexandria, VA 22302, pp. 17-31.

<sup>88</sup>Joint Pub. 3-0, *Doctrine for Joint Operations*, 01 February 1995, p. V-8; see also, NSW/USMC Riverine Foreign Internal Defense Handbook, XR-0080-2-93, 01 April 1993, Department of the Navy, Naval Special Warfare Center, San Diego, CA, p. x-1.

SOF forces routinely deploy around the globe to conduct FID mission. In fact, the most widespread use of SOF in the littorals is in conducting FID missions. FID missions are critically important in supporting the National Military Strategy of maintaining forward presence. SOF forces receive extensive training in the area of FID prior to their deployment. When conducting FID, SOF is a visible, credible, proactive, professional force conducting the vital person-to-person contact which is still the "best means of influencing events" in any particular area of national interest.<sup>89</sup>

### **3. VBSS**

One of the maritime missions which is prevalent in littoral regions is that of controlling sea lines of communication (SLOCs). Part of the Navy's task in controlling these SLOCs is to ensure that supplies are not reaching the enemy via the sea. This is much easier said than done. In the regions of the globe where the U.S. Navy is most likely to find itself engaged in SLOC control operations, there are most likely to be many small, poor countries who are not our enemies who depend upon the same coastal waterways the Navy is trying to keep an enemy from using. As a result, the amount of vessel traffic in these types of situations is huge. The Navy's goal is to keep certain types of cargo from entering certain ports. Yet, U.S. policy prohibits shutting off the flow of traffic to other ports within the same area. The whole time the area will probably be congested with legitimate merchant vessels, tankers, and fishing

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<sup>89</sup>Department of Defense, Washington, D.C., "National Military Strategy," 1995, p. 8.

boats. The only way to ensure that a suspected vessel is or is not carrying contraband is to board it.

Take, for example, the situation in the Persian Gulf during *Operation Desert Shield*. In this situation, the Navy's task was to enforce the United Nations Security Council (UNSC) economic sanctions against Iraq. UNSC Resolution 661, dated August 6, 1990, called on all states to prevent the export of all products to and from Iraq and Kuwait, except for medical supplies and certain humanitarian shipments of foodstuffs. This was followed on August 25, by Resolution 665, which authorized the use of force to regulate sanctions.

When suspect merchant vessels were intercepted, they were queried to identify the vessel and its shipping information. Suspect vessels were boarded for visual inspection, and if prohibited cargo was found, the merchant ship was diverted. These types of boardings were usually conducted in a low-threat, permissive environment. During *Operations Desert Shield and Desert Storm*, over 30-thousand transits took place in the Red Sea and Persian Gulf. Of the 964 boardings which took place, only eleven of them required the ship to be "taken down" using a combination of SOF and Marines.<sup>90</sup> In every instance, the hostile individuals were subdued without any use of deadly force, which illustrates that highly trained members of the SOF community have a full understanding of the delicacy of such situations.

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<sup>90</sup>NSW Lessons Learned Case Study: *Operation Desert Shield/Storm*, TACMEMO XL1080-10.00-93, pp. 7-27.

Yet, boardings are not always going to be conducted in a low-threat, permissive, daylight environment, as the above example illustrates. For the non-permissive, high threat, nighttime scenario, SOF can be employed to gain the element of surprise, using aggressive action to maximize tactical advantage to shock, confuse, and break the target crew's ability or desire to resist boarding.

#### **4. Strike Rescue**

Strike rescue operations occur in or near enemy/hostile territory during or following air strike operations. In this type of case, the downed air crew is assumed to require immediate rescue. If immediate rescue is not possible, the SOF unit can be inserted to provide assistance to the air crew in moving to an area where the air crew can be hidden, protected, and later extracted.

One of the most famous strike rescue missions conducted by SOF occurred during the Vietnam War. This was the extraction of 53-year old Lieutenant Colonel Ieal Hambleton, an Electronic Warfare Officer (EWO) who ejected safely from a U.S. Air Force EB-66 which was shot down over enemy territory along the Song Mieu Giang River. Hambleton's rescue was a top priority for the United States because he had spent time working in the Air Force Strategic Air Command and had extensive knowledge of the U.S. ballistic missile system. The United States wanted desperately to avoid having Hambleton captured and risk the possibility of the North Vietnamese and their Soviet allies obtaining information from Hambleton through interrogation and

torture. Despite a massive rescue attempt, conventional military methods could not rescue the downed EWO. After a week of futility in which four U.S. aircraft were shot down and another was forced to make an emergency landing on a beach south of Quang Tri, the rescue was placed in the hands of a small, two-man team from Strategic Technical Directorate Assistance Team (STDAT). This team of unconventional warriors was led by Lieutenant Thomas Norris, a young SEAL officer assigned to STDAT. Norris and his companion, dressed as Vietnamese peasants, infiltrated into enemy territory via sampan. They successfully contacted Hambleton and extracted him, hidden beneath banana leaves, via the sampan.<sup>91</sup>

This rescue mission was "the most intensive (rescue mission) of the Vietnam War"<sup>92</sup> and its study is useful in displaying the historical mentality of U.S. military planners who forgot small SOF units or call upon them only as a last resort, when the large military machine can no longer do the job. In the current political climate, where one lost American can create a great political backlash, the use of SOF for such missions may be the first option for a battle group commander instead of the last.

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<sup>91</sup>This mission is summarized in *SEALs: UDT/SEAL Operations in Vietnam* by T.L. Bosiljevac, Boulder, CO, Paladin Press, 1990. A complete and detailed account of LtCol Hambleton's exploits can be found in the book *Bat 21* by William C. Anderson, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1980.

<sup>92</sup>Bosiljevac, T.L., *SEALs: UDT/SEAL Operations in Vietnam*, Boulder, CO, Paladin Press, 1990, p. 212.

## 5. Oil Platform Assault

Recent operations in the Persian Gulf have presented a new problem to the U.S. forces operating in littoral waters. This "problem" is the use of offshore oil platforms by enemy forces as forward operating bases. Operations *Earnest Will* in the late 1980s and *Desert Storm* in 1991 saw enemy forces using this tactic.

The most recent example of SOF forces being used to assault an enemy oil platform occurred during the 1991 Persian Gulf War against Iraq. On the 18th of January, several strike aircraft reported taking fire from Iraqi forces on oil platforms in the Durrah offshore field, which is located 40 miles off the Kuwaiti coast. Of the oil platforms which were along the designated air routes used by Allied aircraft to strike targets in Iraq, nine of them were believed to be occupied by Iraqi troops. The Iraqi forces were using these oil platforms to report Coalition ship and aircraft movements. Three ships, the *USS Leftwich*, the *USS Curts*, the *USS Nicholas*, a contingent of U.S. helos and a Kuwaiti fast-attack craft were ordered to engage the occupied oil platforms. Following the engagement, Navy SEALs were assigned the mission of sweeping and securing the platforms. This was to be the first surface engagement of the war.<sup>93</sup>

The conventional forces shelled the nine platforms and the SEALs assaulted all nine of them over a period of 42 hours. Each platform was rendered secure, and the SEALs captured 23 prisoners while suffering zero

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<sup>93</sup>NSW *Lessons Learned Case Study: Operation Desert Shield/Storm*, Tacmemo XL-1080-10.00-93, pp. 9-13 to 9-29.

casualties. The operation resulted in the successful removal of a Surface-to-Air (SAM) missile threat to coalition air forces, destroyed Iraqi surveillance posts, and captured the first enemy prisoners of war in *Operation Desert Storm*.<sup>94</sup>

## 6. Mini-Submarines

Of all the equipment available to USSOCOM forces, only Naval Special Warfare has a modern version of the mini-submarine. It is called the SEAL Delivery Vehicle or SDV. SDVs are battery-powered, free-flooding mini-submersibles crewed by SCUBA-equipped SEALs. SDVs can deliver a payload of SEALs and demolitions, or conduct reconnaissance. SDVs are launched from a submarine fitted with a Dry Deck Shelter (DDS)<sup>95</sup> and are the most clandestine method in existence for infiltrating an enemy harbor or coastline. The SDV can clandestinely transport SEALs, cargo, or demolitions to hostile shores to accomplish missions including sabotage, demolition, ship attacks and raids, hydrographic reconnaissance, and intelligence collection. The primary advantage of the SDV is its capability to accurately and clandestinely deliver personnel and equipment farther and faster, with less exertion on the part of those transported than would be possible by swimming. The SDV can operate

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<sup>94</sup>NSW *Lessons Learned Case Study: Operation Desert Shield/Storm*, TACMEMO XL-1080-10.00-93, pp. 9-13 to 9-29.

<sup>95</sup>A DDS is a deep submergence system which is attached to specially modified submarines for submerged launch and recovery of SDVs, SEALs, combat rudder raining craft (CRRC) or other equipment. DDS platoons deploy aboard DDS-equipped SSNs to operate and maintain the DDS.



from forward operating bases, some surface ships, and DDS equipped submarines.<sup>96</sup>

While most information regarding contemporary SDV operations remains classified, a brief examination of *Operation Thunderhead*, which took place during the Vietnam War, reveals the first use of the SDVs by U.S. forces in combat. The operation itself was a bold but badly bungled effort to assist the escape of a small number of American servicemen from a North Vietnamese prison camp near Hanoi. It is worth examination because the challenge of trying to clandestinely infiltrate SOF into North Vietnam is an example of the capabilities and use of this mini-submarine as an insertion device.

*Operation Thunderhead* was set in motion when the American prisoners managed to send out word that they planned to break out of the POW camp, steal a small boat, rig a red or yellow cloth to fly from the mast as a signal, and make their way down toward the Gulf of Tonkin, just slightly below the port of Haiphong. The area where the prisoners were evading to was surrounded by tiny islands a short distance off shore and a coastline that curved inward. This meant that a helicopter searching for the escapees could come under North Vietnamese cross fire from both the islands and the mainland each time it ran through the area searching for the red or yellow identification signal on the mast of the prisoners' boat.

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<sup>96</sup>NWP 3-05 Naval Special Warfare, p. 3-5.

As a result of this situation, the decision was made to insert two SOF personnel, in this case SEALs, via SDV to hide on one of the little islands to watch all boat traffic, looking for the boat with the red or yellow signal banner flying from its mast. This tactic would allow all boats in the area to be seen without placing a search helicopter and its crew in danger.

The operation failed due to the fact that the SDV in use was a prototype and the currents were much stronger than expected, causing the SDV to work harder and the batteries to run low on power more quickly. In the end, the SDV had to surface when the batteries ran out of power. The crew surfaced with the SDV and was picked up at sea by a helicopter. The floating SDV was destroyed by machine-gun fire from the helicopter and sank to the bottom. At this same time, the prisoners had called off their escape attempt, but had no way to pass the word of their change in plans.<sup>97</sup>

While the mission was not a success, the case is worth examining because it displays a situation in which stealth during insertion is of utmost importance. Due to the specific air and surface threats to U.S. forces along the North Vietnamese coast, the use of the clandestine insertion capability of the SDV were capitalized upon. As the battle group turns its focus toward the littoral regions of the globe, it may not always be, as was the case during *Operation Thunderbolt*, that air or surface platforms can be used. The SDV, which has undergone tremendous technological improvements since the

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<sup>97</sup>Kelly, Orr, *Brave Men, Dark Waters: The Untold Story of the Navy SEALs*, Novato, CA, Presidio Press, 1991, pp. 151-157.

Vietnam war era, may be a viable insertion option for the battle group commander.

#### **D. SUMMARY**

This chapter has explored the historical examples in which SOF, acting as a sensor system or a weapons system, added to the battle group's operational capabilities when the battle group began to operate in the littoral region. In the modern maritime operational environment, SOF can contribute a plethora of unique capabilities which can be used by the battle group commander in certain situations. Recalling that Chapter II argued that the battle group's sensor systems and weapons systems were sub-optimized in a littoral environment, the capabilities of maritime SOF, as outlined above, can enable the battle group commander to fill in some of the gaps which emerge within the battle group commander's areas of interest and influence as the battle group moves into the littorals.

#### IV. "... FROM THE SEA": THE ROLE OF SPECIAL OPERATIONS FORCES

The Navy has embarked in a new direction, articulated in the two White Papers: "... From the Sea" and "Forward ... From the Sea." These documents reflect the maritime shift in strategy away from a global war against a Soviet adversary to regional challenges and opportunities. For the Navy, the fundamental aspect of this shift is a change in focus from a war at sea in a blue-water environment to a direction that provides the nation:

Naval Expeditionary Forces --  
Shaped for Joint Operations --  
Operating Forward, From the Sea --  
Tailored for National Needs.<sup>98</sup>

The historical examples presented in Chapter III support the argument that SOF have a place in the new direction in which the Navy has embarked. This is because SOF are expeditionary by nature and are inherently joint. Some units, such as those within Naval Special Warfare, routinely operate forward, from the sea. SOF can be tailored to meet a wide variety of needs.

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<sup>98</sup>Department of the Navy, Office of the Chief of Naval Operations, Washington, D.C., "... *From the Sea*," September 1992, p.3.

## A. DEFINING THE ROLE OF SOF IN LITTORAL WARFARE

In recent years, the potential for a large-scale, multi-axis, multi-threat attack against the U.S. or friendly naval forces at sea has greatly diminished. As the battle group moves into the littoral regions, in keeping with the ". . . From the Sea" concept, the emphasis shifts away from the defensive mode of the Cold War and toward an offensive focus based upon emphasizing the maritime force's ability to affect what is happening ashore.

For the battle group to be effective, whether in blue-water or in the littorals, it must be capable of dominating the battlespace and projecting power. From a warfighting commander's point of view, the battlespace can be regarded as consisting of two regions: his area of influence and his area of interest. A commander's area of influence is that portion of the battlespace that is within the range and capabilities of his sensor and weapons systems. His area of interest is that portion of the battlespace he would like to have in his area of influence.<sup>99</sup>

In a war at sea scenario, the blue-water environment provides each area warfare commander with a near-homogeneous media and virtually unlimited space in which to operate. The primary factor separating area of influence from area of interest is range. Visually, this would appear as a somewhat irregularly shaped onion, representing the effective ranges of the various sensor and weapons systems surrounding the battle group. With the kill-or-be-killed

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<sup>99</sup>The concepts "area of influence" and "area of interest" were outlined to the author in a telephone interview with LCDR Rick Jones, CO, NRC-Duluth, Minnesota, July 1995.

rules of engagement assumed by some war at sea scenarios, the emphasis would be on extending effective ranges to locate and destroy an adversary before he attempts to gain a tactical advantage.

Given the various levels of conflict that may arise in a littoral environment, an expeditionary force's areas of influence and interest cannot be defined abstractly in advance, as is generally the case in blue-water warfare. Distance is no longer the primary factor affecting the capabilities of sensor and weapon system. As outlined in Chapter II, the unique challenges presented by the environment, the terrain, even the rules of engagement, play a much larger role in determining a Commander's overall capabilities. Systems that were designed for war at sea may not provide all required capabilities when operating in the littoral environment. For example:

- Current ASW systems cannot easily locate and track diesel submarines operating in shallow water.
- The phased-array radars of an Aegis Cruiser cannot detect a mobile surface-to-air missile as it moves toward the coast.
- An Arleigh Burke class DDG may not be able to use its vast array of weapons to stop and search a merchant vessel suspected of carrying contraband if the rules of engagement do not authorize the use of deadly force.

In these examples, the Commander's area of interest may be within range, but not necessarily the capabilities, of his sensor and weapon systems. Visually, the picture becomes less like that of an onion and more like that of a piece of Swiss cheese -- large, solid areas of coverage with gaps where current

systems are not effective. In these types of situations, Special Operations Forces can provide sensor and weapon system capabilities that extend a commander's area of influence into his area of interest.

## **B. DEFINING THE FUNCTIONS OF SOF IN LITTORAL WARFARE**

In performing the Special Reconnaissance and Direct Action missions, SOF can provide critical support to the capabilities the Navy has identified as necessary to conduct expeditionary warfare in the littoral environment.

Special Reconnaissance missions complement national and theater intelligence collection assets and systems by obtaining specific, well-defined, time-sensitive information of operational significance. When conducting Special Reconnaissance (SR) missions, SOF can provide a Commander with real-time, continuous coverage of an item of interest. The Commander can query the SOF and, if necessary, modify the focus of the mission while it is in progress. While conducting SR missions, SOF are functioning as a sensor system.

Direct Action (DA) missions are conducted to destroy, damage, deny, or neutralize an enemy capability. When conducting DA missions, the target at the objective can be time-, event-, or command-activated, and they provide a commander with the capability of applying measured and focused force against an adversary. The force is measured, in that the level of force can vary in accordance with the circumstances; and focused, in that the application of force

can be near surgical, with minimum collateral damage. While conducting DA missions, SOF are functioning as a weapon system.

In performing the functions of DA and SR, SOF can provide critical support to the four requirements which the Navy has identified as necessary to conduct expeditionary warfare in the littoral region. These are Command, Control, and Surveillance; Battlespace Dominance; Power Projection; and Force Sustainment.<sup>100</sup>

### **1. Command, Control, and Surveillance**

A key objective of this prerequisite is developing the tactical picture, and the Navy is placing key emphasis on collecting intelligence through covert surveillance early in a crisis. During the command, control, and surveillance aspect of an operation, SOF will focus primarily on SR, with an emphasis on complementing the Navy's space and electronic warfare capabilities to assist the operational commander in developing the tactical picture.

### **2. Battlespace Dominance**

The objective of this requirement is preparing the battlespace for the projection of power ashore. It entails maintaining access from the sea, as well as denying an adversary access to the region. This is the heart of naval warfare and the key to a successful expeditionary operation in the littoral region. During the battlespace dominance, SOF could support surface, sub-surface, and

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<sup>100</sup>Department of the Navy, Washington, D.C., "... From the Sea," pp. 8-10.



air warfare commanders in achieving operational objectives with a mix of SR and DA missions.

### **3. Power Projection**

The objective of this requirement is to amass overwhelming force in the pursuit of tactical objectives. This may include amphibious assaults or strike operations. During power projection, SOF could support tactical objectives primarily with DA missions.

### **4. Force Sustainment**

Although SOF does not serve an immediately obvious function during force sustainment, it can support sustainability by clandestinely delivering supplies ashore when circumstances warrant. For example, in late 1984, shelling of the anchorage in Beirut had made it too dangerous to conduct resupply of forces ashore using standard ship-to-shore methods. Naval Special Warfare forces assigned to the Amphibious Ready Group clandestinely delivered bulk petroleum and other items to the beach over a period of several weeks.

## **C. THE COMPOSITE WARFARE COMMANDER DOCTRINE**

When the naval battle group deploys, it seeks to maintain maritime superiority, contribute to regional stability, conduct operations on and from the sea, seize and defend advanced naval bases, and conduct such land operations

as may be essential to the prosecution of naval campaigns.<sup>101</sup> To accomplish these missions, the Navy is task-organized under the Composite Warfare Commander (CWC) doctrine. In order to fully integrate SOF into the Expeditionary Battle Group forces, the Navy's current CWC doctrine needs to be addressed. The purpose of this section is to examine the strengths and weaknesses of the CWC concept in light of the Navy's littoral focus.

### 1. Background of CWC

During World War II, the tactical organization of the fleet was built around ship formations which were classed according to their tasks -- air strike, amphibious assault, shore bombardment, logistic support, etc. At the same time, the aircraft carrier emerged as the dominant surface vessel of the U.S. Navy. As a result, the tactical organization for the surface Navy was restructured so that it keyed on the needs of the carrier. During the 1950s and 1960s, the Navy began putting the lion's share of its money into building new super-carriers. By the late 1970s, all Navy tactical organization and training were oriented to support the aircraft carrier formation under the descriptive name "battle group."<sup>102</sup> By definition, a battle group contained an aircraft

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<sup>101</sup>Department of the Navy, Office of the Chief of Naval Operations, Washington, D.C., *Naval Doctrine Publication One*, 28 March 1994, p. 15.

<sup>102</sup>Powers, Robert Carney, Captain, USN, "Commanding the Offense," *U.S. Naval Institute Proceedings*, October 1985, p. 60.

carrier and normally had surface and sub-surface escorts to provide the anti-air, anti-surface, and anti-sub-surface mutual defense.<sup>103</sup>

In the 1970s and the early 1980s, four technological breakthroughs caused Naval planners to re-look at the tactical organization of the battle group. These breakthroughs were the satellite, the computer, the anti-ship cruise missile, and the nuclear powered attack submarine. The satellite and the computer enabled commanders to talk to each other globally and to rapidly transmit and display immense amounts of data via the computer data link. Suddenly, the battle group commander had more information than he could manage. At the same time, the cruise missile and the nuclear powered submarine increased the amount of attention the battle group commander had to pay to the defense of his force. With these technological advancements, an enemy could strike with supersonic missiles from quiet submarines, leaving the battle group only seconds to react and defend.<sup>104</sup>

By the early 1980s, tactical commanders were groping for ways to muster the resources to command a tactical group at sea. It had become obvious that maintaining the advantage at sea required a reappraisal of defensive tactics which would ensure the survivability of the battle group.<sup>105</sup> Fleet combat

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<sup>103</sup>Perras, Wayne I., "Requirements for a Composite Warfare Commander (CWC) Decision Support System," Naval Postgraduate School Thesis, December 1982, p. 8.

<sup>104</sup>Powers, Robert Carney, Captain, USN, "Commanding the Offense," *U.S. Naval Institute Proceedings*, October 1985, p. 61.

<sup>105</sup>Perras, p. 10.

doctrine had to be upgraded to meet the rapid growth in potential air, surface, and sub-surface threats to U.S. Naval operating forces.<sup>106</sup>

At this time, battle group commander staffs were minimally staffed and structured as administrative units. The first step taken was to insert destroyer squadron commanders and cruiser commanding officers into the battle group staff organization. What ultimately evolved was the Composite Warfare Commander (CWC) concept.

## 2. The CWC Doctrine

The CWC concept was initially developed by the Pacific Fleet in the mid-1970s and subsequently adopted throughout the Navy via the CNO's directive in NAVOP 049/81, which approved the CWC concept "in principle as Navy doctrine."<sup>107</sup> The CWC concept was introduced as a way to muster the resources to command a tactical group at sea and as an answer to the recognized need to decentralize responsibility and authority within the battle group.<sup>108</sup> The CWC concept was a reaction to then existing conditions in that it:

1. responded to the need for a defensive organization to combat new blue-water threats;

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<sup>106</sup>Peterson, C.B., Commander, USN, "What's Happening with CWC?" *U.S. Naval Institute Proceedings*, June 1981, p. 85.

<sup>107</sup>*Ibid.*, p. 85.

<sup>108</sup>Allen, Harry E., and Rannells, David A., "Examination of Battle-Group Commander Decision Processes and Support Information," U.S. Naval Postgraduate School Thesis, June 1982, p. 12.

2. focused on organizing around the Navy's most sophisticated and expensive platform, the attack aircraft carrier;
3. organized to assist the commander in managing the overabundance of information available;
4. organized to counter specific threats in order to obtain decreased reaction times; and
5. mustered more talent for the tactical commander's staff.<sup>109</sup>

Thus, the Composite Warfare Commander was established as a central command authority to more efficiently manage the expanding battle management problem for the complex war-at-sea scenario. Subordinate warfare commanders were assigned to the CWC for anti-air warfare, anti-surface warfare, and anti-submarine warfare. Today, the U.S. Navy's primary combat strike capability is organized around the carrier battle group, and each battle group is organized according to the CWC concept. The CWC concept embodies a basic organizational structure that accommodates flexible implementation and a body of recommended operational principles and associated procedures. The use of CWC procedures enables the OTC to wage both offensive and defensive operations aggressively against air, surface, and sub-surface threats, while carrying out the primary mission of his force.<sup>110</sup>

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<sup>109</sup>Powers, Robert Carney, Captain, USN, "Commanding the Offense," *U.S. Naval Institute Proceedings*, October 1985, p. 61.

<sup>110</sup>AFSC Pub. 2, "Service Warfighting Philosophy and Synchronization of Joint Forces," National Defense University, Norfolk, VA, August 1992, p. 1-1-3.

*a. Fundamental Provisions Associated With Implementation of CWC Procedures*

NWP 10-1 outlines that the OTC is normally the Composite Warfare Commander. Subordinate warfare commanders are designated and are responsible to the CWC for the conduct of anti-air warfare (AAW), anti-surface warfare (ASUW), antisubmarine warfare (ASW), strike warfare (STW), and space and electronic warfare (SEW). Supporting the CWC and his warfare commanders are coordinators who assist in managing specified sensors and force assets.<sup>111</sup>

The CWC has a wide range of options available to him for delegating command authority to his warfare commanders for the conduct of AAW, ASUW, ASW, STW, and SEW operations. These options can range from no delegation of authority to full delegation of authority. Which option the OTC chooses depends upon the threat and the tactical situation. The CWC of a multi-carrier battle force may use every element of the concept, including support CWCs, while the CWC of a small task group might use only a few of the elements. Regardless, of the amount of authority which the CWC delegates, however, he always retains the option of command override.

The OTC/CWC exercises overall responsibility for command and control of the entire force. The principal warfare commanders, Anti-Air Warfare Commander (AAWC), Anti-Submarine Warfare Commander (ASWC),

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<sup>111</sup>Naval Warfare Publication 10-1, Composite Warfare Manual, Department of the Navy, Washington, D.C., Chapter 1.1.

Anti-Surface Warfare Commander (ASUWC), Strike Warfare Commander (STWC), and Space and Electronic Warfare Commander (SEWC), are subordinate to the CWC, but are responsible for collecting, evaluating, and disseminating tactical information and are delegated the authority to respond to threats with assigned forces. Numerous individuals that support the CWC and the Warfare Commanders. They are: the submarine element coordinator (SEC), who is responsible for coordinating the actions of direct support submarines; the air element coordinator (AREC), who manages and coordinates the distribution of carrier aircraft and keeps the CWC and other warfare commanders and coordinators apprised of carrier air operations; the force over-the-horizon (OTH) tracking coordinator (FOTC), who aggregates and manages the OTH tracking problem for the force; and the battle group logistics coordinator (BGLC), who manages and coordinates required logistics functions. It is important to note that the supporting coordinators differ from the warfare commanders in that, when authorized by the CWC, the warfare commanders have tactical control of resources assigned and may autonomously initiate action. The supporting coordinators, however, execute policy, but do not initiate autonomous actions. The OTC/CWC maintains control of battle group operations by negation. He monitors all aspects of operations conducted and coordinated by his composite commanders and coordinators. If any of them try to initiate operations the OTC does not want conducted, he negates the order. Otherwise, he allows his subordinate composite warfare commanders to execute their portion of the battle. This gives the opportunity for initiative in

the fast-paced environment of modern naval warfare and frees the OTC to concentrate on the coordination of his forces in the context of the overall situation.

The OTC will normally be the Composite Warfare Commander; however, the tactical situation and other special conditions may require that the OTC delegate the CWC function. The OTC has overall responsibility for accomplishing mission objectives of the force. The offensive mission objectives, such as sea control, power projection, amphibious operations, and protection of the sea lines of communications (SLOCs) are of overriding importance and focus may not be delegated; however, responsibility for certain defensive aspects of operations may be delegated. The CWC concept allows an OTC to delegate tactical command to a CWC to wage combat operations to counter threats to the force and to maintain tactical sea control with assets assigned while the OTC retains close control of power projection and strategic sea control operations.

In sum, since the implementation of the CWC doctrine in 1981, the naval task organization, as such, ceased to exist, in that the tasks assigned are all warfare area-oriented, and not oriented to broad offensive or defensive tasks.<sup>112</sup>

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<sup>112</sup>Powers, Robert Carney, Captain, USN, "Commanding the Offense," *U.S. Naval Institute Proceedings*, October 1985, p. 61.



### **3. Positive Aspects of the CWC Doctrine**

There are many positive aspects of the CWC doctrine. First, the strike planning cell is an excellent organization for the planning of battle group strike operations. Strike planning involves all senior commanders, and the organization provides for a thorough look into all areas. Second, the CWC doctrine provides an excellent organizational structure for the tactical employment of ships and aircraft. The doctrine promotes effective use of the carrier's air wing in all warfare areas, as all warfare commanders are free to task the air wing through the use of the Air Resources Coordinator (AREC). Third, the CWC doctrine provides for the delegation of authority to engage threats to the formation below the level of the formation commander. This aspect is essential in enabling the battle group to react against modern weapons. Last, the U.S. Navy, prior to the implementation of CWC doctrine, traditionally had intra-service rivalry among its warfare areas (aviation, surface and submarine) which, naturally, was not always productive. The implementation of CWC has not eliminated this rivalry, but today it can be argued that the rivalry is friendly and no longer counter-productive to deployed battle groups. For example, battle group commanders are now both air and surface officers. Cruiser captains and destroyer squadron commanders are involved in tasking and managing air assets. Submarine officers are attached

to battle group staffs to provide assistance in managing submarines assigned to support the battle group.<sup>113</sup>

Against the blue-water threat of modern aircraft, the cruise missile, and the nuclear submarine, the tactical organization provided by CWC doctrine provides for the maximum defense. During the Cold War, the focus of the defense also complemented the Navy's first mission in warfare, which was to initiate and support conventional forces attack against bases within the Soviet Union. The CWC doctrine organized the battle group toward defending the formation long enough to allow the carrier to approach within air strike range of the Soviet Union. Under this expected scenario, the sea-based aviation force of the carrier battle group would be defended and used in the face of land-based air with layered submarine and ship defenses.

In sum, the CWC doctrine has provided the Navy with a tactical organization which maximizes the effectiveness of the battle group's sensor and weapons systems toward a maximum defense of the force. It is an outstanding task organization for a maritime super-power engaged against another maritime power on the high seas. It could be equally effective in organizing combat elements for power projection against coastal targets. However, in order to be fully effective, certain changes need to be made.

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<sup>113</sup>Powers, Robert Carney, Captain, USN, "Commanding the Offense," *U.S. Naval Institute Proceedings*, October 1985, p. 62.

#### 4. Negative Aspects of the CWC Concept in Light of ". . . From the Sea"

The 1992 White Paper ". . . From the Sea" signaled a change in focus and priorities for the Naval Service. The vision for the Department of the Navy was articulated in its updated strategic concept, "Forward . . . From the Sea." This vision perceives that naval forces will continue their preeminent role in deterring or controlling crises and enhancing regional stability. "Forward . . . From the Sea" projects that naval expeditionary forces will be the first on the scene to take the initial actions in response to a crisis. Should more force be necessary, the naval forces will provide enabling or bridging capabilities for the introduction of larger and heavier forces of the U.S. Army and Air Force from the United States mainland.

Admiral J.M. Boorda states that the Navy is America's "force of choice" to handle uncertainties that flare up in the post-Cold War world. The Navy must provide our nation with a maritime force which is capable of "operating across the full spectrum of naval operations," from peace to war.<sup>114</sup> Yet, the naval operating forces are still task-organized along an unchanged CWC doctrine, which was designed and implemented during the Cold War.

The threats to our national security and the resulting operational environment has changed drastically since 1989. In today's operational environment, the OTC requires a structure that provides effective command and

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<sup>114</sup>Boorda, J.M., Admiral, USN, "The Navy-Marine Corps Team: Looking Ahead," *Marine Corps Gazette*, March 1995, p. 22.

control across the full spectrum of naval operations. The CWC doctrine as it stands today does not provide the OTC with this structure in a littoral environment, where naval forces in the littorals will operate in a much broader variety of modes dependent upon mission and deployment conditions. What is missing in the CWC doctrine is a Special Operations Forces Warfare Commander who can provide the Battle Force Commander with the same level of specialized expertise which resides in the other warfare areas.

#### **D. A ROLE FOR SOF IN CWC**

The Navy's CWC doctrine currently does not support all facets of forward deployed naval operations in the littoral. CWC still has application in the new environment, but as one critic has noted, "needs evolutionary change to address rapid planning, crisis response, to define functions in a joint context, and to focus on special operations in the littoral."<sup>115</sup> The lack of true integration of SOF into the CWC doctrine is one of the doctrine's major weaknesses.

The CWC doctrine should be revised to include a Special Operations Warfare Commander. While many are arguing that CWC doctrine does need to be revised, the role of SOF in CWC has not received much serious discussion. In the past, SOF, when operating in the littorals, have operated under an *ad hoc* chain of command. By creating a role for a Special Operations Warfare Commander, the battle group can gain distinct advantages.

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<sup>115</sup>*Integrated Battle Organization: Command and Control Procedures*, Naval Doctrine Command Concept Paper, 15 September 1995, p. 3-3-1.

First, due to the *ad hoc* nature of the integration of SOF into fleet operations, the command and control is personality driven. The creation of a Special Operations Warfare Commander would eliminate this, placing the planning and directing of SOF under the control of a career SOF officer who reports directly to, and advises the Battle Group Commander. The rank of this officer should be a post command O-6. This would ensure his rank is equal to that of his peers within other elements of the CWC.

Second, as the only component from the Joint Special Operations Forces community, the Special Operations Warfare Commander would be the logical conduit for requesting, coordinating, and controlling any additional Joint SOF support. He would also be the logical choice for effecting the transition to a Joint Special Operations Task Force (JSOTF) if the Battle Group Commander should become a Joint Task Force (JTF) Commander.

The Special Operations Warfare Commander should also come from the Naval Special Warfare Community. Naval Special Warfare officers are the only officers in the Naval Service who spend their entire careers in various billets within the SOF community, thereby gaining a distinct, exclusive expertise of joint and maritime special operations<sup>116</sup> unparalleled anywhere within the Department of the Navy. Also, the NSW community contains not only SEAL platoons, but the Special Boat Units, the SEAL Delivery Vehicles, and Patrol

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<sup>116</sup> Maritime Special Operations are defined as SO conducted in a maritime environment: on, under, and from the sea, rivers, or other waterways, including those land targets that are best approached from the water. These operations include the maritime extension of each of the five SO missions: DA, SR, CT, UW, and FID. See NWP 3-05 Naval Special Warfare, p. 1-2.

Craft. These assets could be integrated into the battle group to enhance the battle group's array of sensor and weapons systems.



## V. CONCLUSIONS

The Navy's ". . . From the Sea" concept, as put forth in the 1992 White Paper entitled ". . . From the Sea" and its follow-on document "Forward . . . From the Sea," emphasize a shift in focus away from open ocean, blue-water operations against a global maritime threat (*i.e.*, the Soviet Navy) toward a focus on littoral operations. Littoral operations, however, are substantially different from blue-water operations. There are many unique challenges for the Navy when it begins to operate in the littorals, including natural obstacles, such as shallow water and coral reefs; or man-made obstacles, such as mines or coastal guns. Littoral operations are also likely to be conducted under complex rules of engagement; both impose additional constraints on the way these natural and man-made challenges can be met.

These unique circumstances cause the conventional carrier battle group's sensor systems and weapons systems, many of which were developed during the Cold War and designed for open ocean operations, to become sub-optimized when the battle group moves into the littorals. The battle group commander's area of interest may be within the range, but not necessarily the capabilities, of his sensor systems and weapons systems.

In the face of the varied challenges presented by the littoral environment, Special Operations Forces bring unique capabilities to bear. SOF can provide sensor and weapon system capabilities that extend a commander's area of influence into his area of interest. These capabilities include not only Direct



Action and Special Reconnaissance, but also such things as Foreign Internal Defense, Very Shallow Water Mine Countermeasures, and Shipboarding.

The ". . . From the Sea" concept requires the carrier battle group to focus its sensor and weapons systems toward the coastlines of the earth. The easiest first step has been to try to integrate the traditional ARG with its accompanying MEU(SOC) into the CVBG to form a "Naval Expeditionary Force" or "Integrated Battle Organization." Yet, despite ongoing debate over exactly how to integrate the ARG/MEU(SOC) into the CVBG, the element of SOF is virtually being overlooked. Proof of this can be found by examining the Navy's current battle group command and control organization, which is based on the Navy's evolution toward the Aircraft Carrier Battle Group as the front-line warfighting unit.

The CWC concept is a natural outgrowth of the CVBG concept. It was developed during the Cold War and is designed as a way for tactical commanders to maintain control of battle group combat elements while responding to the burgeoning growth of potential air, surface and sub-surface threats. These threats were brought on by technological breakthroughs, such as the anti-ship cruise missile and the nuclear powered attack submarine. CWC is primarily defensive in nature, in that it provides for maximum protection of the CVBG's offensive capability as embodied in the carrier's strike aircraft. It maximizes the efficacy of the at-sea OTC by streamlining on-scene command, control, and communications (C3) procedures in a high-threat, open-ocean environment.

However, by employing its combat forces under the CWC doctrine, as it currently stands, the Navy is operating under conflicting paradigms. The old paradigm of global fleet engagements has been replaced with the strategic vision for the Navy as it focuses its warfighting capability for power projection missions in littoral waters, as stated in its current strategies, ". . . From the Sea" and "Forward. . . From the Sea." Yet, operationally, the Navy is still functioning as it did during the Cold War, because the CWC doctrine has not been updated or revised in light of the paradigm shift. Hence, the conflict. This is important because with the dwindling number of overseas bases and decreasing amount of amphibious lift, the CVBG becomes even more important in responding to regional crises. Thus it is imperative that this conflict be reconciled and the CWC doctrine revised.

If the CVBG is here to stay, and current thinking indicates that it is, then the CVBG will continue to play an increasingly large role in littoral operations. It is time we took a hard look at the way the CVBG goes about its business and tried to update the CWC doctrine to bring it in-line with the current operational concept. The first step of this process includes integrating Special Operations Forces into the CWC doctrine, creating a Special Operations Warfare Commander. This individual should come from the Naval Special Warfare Community, and should serve as the Battle Group Commander's principal advisor and force commander for Special Operations Forces.

The benefits to the CVBG staff would be enormous. First, the battle group commander will have an officer running special operations who has

spent his entire military career involved in joint and maritime special operations. In the event that the battle group commander becomes a JTF commander, his Special Operations Warfare Commander is an obvious choice to become the JSOTF commander.

As for the benefits of integrating SOF into the battle group organization, in addition to increasing the battle group commander's sphere of influence within his sphere of interest, the SOF can be used as a sensor or weapons system which is interactive. Communications technology enables the SOF unit to be time-activated, event-activated, or command-activated. In an ever changing crisis scenario, the SOF can also be halted at the last minute if needed.

As the United States Navy moves into the 21st century, it faces a world of unknowns. Future tensions will arise in underdeveloped regions of the globe. Today, no clear maritime enemy exists as it did during the Cold War. For the Navy to play the important role in our national military strategy, which ". . . From the Sea" visualizes, the tactical command and control doctrine, built around its primary tool, the CVBG, must be modified to better suit the needs of the contemporary maritime operational environment. By integrating SOF into the CWC doctrine, and creating a Special Operations Warfare Commander, some of the shortfalls of this doctrine can be eliminated. What the traditional CVBG may not be able to fully accomplish within a littoral environment, may be better accomplished by a CWC organization in which SOF is better integrated.

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 705 West Church Street  
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 FPO AP 96698-3038
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 Number 1 Twilight Lane  
 Brookfield, Connecticut 06804
38. CDR John McTighe 1  
 1301 Board Walk Way  
 Virginia Beach, Virginia 23451

39. CDR Neal S. Miles 1  
5414 Fox Run Drive  
Corpus Christi, Texas 78413
40. CAPT W.M. Dunaway 1  
Department of National Security Affairs  
Naval Postgraduate School  
Monterey, California 93943-5002
41. CDR T.J. Bosiljevac 1  
US Special Operations Command  
MacDill AFB, Florida 33608-6001
42. Commanding Officer 1  
SEAL TEAM THREE  
USNAB Coronado  
San Diego, California 92155
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