VII. INTEGRATED CONCEPT OF OPERATIONS

A. EXECUTIVE SUMMARY

The CONOPS contained in this chapter describes in general terms how the ExWar Force and elements will be employed in the timeframe of 2020 and beyond. The development of this CONOPS followed the SE process. First, a systems engineering and analysis team was organized through the WEMISE at the NPS to conduct a study on the future of ExWar. Next, the tasking from VADM McGinn, head of OPNAV N7, was examined within the context of Navy and Marine Corps thinking on the future of ExWar. A hierarchy of governing documents and list of references is included in this CONOPS. A mission need was derived taking into consideration the tasking from N7, governing documents, current force structure and planned programs, and some key assumptions in mind. Specifically this CONOPS addresses:

1. Emerging Navy and Marine Corps Concepts on ExWar

2. Strategic, Operational, and Force Structure Assumptions

3. The Derived Mission Need for the ExWar Force

4. ExWar Force Employment Concept

5. Implied capabilities

This document was written and developed to generate an overarching set of system of system level requirements for the ExWar Force as it might exist in the year 2020. This CONOPS establishes the operational priorities that will drive trade-off decisions within the system of systems. It also serves as the starting point for the internal system level requirements given to the TSSE, Aero, and Space Operations design teams at the NPS.

B. INTRODUCTION

The U.S. Navy and Marine Corps— America's naval expeditionary forces— provide the nation with a flexible and effective instrument of national security policy with which to promote stability and project power in regions of importance to the United States (Office of the CNO, 2000, 1). Forward-deployed, combat-credible naval expeditionary forces are vitally important to shaping the global security environment, assuring access to overseas regions, and providing the initial crisis response— anytime, anywhere...from the sea (Office of the CNO, unknown, 1). The ability to reassure friends and allies, deter potential adversaries, and engage in combat at all levels of intensity makes the Navy-Marine Corps Team especially valuable to the nation across the spectrum of conflict. Ultimately, the vision for the future sees a Navy and Marine Corps that will maintain a robust, credible, and scalable forward presence. When this presence is coupled with a superior knowledge of the battlespace through a network-centric architecture, the crucial goal will be achieved: projecting U.S. power and influence from the sea to directly and decisively influence events ashore throughout the spectrum of operations in peacetime, crisis, and war

1. Background

The initial objective of this effort, according to N7, is to "explore design concepts for future Expeditionary Warfare systems using a 'system of systems' approach" (McGinn, 2002, 1). This project is to take place over a two-year period. The mission of the first year of this project is to engineer an architecture and overarching set of system requirements for a system of systems to conduct expeditionary operations in littoral regions, exploring interfaces and system interactions, and comparing Current, Planned, and Conceptual architectures against these requirements. The "exploration of design concepts" in support of this project takes place within the context of emerging Navy and Marine Corps operational concepts that can be traced back to the highest levels through a hierarchy of governing documents.

a. Hierarchy of Governing Documents

In the *National Security Strategy* (Office of the President, 2002), published on 17 September, 2002, the President states:

> "…We must prepare for more such deployments by developing assets such as advanced remote sensing, long-range precision strike capabilities, and transformed *maneuver* and *expeditionary forces*…To contend with uncertainty and to meet the many security challenges we face, the United States will require bases and stations within and beyond Western Europe and Northeast Asia, as well as temporary access arrangements for the long-distance deployment of U.S. forces…" (Office of the President, 2002, 29).

Clearly, at the national-strategic, political level, there is an expressed need for expeditionary forces and a capability to provide basing and temporary access arrangements for the long-distance deployment of U.S. forces. This CONOPS envisions a solution for the need expressed in the *National Security Strategy* (Office of the President, 2002).

The *National Strategy for Homeland Security* (Office of Homeland Security, 2002) complements the *National Security Strategy* (Office of the President, 2002, 29) by addressing a very specific and uniquely challenging threat—terrorism in the United States. The *National Strategy for Homeland Security* (Office of Homeland Security, 2002) establishes three strategic objectives for the United States government: 1.) Prevent terrorist attacks within the United States; 2.) Reduce America's vulnerability to terrorism; and 3.) Minimize the damage and recover from attacks that do occur (Office of Homeland Security, 2002, vii). The ExWar Force envisioned in this CONOPS will contribute to Homeland Security by taking the fight overseas to the enemy. In this manner, the ExWar Force will prevent future terrorist attacks and reduce the country's vulnerability to terrorism by destroying the infrastructure of the headquarters of terrorist movements with self-sustaining forces that can easily be scaled depending on the size of the mission. The enhanced ISR capabilities of the ExWar Force would also be a valuable asset in terms of gathering information on terrorist activity overseas. The ExWar Force could also be called on to augment civilian authorities in the event of natural disasters. ExWar Force logistics and medical capabilities might be used either at home or abroad--

in support of U.S. foreign policy--to contain catastrophic damage from weapons of mass destruction. No major military system of systems today should be designed without addressing the interfaces with Homeland Security.

The *National Military Strategy* (Chairman of the Joint Chiefs of Staff, 1997), which must articulate how the President's *National Security Strategy* (Office of the President, 2002) requirements can be supported by the capabilities of the armed forces, calls for a joint effort to maintain overseas presence, project power, and achieve the commitment of decisive force to overwhelm the adversary through strategic agility (Chairman of the Joint Chiefs of Staff, 1997, 3). Similar capabilities are expected to be included in the new *National Military Strategy* under revision by the current administration. What better way to achieve these goals than through the use of naval expeditionary operations?

The "From the Sea" series of papers developed by the Navy and Marine Corps outlines an overall maritime strategy for the nation. The thesis of the latest paper, *Forward…From the Sea: The Navy Operational Concept*, states, "The primary purpose of forward-deployed naval forces is to project American power from the sea to influence events ashore in the littoral regions of the world across the operational spectrum of peace, crisis, and war (Office of the CNO, 1997, 1). *Forward…From the Sea* (Office of the CNO, 1997) provides the underlying philosophy for *Navy Vision 2020: The Future from the Sea* (Deputy CNO, unknown) and *Marine Corps Strategy 21* (Headquarters, USMC, 2000). In *Navy Vision 2020* (Deputy CNO, unknown), the Navy envisions improving future abilities through the "refinement of precision strike capabilities, naval fires, *Ship to Objective Maneuver* (MCCDC 1997), sustained land operations, operations other than war (OOTW), and special operations" (Deputy CNO, unknown, 1). This document explains that the Navy will guarantee access to territory through projecting offensive and defensive power ashore by building a naval force that is compatible with the Marine Corps' *Operational Maneuver from the Sea* (Headquarters, USMC, 1996) concept. In *Marine Corps Strategy 21* (Headquarters, USMC, 2000), the Marine Corps' stated goal is to "ensure access to the littorals through evolving expeditionary operations (to include mine and obstacle countermeasures, naval surface fires, etc.), maritime prepositioning, national sealift, high-speed troop lift, and naval aviation capabilities" (Headquarters,

USMC, 2000, 8). It is clear, at least conceptually, that the Navy and Marine Corps envision a more integrated force structure in the future.

Expeditionary Maneuver Warfare (Headquarters, USMC, November, 2001), a capstone concept that describes the future capabilities of the Marine Corps, highlights the capability of Sea Basing. As this document explains, Sea Basing is "more than a family of platforms afloat, [it] will network platforms and promote interoperability among the amphibious task force, carrier battle group, maritime preposition force, combat logistics force, and emerging high-speed sealift and lighterage technologies" (Headquarters, USMC, November, 2001, 5). The capabilities described in this document, and the others previously mentioned, complement the capabilities proposed by ADM Vern Clark in *Sea Power 21: Operational Concepts for a New Era* (Office of the CNO, June, 2002). The heart of the CNO's vision is centered on three concepts—"Sea Strike, Sea Shield, and Sea Basing." "Sea Strike is about projecting dominant and decisive offensive power against key enemy targets with a wide of array of means. Sea Shield is about projecting defensive power from the sea [by deploying] enhanced intelligence, surveillance, and reconnaissance (ISR) systems—building on the tenets of Network Centric Warfare. Seabasing is about projecting sovereignty around the world. Focus areas for seabasing include joint command and control, fire support, and logistics" (Office of the CNO, June, 2002, 2-3). Our CONOPS envisions an Expeditionary Warfare system of systems that will possess all three of the cornerstones articulated in *Sea Power 21* (Office of the CNO, June, 2002).

Other key concept papers include *MPF 2010 and Beyond* (Headquarters, USMC, 1997), *Seabased Logistics* (MCCDC/Navy Doctrine Command, 1998) and the joint Navy and Marine Corps draft document *The Navy and Marine Corps Team: A Maritime Vision* (Department of the Navy--still under revision). Figure VII-1 shows an illustration of the hierarchy of some of the documents that forms the foundation for this CONOPS.

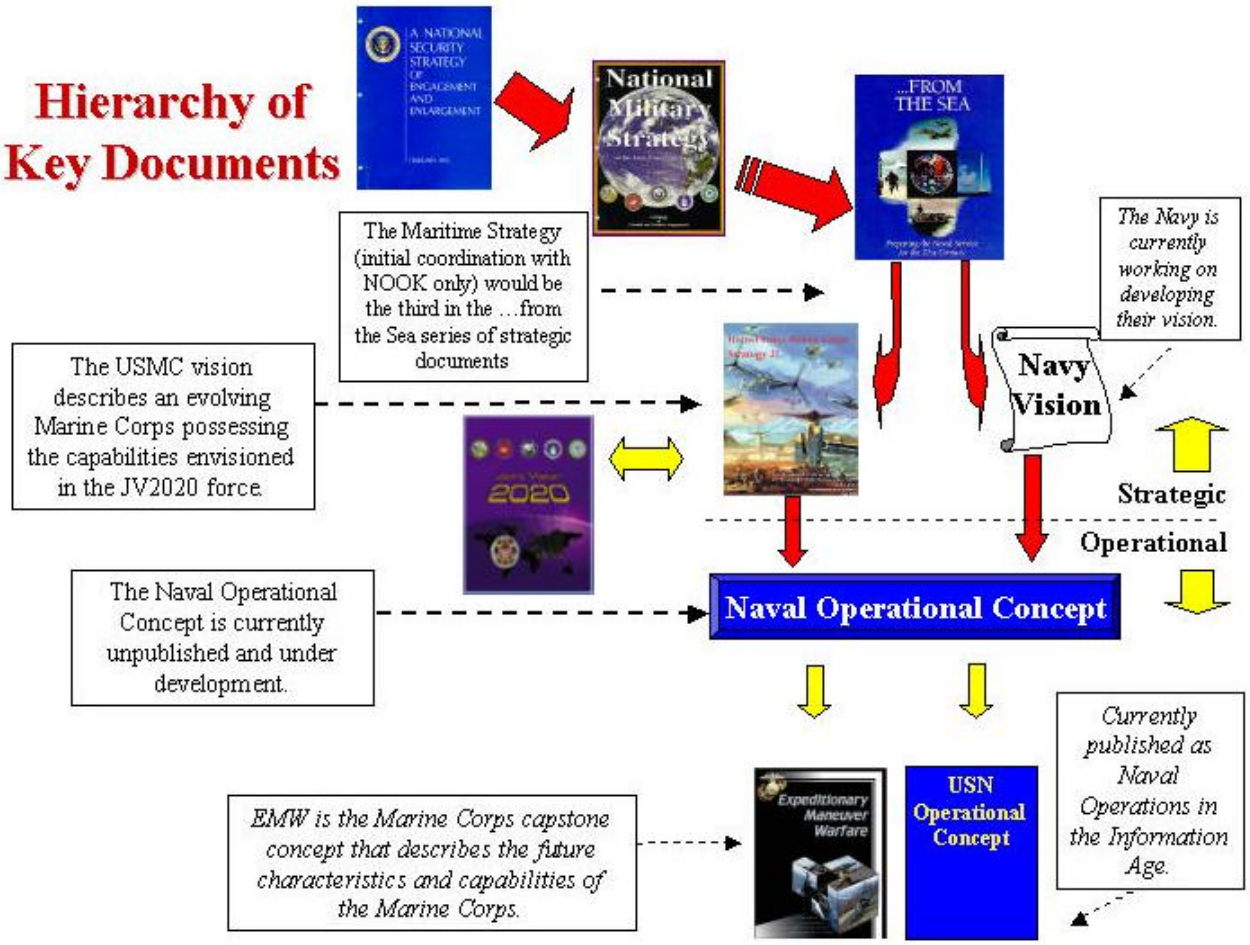


Figure VII-1. Hierarchy of Key Documents (Source: NAVSEA, 2002)

b. Current Force Structure

According to the 12 April, 2002, N7 memorandum mentioned previously, the "general focus of this effort must be on investigating systems capabilities for power projection and forcible entry. The intent of the project is to address as broad a scope of systems as is feasible, starting with the current programs of record as the baseline" (McGinn 2002, 1). The current classes of ships in the amphibious assault community such as the Amphibious Assault Ship Multi-purpose (LHA), Amphibious Assault Ship (improved LHA) (LHD), Dock Landing Ship (LSD), and Amphibious Transport Dock (LPD) are capable platforms. The current force structure, however, has a number of

limitations. For example, the fleet of amphibious assault ships, with the exception of the LHD-1 Wasp class, is nearing block obsolescence, and it is becoming very costly to maintain this aging fleet of ships. At the same time, the Navy cannot meet the 3.0 MEB lift requirement with the assault ships it does have in its inventory (Director, Expeditionary Warfare Division, 2002, 30-31). Additionally, the amount of transporter equipment (i.e. airlift assets, Landing Craft Air Cushion (LCAC), and Landing Craft, Utility (LCU)) that can be carried by the assault ships is not enough to accomplish STOM. Legacy Marine combat equipment is not ideally suited to carry out future concepts that call for lighter, more mobile, more lethal combat forces. For example, the M1-A1 Abrams tank is extremely heavy and requires a robust logistics tail to support it with fuel and maintenance. Field artillery pieces such as the M-198 Towed Howitzer require a crew of 10 troops—its ammunition and related support also require a considerable logistics effort. The need for more airlift assets to accomplish STOM implies that the amount of flight deck square footage offered by LHAs, LHDs, LPDs, and LSDs may not be sufficient to employ the vertical lift necessary to execute a STOM-type operation. *Seabased Logistics* (MCCDC/Naval Doctrine Command, May, 1998) and other key concepts called for in *Expeditionary Maneuver Warfare* (Headquarters, USMC, November, 2001) and *Sea Power 21* (Office of the CNO, June, 2002) are not fully achievable with the current force structure.

c. Planned Force Structure (year 2015)

Implementing concepts such as STOM and sea basing will require new platforms along with some doctrinal changes. Table VII-1 illustrates a comparison between the current force structure and the proposed force structure of future Navy and Marine Corps acquisition programs designed to address block obsolescence and mission capability shortfalls of existing platforms.

Platforms	**Year 2002 (Legacy)**	**Year 2015~2020 (Future)**	**Remarks**
Air	CH-46 CH-53E UH-1N AH-1W AV-8B EA-6B F/A-18 C/D CVW	-- CH-53E UH-1T** AH-1Z** JSF*** E/F-18*** F/A-18D** CVW MV-22A*	*New Concept ** Upgrade *** Replacement -- Retirement
Sea	LPD-4 LSD-36 LSD-41 LSD-49 LHA LHD LCAC LCU MPF	-- -- LSD-41 LSD-49 LHA(R)*** LHD LCAC LCU(R)*** MPF(F)*** H-LCAC* HSV*	*New Concept *** Replacement -- Retirement
Land	M1A1 LAV AAV HMMWV M88A1-E1 M-60A1 M101A1 M188 Mk-48 Truck	M1A1 LAV AAAV*** HMMWV	*** Replacement *To be updated with 'USMC 2015' paper.*

Escort	CV/CVN CG DDG DD FFG SH-60B CH-60S	CVN CG DDG -- -- SH-60B CH-60S	-- Retirement

Table VII-1: Comparison of Current and Planned Force Structure
(Source: SEA, 2002)

According to a CBO estimate, at a ship procurement rate of 7.5 ships per year (FY 2001 Budget), the average age of amphibious assault ships would remain at 20 years by the year 2020—the average age of today's amphibious assault ships (Congressional Budget Office, 2000, 21). In a tight budget, it may be difficult for the Navy to maintain the rate of 7.5 ships per year unless a convincing set of overarching system of system level requirements can be generated to justify these numbers. Even so, the planned force structure, specifically where new ships are concerned, still does not adequately address the issue of the aging fleet and the block obsolescence of some platforms. Though many of the proposed (as of yet not built) platforms will have added capability, the planned force structure still cannot fully achieve the capabilities called for in STOM and OMFTS, ideas for Sea Basing and other concepts called for in the hierarchy of governing documents previously discussed.

2. Assumptions

a. Strategic Assumptions

Naval missions, as prescribed in the National Security Act of 1947 (as amended by Congress), will not change. (For a more in-depth discussion of strategic level assumptions, read Chapter IV on Threat Analysis.)

b. Operational Assumptions

The expeditionary operations considered for this project are conducted with a MEB sized Marine, Air, Ground Task Force (MAGTF). The MEB operations occur in the year 2020 timeframe. A MEB sized expeditionary *forcible entry* operation will take place with the support of at least one CVBG. MEB operations are conducted up to 200 NM inland from a sea base 25-100 NM offshore.

The AE of the ATF will form by merging a minimum of two MEUs sized NESGs (NESGs—as envisioned in the CNO's *Sea Power 21* operational concept). Logistics ships, MPF ships, and at least one CVBG will augment the AE.

c. Force Structure Assumptions

USN and USMC legacy platforms are projected to remain operational through this timeframe and are not retired early. All new USMC aircraft and land vehicle purchases currently projected to be available in this timeframe are fielded on schedule.

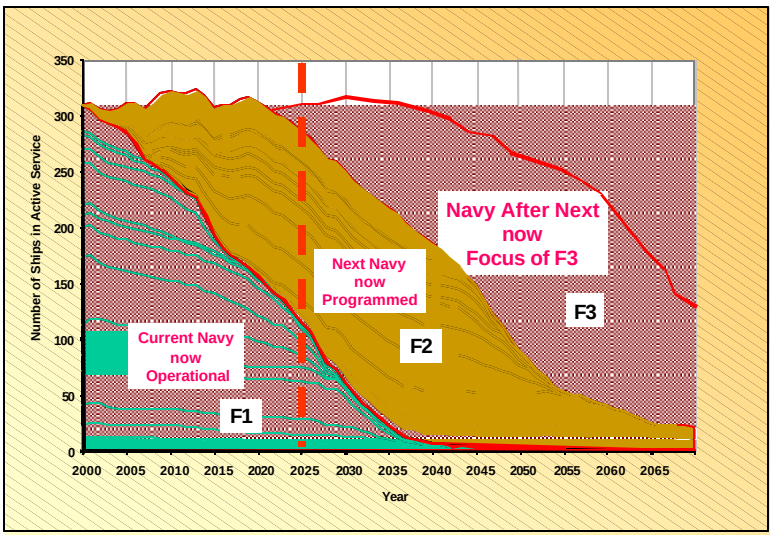


Figure VII-2. Naval Ship Inventories 2000 – 2070 (Source: NAVSEA, 2002b)

As shown in Figure VII-2, new planned and programmed ships do not begin to impact the fleet in considerable quantities until 2025. Legacy systems will comprise approximately 50-60 percent of the overall Navy force structure in the 2015–2020 timeframe, and these figures are also representative of the ExWar Force structure in that timeframe, according to data contained in OPNAV N75's pamphlet *Naval Expeditionary Warfare: Decisive Power, Global Reach* (Director, Expeditionary Warfare Division, 2002). This CONOPS envisions that a number of existing platforms will therefore be a part of the conceptual ExWar Force structure.

A MEB-sized MAGTF's composition and sustainment requirements remain relatively constant between the present and 2015-2020. These requirements are defined in the *MAGTF Planner's Guide* (MSTP Pamphlet, 5-0.3) (Headquarters, USMC, April, 2001), the *Organization of Marine Corps Forces* (MCRP 5-12D) (Headquarters, USMC, Octobe,r 1998), and the pamphlet, *Naval Expeditionary Warfare: Decisive Power, Global Reach* (Director, Expeditionary Warfare Division, 2002).

3. Derived Need Statement

The Navy and Marine Corps need an ExWar Force that can accomplish OMFTS, STOM, and Sea Basing through upgraded capabilities in the areas of amphibious lift, firepower, aviation support, Information Operations, force protection, C4ISR, and logistics.

C. CONCEPT OF EMPLOYMENT

Four top-level functions and eight sub-functions are identified that encapsulate all elements and phases of the overall concept of employment. The four primary areas were validated against Marine Corps Doctrine Publication 3 (MCDP-3), *Expeditionary Warfare* (Headquarters, USMC, April, 1998).

1. Conduct Expeditionary Operations

This function is defined as the placement, operation, support, and sustainment of expeditionary forces ashore. "Conduct Expeditionary Operations" is decomposed into eight sub-functions.

a. Prepare for Mission

This consists of pre-deployment activities including planning and embarkation.

b. Deploy Forces

This sub-function is defined as the transit of the ExWar Force elements to the area of operations.

c. Enter Threat Region

This sub-function covers entrance into the area of operations and the marrying up of ExWar Force elements (i.e. NESGs, CVBG, MPF, Combat Logistics Forces, etc.), pre-action operations, and the initial insertion of forces ashore.

d. Operate Forces Ashore

This sub-function calls for projecting both offensive and defensive power ashore in order to conduct operations to achieve strategic, operational, and tactical objectives.

e. Support Forces Ashore

This sub-function ensures that troops positioned at the objective are provided with on-call, pre-planned tactical fires and combat engineering designed to enhance friendly force mobility or deny enemy mobility. This includes, among other things, tactical air cover, naval gunfire support, and missile strikes.

f. Sustain Forces Ashore

The purpose is to keep ExWar assets ashore supplied with enough provisions, ammunition, and fuel to continue operations. A large emphasis will be placed on keeping the logistics footprint ashore as small as possible and minimizing the vulnerability of supply lines of communications.

g. Redeploy Forces

This sub-function covers the disengaging of forces, reconstituting ExWar Force units, turning over the mission to follow-on forces if necessary, and preparing for another mission in another area of operations.

h. Conduct Operational Fires

Finally, this sub-function supports expeditionary operations with ExWar Force strikes against targets beyond the reach of the expeditionary forces ashore. This includes, among other things, deep strike missions, missile strikes, and information operations.

2. Provide Force Protection

This function is defined as the defense of the ExWar Force afloat from air, surface, and subsurface threats, including mines, cruise missiles, and small boats. It includes the defense of all forces, afloat and ashore, from theater ballistic missiles. Finally, this function provides for protecting task force aircraft through suppression of enemy air defenses (SEAD).

3. Provide Command, Control, Communications, and Intelligence (C4I)

This function ensures that command and control and other important information moves through the ExWar Force in an efficient and effective manner.

4. Provide Strategic Sustainment

Finally, this function provides for the availability of fuel, ammunition, stores, and other required supplies for the ExWar Force. In entails the rapid movement of required supplies from forward supply bases to the ExWar Sea Base for repackaging and shipment to the objective ashore.

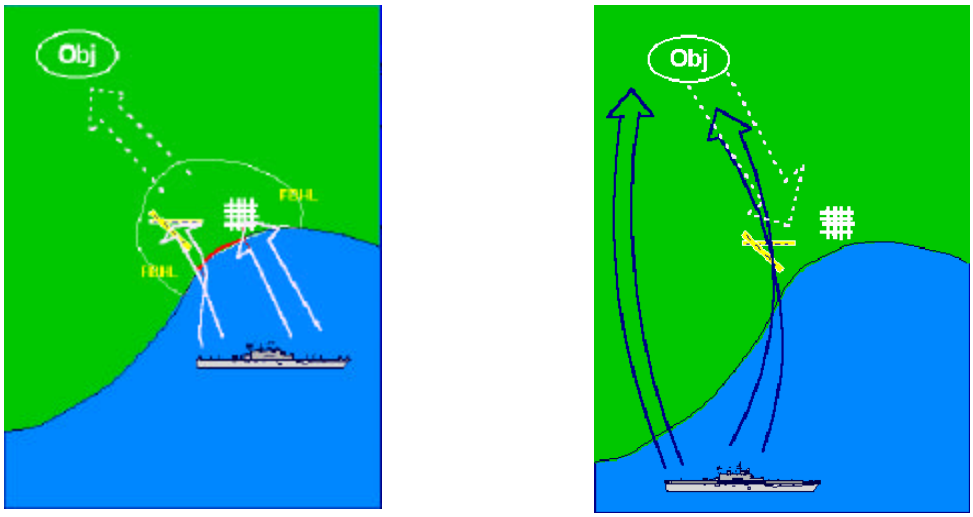
D. IMPLIED CAPABILITIES

1. Operational Maneuver From the Sea

OMFTS is the maneuver of expeditionary forces at the operational level. It aims to exploit critical weaknesses in order to deal a decisive blow to the enemy. OMFTS uses the sea as a maneuver space and emphasizes rapid movement, not merely from ship to shore, but from ship to objective(s) that may be miles away from blue water and from inland positions back to offshore vessels (Headquarters, USMC, 1996).

2. Ship to Objective Maneuver

To move units from ships lying over the horizon to objectives lying far from the shore, there is a need for the capability to cross great distances, reduce the limitations imposed by terrain and weather, and most importantly, to seamlessly transit from maneuvering at sea to maneuvering ashore and vice-versa. Operations will begin from over-the-horizon (OTH) and project power deeper inland than in the past, progressing with speed and flexibility of maneuver that will deny the enemy warning and reaction time (MCCDC, 1997, II-5).



A. The way we are B. The way we need to be

Figure VII-3: Compares current doctrine to STOM (Source: MCCDC, 1997). Fig. VII-3B illustrates movement of forces from the ship to the objective without the operational pause associated with the build-up of an iron mountain ashore. There are still supply lines that can and will be established between the objective and the beachhead, however.

STOM is not aimed at seizing a beach, but at thrusting combat units ashore in their fighting formations to a decisive place and in sufficient strength to ensure mission accomplishment. Landing forces will engage enemy units only as necessary to achieve the freedom of action to accomplish operational objectives. The landing force must maneuver rapidly from attack positions well offshore to inland objectives. This requires surface and vertical systems with the speed, range, precision location and navigation capabilities, protection, and firepower to launch from over-the-horizon positions and

crack the environmental and defensive shell of the opponent's shore while maintaining the momentum of the attack (MCCDC, 1997, II-7).

The landing force must also be able to locate, identify, and overcome both natural and manmade impediments to mobility. Mines, obstacles, adverse terrain, and built-up areas can all impede the mobility of the landing force. To accomplish these tasks, robust mine reconnaissance and rapid in-stride breaching capabilities are also essential (MCCDC, 1997, II-21).

3. Firepower

Sea-based and aviation-based fires must be leveraged, and shore-based fire support systems must be developed with improved operational and tactical mobility. Streamlining fire support coordination procedures and enhancements in combat identification techniques will support rapidly maneuvering forces while decreasing the risk of fratricide. Forces afloat and ashore require the ability to immediately distinguish friendly forces from others and then to deliver lethal and non-lethal fires with increased range and improved accuracy to achieve the desired effect. Volume and precision of fires are both important. The continuous availability of high volume, all-weather fires is essential for suppression, obscuration, area denial, and harassment missions. Integrated fires will be used to support maneuver just as maneuver will be used to exploit the effects of fires (Headquarters, USMC, November, 2001, 10). The three pillars of fire support are naval surface, aviation, and ground fires—complementary sources of firepower that provide the flexibility necessary for expeditionary operations (see Fig. VII-4).

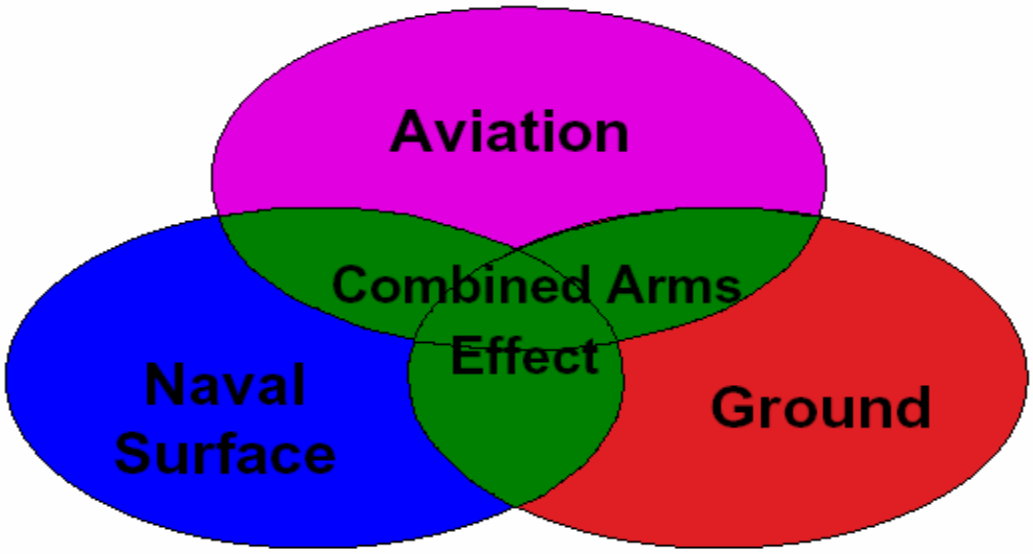


Figure VII-4. Integrated Fires Lead to Combined Arms Effect (Source: MCCDC/Naval Doctrine Command, May, 1998)

Fire support requirements change over the course of an operation. Early in the operation, the commander will seek to shape the battlespace to facilitate ship to objective maneuver, while not compromising tactical surprise. During battlespace shaping, the fire support system will need to provide long-range, precision fires capable of destroying or neutralizing key enemy capabilities, especially air defenses. During ship to objective maneuver, high-volume suppressive and neutralizing fires may be necessary to support both surface and vertical assaults. Naval surface and aviation fires in the ExWar Force should provide the preponderance of fire support, but even during the initial stages, ground-based fire support elements will accompany both the vertical and surface assaults to provide responsive support to engaged ground forces. Precision fires will destroy selected high-payoff targets. Aviation fires will provide both close air support and deeper strikes, facilitating the ExWar Force commander's continuing efforts to shape the battlespace (MCCDC, January, 1998, 1).

Properly executed, OMFTS seeks to maximize the use of sea basing. However, some situations may warrant limited basing ashore of combat service support and aviation assets. In such cases, the ExWar Force fire support system must be flexible

enough to protect these vital elements with responsive, high-volume fires while concurrently providing fire support to maneuver forces (MCCDC, January, 1998, 2).

The enhanced ExWar Force firepower capability will enable maneuver, provide protection for the force, and destroy, neutralize, or suppress enemy weapons systems, especially those capable of indirect fire. These capabilities will allow engagement on the enemy in an asymmetrical manner, make it difficult for him to counteract, and thus place him in a tactical dilemma, and set him up for a decisive blow (MCCDC, January, 1998, 2).

4. Aviation Support

Aviation operations will transcend traditional linear, sequential applications of power. The ExWar Force Commander will utilize inherent Aviation Combat Element (ACE) capabilities -- mobility, speed, depth of influence, lethality, responsiveness, and battlespace perspective -- as the catalyst to negotiate the obstacles that time and space present. In close coordination with the other elements of the ExWar Force, the ACE will enable rapid power projection, create the conditions necessary for decisive action, and sustain the force to a degree greater than heretofore envisioned (Headquarters, USMC, 1999, 1). The aim will be to Sea Base as much of the ACE as possible.

A deep vertical envelopment presents the enemy with a dilemma. If he reacts to the vertical assault force, he risks increasing his vulnerability to other vertical assaults, to the maneuver of the surface assault force, and to supporting fires. If he ignores the vertical assault force, it can cause significant damage and seize objectives facilitating the surface assault, creating other opportunities for exploitation. The aviation assets offer mobility which enables the vertical assault force to attack from over the horizon and strike rapidly at deep objectives, re-embark, and strike other objectives before the enemy can react. As with the surface elements, vertical assault units will operate on multiple axes. The ability to insert deep and then conduct bounding maneuver will allow the vertical assault force to maintain a rapid tempo, exploiting freedom of maneuver, destroying the enemy's forces through supporting fires, without allowing the vertical assault force to become decisively engaged (MCCDC, 1997, 2).

Figure VII-5. ExWar Force Integrated With ACE Operations (Headquarters, USMC, 1999)

OMFTS seeks to extend the boundaries of maneuver warfare by viewing both land and sea as maneuver space. The ACE adds the vertical dimension to maneuver, but more importantly it supports the ExWar Force Commander's scheme of maneuver by dramatically expanding his reach throughout the battlespace. Thus, the ExWar Force gains a decisive, natural advantage over its adversaries within the context of time and space. In the conduct of OMFTS, the ExWar Force will initiate power projection from over the horizon, with its elements executing rapid, simultaneous maneuver in concert with commander's intent. The ACE must support this aim by continuing to improve upon its inherent ability to exploit time and distance factors, and by reducing the current limitations they impose. The ACE's mobility, range, speed and battlespace perspective are well suited to the elements of maneuver warfare: tempo, enemy focus, surprise, combined arms and flexibility. ACE maneuver, characterized by decentralized control, applies to all facets of ExWar Force power projection (Headquarters, USMC, 1999, 6-7).

5. Information Operations

Information Operations will be a key element for achieving OMFTS. Information Operations involve actions taken to affect adversary information and information systems while defending ExWar Force assets. The ExWar Force will be tasked to conduct offensive Information Operations, civil and public affairs, and defensive Information Operations for all levels of war throughout the spectrum of conflict. The ExWar Force must be capable of being an integral part of a joint Information Operations campaign to influence events in support of strategic, operational and tactical objectives. For example, the ExWar Force will conduct offensive Information Operations at the operational and tactical level by using deception, physical operations, electronic attack, and physical destruction. The aim is to break the enemy's Observe, Orient, Decide, and Act (OODA) loop. For OMFTS, the most important action is the deception phase. During defensive Information Operations, the ExWar Force will be required to carry out all or a combination of the following functions: counter deception; counter intelligence; physical security; electronic protection; information assurance; and operational security. The Information Operations capability is an integrating concept that enables the ExWar Force's functions of command and control, fires, maneuver, logistics, intelligence, and force protection (MCCDC, 2002, 5-7).

6. Force Protection

Increased asymmetric and conventional threats will make protection of the ExWar Force increasingly challenging. The improvement of the capabilities necessary to protect air and seaports of debarkation, intermediate staging bases, ships, other assets, and personnel throughout all dimensions of the battlespace is a high priority. Enhancing our ability to effectively counter terrorism, to defend against a chemical or biological attack or operate in a contaminated environment when required, and to treat and process mass casualties is essential. The extension of an effective missile defense umbrella, effective counter-mine capabilities, effective defense against small boat attack, and the ability to locate and negate or destroy key enemy weapon systems are also fundamental to our efforts to achieve full-dimensional protection (Deputy CNO, unknown, 10).

7. C4ISR

An essential aspect of successful execution of future, multi-faceted, expeditionary operations is combining enhanced firepower and improvements in information technology with agile, adaptive command organizations to operate within an adversary's sensor and engagement timeline. C4ISR systems and processes must exploit the benefits offered by *network-centric* operations which link shooters, sensors, and commanders seamlessly, and in real time, thereby permitting effects-based planning in order to provide the knowledge required to rapidly attack an adversary's critical vulnerabilities, avoid strengths, and destroy centers of gravity. Similarly, there must be an equally reliable and efficient C4ISR organization and system to link all supporting elements. Capabilities like Cooperative Engagement Capability (CEC) and FORCEnet are steps in the right direction. The C4ISR organization is particularly crucial in order to achieve OMFTS, STOM, and Sea Basing.

The C2 operational concept for the ExWar Force entails decentralized execution whereby subordinates are provided with the latitude to accomplish assigned tasks in accordance with the commander's intent. Organic and supporting C2 systems and processes must be adapted to function in any environment, whether afloat, transitioning ashore, or on the move. C2 must facilitate decentralized decision-making and enhanced situational awareness at all echelons (Headquarters, USMC, November, 2001, 11). The proper algorithms and controls must be in place in order to deconflict allocation of fires with the implied centralized capabilities of concepts like CEC and FORCEnet with decentralized requests for fires coming in from the beach. The C2 system must provide the ExWar Force commander the ability to direct joint and multinational task force operations when required.

The ExWar Force must have the capability to collect, process, and disseminate intelligence. The ExWar Force must also be able to coordinate and conduct tactical surveillance and reconnaissance OTH with forces ashore. This will include the ability to exploit national, theater, and allied assets, and provide intelligence to all levels of command in contribution to a common tactical and a common operational picture.

The aim of this enhanced C4ISR capability is to enable the ExWar Force to access, manipulate, and use information in near real time, developing a common tactical and operational understanding of the battlespace. The ExWar Force must have effective reach-back capability with connectivity to theater and national assets and the ability to disseminate information throughout the force. This will support fully integrated, collaborative planning efforts during both deployment and employment. The end product should be a scalable, sustainable, interoperable command and control system combined with a seamless, organic intelligence, surveillance, and reconnaissance capability linked to joint assets and, as much as is feasible, combined partners.

8. Logistics

Mobile, dispersed forces require an equally agile and tailored logistics system to support their dynamic operations. Logistics focused to arrive where and when needed, without a large footprint requiring significant protection, will support sustained maneuver in an expanded battlespace. Networked distributed sea-based logistics is key to sustaining future joint and coalition forces. Maneuvering sea-based elements of the ExWar Force must permit commanders to conduct fully integrated joint command and control, surveillance, targeting, logistics and re-supply.

Configured to the mission, sea-based logistics and joint command and control will provide the required support to sustain operations on land and to support maneuver forces across the battlespace, from replenishing and refueling forces at sea, to delivering tailored logistics support from sea-based forces. Asymmetric and conventional threats will require our ground forces to become less dependent on vulnerable fixed bases or stockpiles ashore. Force sustainment through sea-based logistics will reduce the threat of an attack on key logistics nodes and the requirement for dedicated forces to protect shore-

Figure VII-6: Sea Based Logistics Reduces Footprint Ashore (Source: MCCDC/Navy Doctrine Command, 1998). Fig. VII-6B illustrates the flexibility of sea based logistics by showing the possibility of providing sustainment to forces ashore by moving supplies directly from the Sea Base to the objective(s) without necessarily employing a land-based supply node shown in Fig. VII-6A.

E. SUMMARY

This CONOPS was produced as part of the Systems Engineering process with the purpose of laying the groundwork for system of systems level requirements generation. The hierarchy of governing documents and key assumptions form the foundation for a derived mission need for the ExWar Force. The Employment Concept described in this CONOPS describes high-level functions that were developed after a thorough review of the governing documents and the statement of key assumptions and mission need for the purposes of the ExWar Integrated Project. These high-level functions will become the starting point for requirements generation for the ExWar Force system of systems. The discussion of implied capabilities provides additional entering arguments for requirements generation.