

NAVAL WAR COLLEGE
Newport, R. I.

SEA DRAGON AT THE OPERATIONAL LEVEL

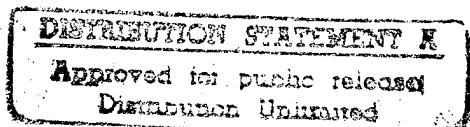
by

Archibald Morrison VI
Major USMC

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations

This contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or Department of the Navy.

Signature



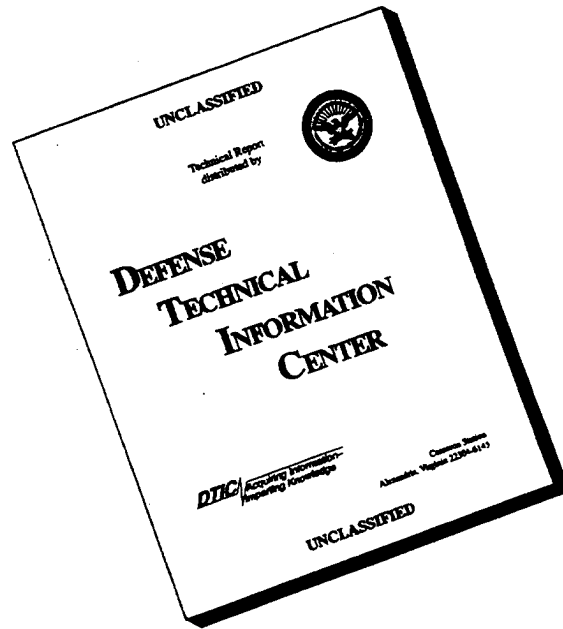
~~14 June 1996~~

Paper directed by Captain D. Watson
Chairman, Joint Military Operations Department

19960501 238

DTIC QUALITY INSPECTED 1

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority: N/A			
3. Declassification/Downgrading Schedule: N/A			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): SEA DRAGON AT THE OPERATIONAL LEVEL (U)			
9. Personal Authors: ARCHIBALD MORRISON VI, MAJOR, USMC			
10. Type of Report: FINAL		11. Date of Report: 12 FEB. 1996	
12. Page Count: 22			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: SEA DRAGON, JAST, JOINT STRIKE FIGHTER, TOMAHAWK, MV-22 OSPREY, LITTORAL WARFARE, OPERATIONAL MANEUVER FROM THE SEA, ENABLING FORCE, MILITARY TECHNOLOGY REVOLUTION, REVOLUTION IN MILITARY AFFAIRS			
15. Abstract: Sea Dragon at the operational level of war is an evaluation looking at the concept from the operational vice tactical level of war. The new evaluation is similar to the original, however multi-service teams are used to prosecute the operational commander's concept of operations. The teams focus on operational targets and help the expand the width and depth of the battlespace while compressing the time. The teams create chaos and help prevent the enemy from seeing an accurate picture of the battlespace. The naval expeditionary forces that provide the fire and logistic support are critical to the concepts success.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841- 6461 6461		20. Office Symbol: C	

Abstract

Employing Naval forces, in a power projection role, provides operational flexibility in terms of maneuverability, firepower, and endurance. Doctrinal developments contained in *From the Sea*, *Forward from the Sea* and *Operational Maneuver from the Sea*, coupled with these terms yield a very effective combat component for a theater Commander in Chief (CINC). Yet, these tenants only provide a partial answer to the littoral warfare scenario.

Recently, the Naval Services were introduced to a revolutionary new concept called *Sea Dragon*. The concept initially dealt with the tactical level of war. I would like to evaluate the concept from the operational level of war. Employment of small, highly skilled, multi-service teams, equipped with state of the art navigation, targeting and communication equipment, briefed in detail about the concept of operations, working semi-autonomously, is the key to this new approach. *Sea Dragon* blends the advantages of technology with these highly skilled teams. Team missions range from operational countermobility strikes to Command and Control Warfare (C2W). By deploying teams throughout the operating area, the battlefield becomes non-linear. This creates chaos for the defender by dramatically compressing time and increases the width and depth of the battlespace.

Sea Dragon, coupled with the projected performance capabilities of the Joint Strike Fighter (JSF), MV-22 Osprey, Tomahawk Multi-Mission Missile (TMM), sensor-fuzed munitions and the flexibility and long range capability of Air Force strike aircraft, has exciting possibilities. *Sea Dragon* adds to the already significant advantages of employing a naval expeditionary force and enhances the precepts of *Operational Maneuver from the Sea*.

LIST OF ABBREVIATIONS

AWACS	Airborne Warning and Control System
BDA	Battle (Bomb) Damage Assessment
CINC	Commander in Chief of a combatant command
C4I	Command, Control, Communication, Computer, Information
DPF	Detect, Process, Fire cycle
GAM	Global Positioning System Aided Munitions
IADS	Integrated Air Defense System
JSF	Joint Strike Fighter
JSTARS	Joint Surveillance, Target Attack Radar System
MV-22	Osprey, tilt rotor medium lift replacement aircraft
PK	Probability of Kill
SACC	Supporting Arms Coordination Center
SAM	Surface to Air Missile System (generic)
SEAD	Suppression of Enemy Air Defenses
STOVL	Short Take Off and Vertical Landing
RMA	Revolution in Military Affairs
TBM	Theater Ballistic Missile
TMMM	Tomahawk Multi-Mission Missiles, next generation of Tomahawk family
WMD	Weapons of Mass Destruction (nuclear, biological or chemical)

THESIS

Sea Dragon explores a new approach to naval expeditionary operations. *Sea Dragon's* initial concept proposed small Marine Corps teams employed at the tactical level. My proposition expands this concept to include multi-service teams employed at the operational level. I have combined the pending Military Technological Revolution and assumptions made concerning the future to make this a viable concept. I conclude by depicting the concept within the context of a future scenario and discussion of major counter-points.

TECHNOLOGY

As an economic and military power, the United States used advances in science and technology to lead the world during the past 50 years. The "arsenal of democracy" produced airplanes that dominated the skies over Europe and aircraft carriers that dominated the seas of the Pacific. Our industrial capabilities produced the atomic bomb which brought the country onto the stage as a true superpower. In Korea, we produced new technologies and entered the jet age. Vietnam demonstrated the capabilities of massed firepower. The Gulf War justified the investments in stealth technology, precision guided munitions (PGMs) and cruise missiles.

We must think beyond our current abilities and envision what possibilities lie ahead in the next 15 years. The ongoing Revolution in Military Affairs (RMA), including information warfare and increased sensor and munitions capabilities, continues to change the modern

battlefield. These technology changes allow us to question how we do business, and to ask is there a better way? *Sea Dragon* is an attempt to answer part of the question.

Many countries continue to modernize and equip their forces with new and highly accurate weapons, navigation, and command and control systems. The speed, lethality, range and reliability of PGMs and sensor-fuzed munitions have rendered large infantry and armored formations extremely vulnerable. The limited mobility and huge logistics footprint of field artillery has, in many scenarios, made it more of a burden than an asset. Large troop concentrations and stationary logistics bases afford lucrative targets to a potential opponent with even limited weapons of mass destruction (WMD). The enemy potential to inflict large numbers of casualties by using a WMD looms as a menacing constraint in the planning of future military operations. Either we get aboard and ride the crest of the technology wave, or drown when it falls on us in a future conflict.

The flexibility of sea based aircraft is not new, but the Joint Strike Fighter (JSF also known as JAST) and the MV-22 Osprey will add new dimensions to the naval air arm. The Joint Strike Fighter will deliver new types of ordnance previous platforms could not. The new generation of precision guided munitions and sensor-fuzed weapons with increased accuracy and decreased size will increase the Probability of Kill (PK) and reduce the aircraft sorties required, since the same aircraft can strike multiple targets.¹ The JSF with its low observable design will decrease, if not eliminate, the initial need for Suppression of Enemy Air Defense (SEAD). The flexibility of JSF carrier flight deck operations with its Short Takeoff and

¹ Frank Oliveri, "U. S. Air Force Packs Punch in Mini Bombs, 250-pound Weapons Boost Strike Capability, Reduced Payload of Fighters" art. Defense News, Nov. 27-Dec. 3, 1995, 24.

Vertical Landing (STOVL) ability will increase combat power.² The air operations department aboard the aircraft carrier will be able to conduct simultaneous launch and recovery flight operations thereby increasing operational tempo. With avionics compatibility JSF pilots will exchange information efficiently through various sources.³ These sources include (but are not limited to) *Sea Dragon* teams, airborne warning and control system (AWACS), and the joint surveillance, target attack radar system (JSTARS). With real time command, control, communication, computers and information (C4I), the operational commander's situational awareness will dramatically improve.

The MV-22 Ospreys range and lift flexibility finally give the Naval Services a true over-the-horizon combat assault insertion and extraction capability. With a load of 24 troops the Osprey has an assault radius of just over 200 nautical miles.⁴ This reduces the risk to surface combatants from coastal submarines, anti-shipping missiles and mines. The Osprey can insert and resupply teams, and provide the teams with battlefield mobility once the air defense system has been sufficiently degraded.

The improved Tomahawk Multi-Mission Missile (TMMM) warhead flexibility will help the operational commander limit (if desired) the type and amount of damage inflicted on a target. Improved C4I equipment, navigation equipment and satellite coverage is critical and recent developments in aircraft design (in this case an unmanned solar powered craft) reduced the need to use strategic level assets for theater level operations.⁵ Sensor-fuzed munitions will

² Robert Holitzer, "U.S. Navy to Blend Technologies in New Carrier," art. Defense News, Vol. 10, No. 43, October 1995, 28.

³ Paul Proctor, "Outdoor Tests Key to Boeing Jast Plan," Aviation Week & Space Tech, March 6, 1995, 51.

⁴ LtCol T. Dugan, USMC, "MV-22 and the Operational level of War," Unpublished, Naval War Coll., 16 June 1995, pg 3

⁵ Staff, "Solar-Powered Plane can Replace Satellites", Defense & Security Elec., November, 1995, 17.

bring a capable system to the battlefield and help the operational commander control or influence battlespace by neutralizing enemy platforms.

ASSUMPTIONS

The basis of any prognostication begins with assumptions. I have made several concerning a potential threat and staged them in a scenario with a notional coastline (in the littorals from the Middle East to the Pacific Rim). These assumptions begin with the current and expected economic growth in the littorals. I expect the proliferation of modern weapons systems to continue.⁶ I discuss the American predictions of technological changes and capabilities. I have neither made any assumptions as to the political environment, nor have I tried to predict possible political alternatives. This paper concerns the conduct of war at the operational level. I have not tried to replace, restrict or challenge current designated roles and missions or training of specific armed forces. Capabilities of weapons platforms and *Sea Dragon* teams simply give examples of a major enabling operation as part of a theater operation or campaign.

I have assumed a potential enemy will possess the following:

- 1) An Integrated Air Defense System (IADS).⁷
- 2) An anti-shipping missile capability.⁸
- 3) The ability to mine his littoral area quickly and effectively.⁹

⁶ Hans Brinnendijk and Patrick Cronin, "Asia-Pacific Challenges," Joint Forces Quarterly, Spring 1995, 6.

⁷ David Hughes, "U. S. Army to Assess Russian SA-10 SAM system", Aviation Week & Space Tech., Jan. 2, 1995, pg 60.

⁸ William Smith, "As Sophisticated Weapons Proliferate, More Than Ever the Navy Needs to be Ready", The Almanac of Sea Power, 1995, pg 59.

⁹ Joint Pub. 3-15, "Joint Doctrine for Barriers, Obstacles, and Mine Warfare", pg I-3-4, "The Relatively Low Cost of Mines Makes Them an Ideal Weapon for all Nations with Access to the Sea".

4) A limited number of Weapons of Mass Destruction (WMD) munitions (probably biological or chemical).

*“Biological and chemical agents are much more accessible to the nations of the world than are nuclear weapons. There are several reasons for this. First, modern technologies including genetic engineering have enhanced the ability to manufacture new biological or chemical agents or enhance the effects of old agents. Second, it is much more difficult to determine that chemical and especially biological work is weapons related. Third, the manufacture of biological and chemical agents is done on a large industrial scale rather than on a much smaller research laboratory scale”*¹⁰

5) A Theater Ballistic Missile (TBM) capability.

*“...China and North Korea are major centers of advanced missile weaponry while Iran is becoming an important center for advanced missiles both as a recipient and as a potential manufacturer. Libya and Syria are particularly active in the acquisition of advanced missile systems. Iraq has shown its potential for weapon manufacture and may resume these activities vigorously once the U. N. Trade embargo is relaxed. The six high risk states discussed here could well take advantage of the opportunities to proliferate missiles ... to other countries”*¹¹

6) A limited number of small but capable submarines.¹²

I have further assumed the U. S. has fielded and/or is affected by the following:

1) A vastly improved navigation and C4I equipment ability that is interservice capable and has dramatically improved the capabilities of the foot soldier.¹³

2) The Joint Strike Fighter (JSF), MV-22 Osprey, Tomahawk Multi-Mission Missiles (TMMMs) and sensor-fuzed munitions.¹⁴

3) Multi-service teams specially trained in advanced weaponeering and targeting to identify and destroy or neutralize targets with the appropriate type of ordnance.

¹⁰ Howard Bloomberg, “The Theater Missile Threat and Allied Defense”, The Journal of Social, Political and Economic Studies, Vol. 20, No. 1, Spring 1995, pg 11.

¹¹ Ibid., pg 12.

¹² Michael Wallace, Charles Meconis, “Submarine Proliferation and Regional Conflict”, Journal of Peace and Research, vol. 32, no. 1 1995, 79-95.

¹³ General John M. Shalikashvili, Chairman Joint Chiefs of Staff, Global Command and Control System, 12 June, 1994, 16-20.

¹⁴ David Fulghum, “JAST Snags New Name, Additional Funds,” Aviation Week & Space Tech., Oct. 16, 1995, 20.

- 4) PGMs that are cost effective and reduced in size with increased operational and tactical flexibility.¹⁵
- 5) Basing rights are limited, therefore increasing the utility of sea-based power projection.
- 6) We are already engaged in the conflict.

THE SCENARIO

One of the most formidable problems facing any CINC is establishing a foothold into a theater with no host nation support. A second equally difficult problem is a CINC's desire to open another front (Operation Chromite during the Korean war) or to start combat operations with follow-on forces still arriving. In either case, naval operations need to open the door for follow-on forces and even the U. S. Army acknowledges, "A Marine Corps forced entry capability is essential to opposed-entry operations from the sea."¹⁶

¹⁵ David Fulghum, "Small Smart Bomb to Raise Stealth Aircraft's Punch," Aviation Week & Space Tech, Feb. 27, 1995, 50-51.

¹⁶ FM 100-5 "Operations," Headquarters Department of the Army, June 1993, 2-19.

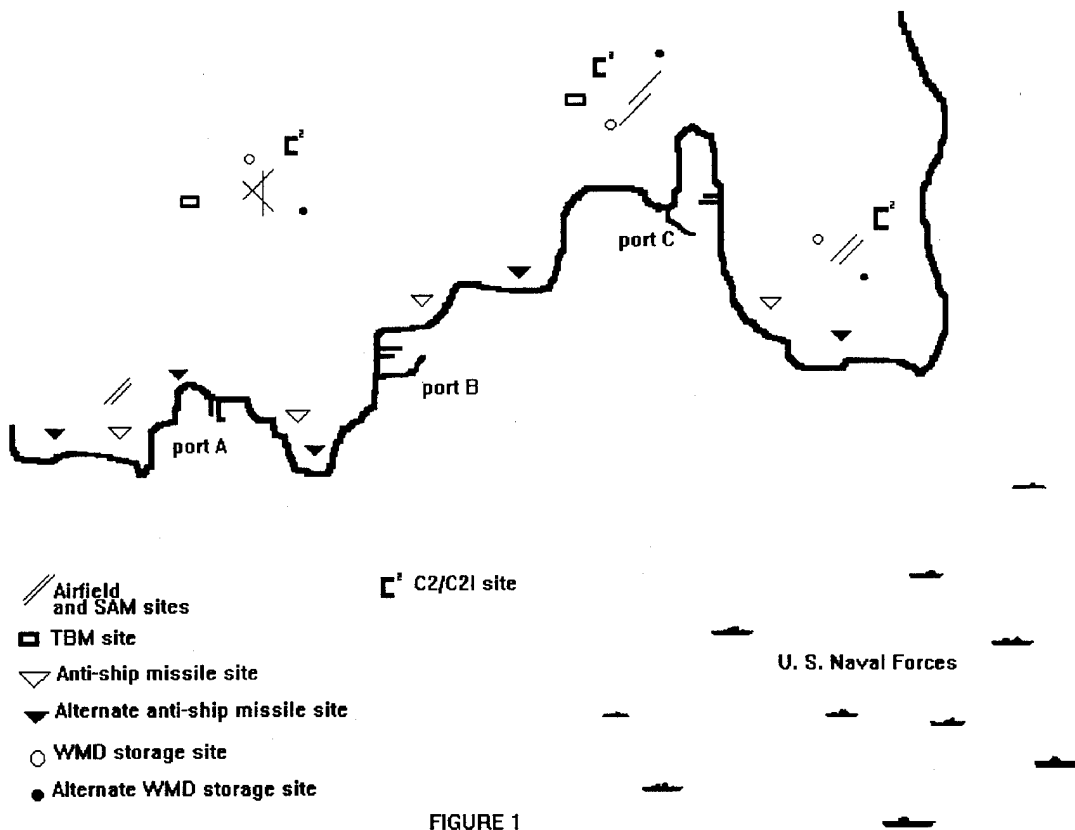


FIGURE 1

Figure 1 is a notional map of the threat country.

The operational commander's concept of operations includes the destruction or neutralization of enemy forces along the coast to support a follow-on amphibious assault. The assault location is unknown at this time, but *Sea Dragon* teams with other forces and assets will help prepare and shape the battlefield by creating gaps in the enemy's defense.

Specially trained multi-service members make up the teams. Their skills include: communications, targeting, weaponeering, survival skills, and first aid, etc. Teams are outfitted with advanced C4I equipment and night vision devices. The teams are lightly armed and work covertly, so they must avoid direct contact with the enemy. The team numbers and location depend on the commander's concept of operations (their mission), enemy strengths, weaknesses and posture, terrain, and time restrictions (**METT-T**). With the number of *Sea*

Dragon teams and initial positions determined, insertion by various means including air, surface and even subsurface begins. Insertion limitations include environmental and geographic restrictions, as well as the opponents early warning (EW) ability and defensive posture.

Basically, *Sea Dragon* employs external fire support assets with multi-service teams who possess an in-depth knowledge of the operational objectives and concept of operations outlined in the commander's intent. Teams trained this well require minimal guidance from higher authority (operational commander) during early operations, so teams operate semi-autonomously for short periods of time. As a result of the improvements in communication, weapons and battlespace surveillance, the teams and the commander can keep the operational fires and tempo at a higher level than the enemy. This allows the operational commander to decide when and where to strike and when and where not to strike.

*"The operational level includes deciding when, where and under what conditions to engage the enemy in battle-and when, where and under what conditions to refuse battle... Actions at this level imply a broader dimension of time and space than do tactics."*¹⁷

The *Sea Dragon* teams operational tasks include but are not limited to: 1) conducting operations in depth, 2) identifying and possibly overcoming (destroying by fire) operationally significant barriers, obstacles and mines, 3) conducting operational countermobility strikes, 4) controlling operationally significant land areas with operational fires, 5) developing operational intelligence, 6) developing operational target information, 7) determining combat assessment by relaying battle damage assessment, munitions effects assessment and reattack recommendations and 8) Command and Control Warfare (C2W).

¹⁷ FMFM-1, "Warfighting", 6 March 1989, 23.

Sea Dragon teams provide the operational commander with the ability to detect threats, process information for decision making and fire weapons to destroy or neutralize the threats (DPF cycle).¹⁸ The battlefield becomes more fluid as targets are destroyed and interaction between the teams and the operational commander becomes more important. Using the simple analogy of an archer, *Sea Dragon* teams (and other sensors) act as the archers' eyes and ears in detecting targets with advanced communications equipment acting as the interconnecting nervous system. The operational commander processes this information to prosecute his vision, while the weapons platforms provide the bow and arrows. The teams in this case work through a supporting arms coordination center (SACC) to match up target types with weapons types **not** weapons systems. The SACC in this case is aboard an Amphibious Command Ship (LCC).

The *Sea Dragon* teams and national assets like satellites, AWACS and JSTARS help target facilities and gather information about the enemy's posture and movements the battlefield begins to take shape. The ability of the operational commander to accurately see the shape of battlefield evolve is critical, since he can now begin to orchestrate the type and amount of force employed. This vital capability used by a creative commander can keep his opponent off guard and mask the commander's intentions. The operational commander can create and maintain chaos in his opponent's backyard.

*Chaos, noun, 1 the disorder of formless matter and infinite space, supposed to have existed before the ordered universe. 2 extreme confusion or disorder. 3 SYN Confusion.*¹⁹

¹⁸ LtCol W. Powell, USMC, "Military Technologies for 2010: Search for the Holistic Grail," Unpublished, Naval War Coll, 19 January 1996, 6.

¹⁹ Webster's "New World Dictionary", Third College Edition, 1994.

This chaos alters and distorts the enemy's picture (like a reflection in a broken mirror) of the battlefield. This presents opportunities for teams to amplify the chaos by performing counter C2W operations. If the enemy cannot perceive an accurate picture of the battlefield and what events are taking place, he will not be able effectively anticipate or counter the operational commander's moves. This will further the operational commander's ability to use fire, maneuver and tempo to keep the initiative and drive the fight. Operational tempo can be controlled by simply increasing or decreasing the number of strikes conducted. By neutralizing or destroying the enemy's C2, personnel and weapons systems, the operational commander creates gaps in the surface of the defender's battlefield. The operational commander then uses these gaps for exploitation now or in later stages of the battle.

*"Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."*²⁰

As the conflict continues, the political pressure on the enemy's military leadership will probably increase and even the local populace may react. In this environment, some (most) leaders may become reckless and begin to make rash decisions based on emotion rather than fact. This development in the conflict might play into the hands of our commander and may expose additional enemy forces (TBMs, WMD, reserve units, etc.) which were previously hidden. The enemy's problem centers around where and at what does he direct his forces? The enemy has limited options, since our command center in the amphibious command ship is far out to sea protected by the fleet. The key to this evolution is the ability to limit the exposure of our forces to attack. Security and well-being of the teams is a concern, but they

²⁰ FMFM-1, "Warfighting" 6 March, 1989, 59.

should survive due to training in escape and evasion techniques and limited numbers. Moreover, the potential loss of a team is much more acceptable than hundreds, if not thousands, of potential casualties possibly killed by a conventional WMD attack.

Here the real benefits of naval forces using *Operational Maneuver from the Sea* and *Sea Dragon* become evident. The fleet conducts operations from over-the-horizon, due to the increased platform and weapons capabilities, and increases operational security. The operational mobility and capability to strike from various approaches makes the fleet a mobile fire and logistic base. This significantly increases the defensive and offensive problem for the enemy, reduces the enemy's ability to mass forces, and keeps a larger area (the entire theater depending on size) within range of naval force projection. In other words, the operational commander is creating a non-linear battlefield dramatically increased in width and depth and compressed in time. By working and resupplying far out at sea we reduce our foot print ashore, maintain our mobility, and reduce the threat of a theater ballistic missile strike.

“Naval mobility ensures that an adversary cannot take offensive action with any confidence that the expense of the oceans will protect him from the long reach of U. S. Retaliation. Our mobility makes naval forces difficult to target and severely taxes the enemy's efforts to launch a credible attack. Mobility complicates the enemy's efforts to prepare adequate defenses because he cannot be certain of our axis of attack. To cover all possibilities, the enemy maybe forced to spread his defenses too widely, thus exposing vulnerabilities.”²¹

Should the enemy's reserve formations be of concern, the teams can locate and target the reserve formations as well. Another concern involves controlling the amount of collateral damage to the civilian infrastructure and population. The desired end state and war termination conditions drive the operational commanders concept of operations. By limiting

²¹ Naval Doctrine Pub. 1 “Naval Warfare” 28 March, 1994, 12-13.

collateral damage to the civilian population, through the use of PGMs directed by *Sea Dragon* teams, any government our political leadership supports after the military action should have a better chance of restoring order.

SAMPLE STRIKES

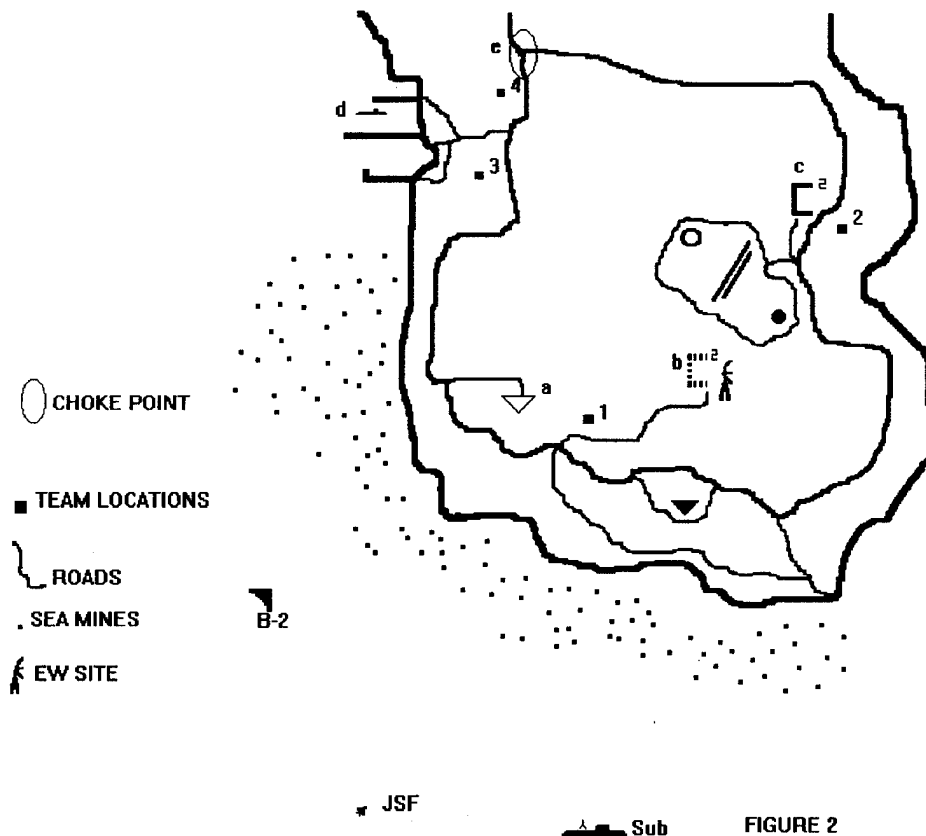


Figure 2, is a blow up of the right side of the coastline. This example, on a smaller scale, is still at the **operational level**. The example illustrates the utility of the concept in more specific detail. The *Sea Dragon* teams tasks include the destruction or neutralization of C2I and early warning (EW) radar sites (counter C2W), help to develop operational indications and warnings of future enemy movements and operational countermobility strikes. Many

times the teams operate at night to aid in concealment and to employ their night vision devices. The operations have already been planned (in some cases) to use aircraft or TMMM delivered munitions. The scheduling of the aircraft has been coordinated via an air tasking order (ATO). Team #1, has located an anti-ship missile site (a). The site located next to a beach interests the CINC for possible follow on operations from the amphibious ships. The team calls for an airstrike, and the SACC passes the target location on to a B-2 bomber on station and capable of delivering Global Positioning System (GPS) Aided Munitions (GAM).²² The team observes the strike and confirms the battle damage assessment (BDA) to the SACC. The B-2 moves on to other teams operating in other locations to prosecute other targets in the area of operation.

An hour later the same team discovers a previously unknown C2I and EW site (b). They call for a pair of TMMMs to strike the antenna farm located in the target area. In this case, the target location passes from the SACC to a submarine patrolling off the coast in support of the operation. The missiles are launched, and the team observes the strikes. The *Sea Dragon* team conducts a quick combat assessment and calls for a second strike to finish off the site. Here, they prove their value, since there is no need for post strike imagery and analysis to decide the need for further strikes. Both strikes provide examples of how an operational commander can prepare and shape the battlefield, while keeping the operational tempo ahead of his opponent. Another benefit of the teams entails their ability to gather intelligence and provide information about unreconnoitered areas. This real-time feedback enhances the operational commander's ability to make accurate and timely decisions. Since the teams are

²² Staff, "B-2 Drops First GPS Aided Munitions," *Aviation Week & Space Tech*, July 31, 1995, 22, (the bomb was dropped from 40,000 feet and landed within 20 feet of the target).

closer and can scrutinize a target area with their sensors, they could possibly detect civilian activity not previously uncovered. This would prevent the politically explosive killing of innocent civilians or striking a dummy target. The *Sea Dragon* teams could also track and/or locate military leadership as required.

North of the airfield, team #2 has located the C2I site (c). This time the operational commander decides to temporarily leave this site operating. The operational commander gives the opponent the ability to communicate, move and expose his reserve forces. Later, the operational commander may destroy the site after it has served his purpose.

Team #3, operating near the port facility (d), discovers a diesel submarine and calls for an immediate strike. This time a Joint Strike Fighter off the carrier receives the mission and destroys the target. Finally, team #4 in the north uses three TMMMs with sensor-fuzed munitions (in this case, mines) to close the road intersection (a decisive point of interest to the operational commander) to enemy forces.

Firepower and real time information allow the operational commander to isolate this particular area of the battlefield. At this point the spared C2 site directs the reserve formations to move. The reserves become entangled in the previously laid minefield and exposed to additional strikes (operational counter mobility). The combinations of platforms and methods of delivery are tailored to the doctrine and tactics of the services. As the teams begin to take down the IADS, EW and C2I systems, more types of aircraft can participate in operations. Much like a conductor who uses his ears (sensors) and his baton (communication device) to orchestrate his vision of the music, the operational commander can use his sensors (teams and others) and his real-time communications to orchestrate his vision of the

battlefield. The gaps created in this area allow follow-on forces, U. S. Army/coalition heavy brigade or even the new concept Marine heavy regiment, to establish a beach head and crush the enemy with a heavy mailed fist.

COUNTER-POINTS

Sea Dragon, at the operational level, is not the see-all, end-all doctrine to fight and win in every type of war. *Sea Dragon* is an option available to the operational commander to prosecute a campaign using the vast capabilities of Naval forces. It can be used in forced entry operations, infiltration operations along a linear/non linear battlefield and in most scenarios to increase the operational commander's knowledge of the battlespace.

Asymmetric escalation could happen in any scenario and at any time in the conflict. If our opponent escalates the war and uses a WMD in a coalition country or even in the United States, the political leadership will have to reevaluate our policies and military objectives. This escalation may be the result of the frustration felt by our opponent, because of the lack of direct military targets on the battlefield. However, *Sea Dragon* operations may force the enemy to escalate sooner than he planned and the small numbers of teams would be much easier to extract than hundreds or thousands of personnel and equipment moved ashore using current doctrine.

If our opponent melts into the countryside at some point during the conflict, and begins to fight unconventionally, then we may not need a forced entry capability. As we learned in Vietnam, overwhelming firepower is not necessarily the best way to deal with insurgents or guerrilla fighters. This is again an example of where *Sea Dragon* at the operational level may

not be appropriate. Again, strategic and operational goals would need to be modified to counter the enemy's new strategy.

The dependence on improved technologies in C4I and navigation capabilities is a possible problem as well. However, great strides in capabilities, affordability and reduced size has been made and will continue.

CONCLUSION

As the military services (especially the Naval Services) continue to look introspectively at improving combat capabilities, our focus must inevitably turn towards both the constraints and the opportunities of the future. We must continue to expand our current doctrine and incorporate the leap in technologies that will continue to occur. If we fail to grow intellectually and incorporate changes in our doctrine, we (in the Naval Services) will not be competitive on tomorrow's lethal battlefield.

The concept of *Sea Dragon* utilized at the operational level is a start. The use of small, well-trained, multi-service teams, briefed in-detail as to the operational commander's intent and concept of operations, working semi-autonomously, is the key to the *Sea Dragon* approach. Their missions range from operational counter mobility and C2W operations, to helping develop and gather operational intelligence. *Sea Dragon* teams would operate throughout the width and depth of the operations area increasing the opponents fog and friction.

New weapons platforms like the JSF, MV-22 and TMMM operating from over-the-horizon and armed with precision and sensor-fuzed munitions, enhance the flexibility of naval forces. As a superpower, we must take advantage of our technological capabilities and limit

the exposure of our troops to WMDs and attrition warfare tactics. We must not take the “wait and see” attitude. We need to be moving ahead, always challenging our dogma. We must continue to grow and accept the improvements, identify the shortfalls, adapt and overcome.

BIBLIOGRAPHY

- Bloomberg, Howard. "The Theater Missile Threat and Allied Defense", The Journal of Social, Political and Economic Studies, vol. 20, Spring 1995, pg 3-19
- Brinnendijk, Hans. and Cronin, Patrick. "Asia-Pacific Challenges", Joint Forces Quarterly, Spring 1995, 6-7
- Chairman Of The Joint Chiefs Of Staff. Universal Joint Task List, 15 May 1995, 2-76 2-84
- Dugan, Terrance. Lt Col. USMC. "MV-22 and the Operational Level of War", Unpublished, Naval War College, 16 June 1995, pg 1-15
- Fulghum, David. "JAST Snags New Name, Additional Funds", Aviation Week & Space Technology, October 16, 1995, pg 20-21
- Fulghum, David. "Small Smart Bomb to Raise Stealth Aircraft's Punch", Aviation Week & Space Technology, February 27, 1995, pg 50-51
- FMFM-1, "Warfighting", 6 March, 1989, pg 23, pg 59
- Hoffman, Jon. Maj. USMC. "The Future is Now", Naval Institute Proceeding, November 1995, pg 29-33
- Holzer, Robert. "U. S. Navy to Blend Technologies in New Carrier", Defense News, vol. 10, No 43, October 1995, pg 28
- Hughes, David. "U. S. Army to Assess Russian SA-10 SAM system", Aviation Week & Space Technology, January 2, 1995, pg 60
- Jenkins, Harry W. MajGen. USMC. "Theater Ballistic Missile Defense: The Enabler for Operational Maneuver From the Sea for the 21st Century", Marine Corps Gazette, July 1995, pg 27-31
- Joint Publication 2-0, "Joint Doctrine for Intelligence Support to Operations", 5 May 1995, GL 4-6
- Joint Publication 3-15, "Joint Doctrine for Barriers, Obstacles, and Mine Warfare". 30 June 1993. pg I-1-IV-18.
- Lasswell, James. Col. USMC. "Why the Arsenal Ship Concept Is Gaining Momentum", Marine Corps Gazette, January 1996, pg 31-32
- Navy Doctrine Publication 1, "Naval Warfare", 28 March, 1994, pg 12-33

- Oliveri, Frank. "U. S. Air Force Packs Punch in Mini Bomb", Defense News, November 27-December 3, 1995, pg 24
- Powell, William, Lt Col, USMC, "Military Technologies For 2010: Search For The Holistic Grail", Unpublished, Naval War College, 19 January 1996, pg 1-14
- Ryan, Stephen. "The Soldier Improvement Programs, Time to Talk", Asian Defense Journal, September 1995, pg 66-67
- Smullen, Robert. Capt. USMC. "The Infantryman's RMA", Marine Corps Gazette, January 1996, pg 22-23
- Staff, "ASEAN Defense Budgets, Association of Asian Nations", Asian Defense Journal, September 1995, pg 14-17
- Staff, "Anti Surface Warfare, Doctrines and Exocet Block 2", Asian Defense Journal, October 1995, pg 38-41
- Staff, "Solar-powered Plane can Replace Satellites", Defense & Security Electronics, November, 1995, pg 17.
- Wallace, Michael. And Meconis, Charles. "Submarine Proliferation and Regional Conflict", Journal of Peace Research, vol. 32, no 1, 1995, pg 77-95
- Wilhelm, C. E. LtGen. "Forward...From the Sea: The Mine Warfare Implications" Marine Corps Gazette, July 1995, pg 23-26
- Young, Peter. "The Potential for Conflict in the South China Sea", Asian Defense Journal, November 1995, pg 18-27
- You Ji, "The Chinese Navy and Regional Security", Asian Defense Journal, September 1995, pg 12-13