

Littoral Operations in a Contested Environment



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(U) APPROVAL

(U) This concept describes the integrated application of Navy and Marine Corps capabilities to overcome emerging threats within littoral areas that are rapidly expanding in operational depth, complexity, and lethality. For a quarter century our naval team has enjoyed the benefits of maritime superiority. As a result, we've evolved our forces in ways that maximize our maritime power projection capabilities unencumbered by the concurrent need to achieve and maintain sea control. The era of uncontested maritime superiority is fading. New competitors are challenging us in a variety of ways. As emphasized in *A Design for Maintaining Maritime Superiority*, we must develop new concepts and capabilities to succeed against emerging threats. We must then test and refine those concepts through focused wargaming, modeling, and simulations and validate the underlying ideas through fleet exercises, unit training and certification. As underscored in the *Marine Corps Operating Concept*, the ability to think critically, innovate smartly, and adapt to complex environments and adaptive enemies has always been the key factor we rely on to win in any clime and place.

(U) In keeping with the guidance and sense of urgency expressed in the higher level Service guidance, this concept provides a framework for naval integration. It places a renewed emphasis on gaining sea control, to include employing sea-based and land-based Marine Corps capabilities to support the sea control fight. The ideas herein reflect the insights gained over an intensive 18 month collaborative effort that included extensive research, subject matter expert input, warfighter talks, wargames, and rigorous analyses. These ideas must be tested, refined, and enhanced to ensure our Navy and Marine Corps can uphold our shared 241-year history of protecting freedom of the seas in peace and achieving victory in war. We are counting on every Sailor and Marine to do their part.

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1. Purpose

a. The purpose of this concept is to describe "naval operations in the littoral environment in light of emerging threats" in order to provide a unified framework for Navy-Marine Corps innovation. It places a renewed emphasis on fighting for and gaining sea control, to include employing sea-based and land-based Marine Corps capabilities to support the sea control fight.

b. This concept introduces ideas on how naval forces could be organized, trained and equipped to enhance their ability to operate in contested littoral environments.[1] Included among those ideas are: additional, versatile force options; a wider application of existing doctrine; and the more flexible employment of current, emerging, and some potential capabilities. To confirm their integral merit, the ideas put forth in this concept require further testing and refinement through detailed wargaming, experimentation, and exercises. It is expected that these activities will invigorate and advance naval operational art and stimulate creativity on how to exploit the inherent synergy of integrated Navy and Marine Corps capabilities. Of particular importance, practical application of the concept during live exercises will allow naval forces to identify the inevitable seams and capability limitations that must be resolved.

c. Following this rigorous testing and refinement process, the ideas determined to have merit will generate changes to doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) and influence operational planning and execution of integrated Navy and Marine Corps operations on and from the sea.

2. Scope

a. As described in *A Cooperative Strategy for 21st Century Seapower* and the *Marine Corps Operating Concept*, all domain access is the ability to project military force in contested areas with sufficient freedom of action to operate effectively.[2] This concept addresses the littoral component of all domain access by examining options for integrated Navy-Marine Corps operations to overcome sea denial forces in contested littoral environments.

b. This concept is derived from an assessment and comparison of friendly and adversary capabilities in the near future. It spans a range of naval operations that extends from forward postured formations conducting crisis response in uncertain environments on one end to larger formations established to conduct significant contingencies in openly hostile environments on the other.

(1) **Crisis Response Operations in Uncertain Environments.** As recent history has demonstrated, forward-postured naval forces frequently conduct noncombatant evacuations,

[1] The term "contested" is used herein to encompass both the uncertain and hostile environments as defined in joint doctrine. An uncertain environment is one in which host government forces, whether opposed to or receptive to operations that a unit intends to conduct, do not have totally effective control of the territory and population in the intended operational area. A hostile environment is one in which hostile forces have control, intent, and capacity to effectively oppose or react to the operations a unit intends to conduct.

[2] Department of the Navy, "*A Cooperative Strategy for 21st Century Seapower*, March 2015, p. 19.

embassy reinforcements, humanitarian assistance/disaster response, and other crisis response operations in situations where state or non-state actors possess some measure of sea denial capabilities. Because friendly naval forces are often responding to crises for humanitarian purposes, they normally operate under rules of engagement that restrict preemptive offensive action to eliminate potential threats.

(2) **Contingency Operations in Hostile Environments.** A number of state actors possess significant sea denial capabilities and capacities. Some nations are demonstrating an increasing pattern of aggressiveness by employing proxy forces against their regional neighbors as a means of asserting control over disputed geography. As a result, the potential for confrontation has been growing, particularly in the Western Pacific, the Baltics, and the Eastern Mediterranean. In such cases, friendly naval forces that are forward-postured, or surged from other regions, may be called upon to conduct contingency operations in support of allies and partners. In such contingencies, friendly naval forces play a critical role in deterring escalation by demonstrating that they represent credible force. This concept espouses ideas that may be useful both in deterring and winning such conflicts; however, major combat operations (MCO) and campaigns versus peer competitors are beyond the scope of this concept.

c. While naval forces normally operate under a joint force commander (JFC) and often utilize enablers provided by other members of the joint team, this concept is focused on the Navy-Marine Corps forces assigned to a fleet commander or a joint force maritime component commander (JFMCC). It therefore does not address joint integration beyond the fleet/JFMCC context. This concept is, however, consistent with and fully supportive of the emerging family of joint concepts.

Note: Lists of acronyms and key definitions have been provided in Appendices A and B, respectively, to assist the reader.

3. Background

a. **The Littoral Battlespace**. Joint doctrine defines the *maritime domain* as consisting of the "oceans, seas, bays, estuaries, islands, coastal areas, and the airspace above these, including the littorals." Joint doctrine also says the *littoral* is comprised of two segments. The *seaward* portion is that area from the open ocean to the shore that must be controlled to support operations ashore.[3] The *landward* portion is the area inland from the shore that can be supported and defended directly from the sea. Today, the range of modern sensors and weapons extends hundreds of miles both seaward and landward, blurring the distinction between operations at sea and on land and necessitating an operational approach that treats the littorals as a singular, integrated battlespace. Depending on a given situation, the cognizant naval commander's assigned operating area should include a sufficient portion of the landward battlespace to enable rapid engagement of threats therein.

b. **The Need for a Paradigm Shift**. During the immediate post-Cold War era, the maritime environment was largely uncontested. As a result, the Navy and Marine Corps were able to focus

[3] JP 2-01.3 *Joint Intelligence Preparation of the Operational Environment*. Washington, DC: Department of Defense, 2009.

on the capabilities that support maritime power projection unfettered by a corresponding need to fully invest in those capabilities required to establish sea control. The luxury of this presumptive maritime superiority meant that the capabilities, tactics, techniques and procedures (TTP) associated with fighting at sea, along with the idea that maritime power projection might need to be conducted in support of sea control, were allowed to wane. In fact, the increasingly contested operating environment marks a return to the historic norm, with the added challenge posed by 21st century sensors and weapons. Friendly naval forces now routinely face land-based and sea-based threats employed by state and non-state actors who are implementing sea denial strategies.[4] Armed with increasingly formidable sea denial capabilities, future adversaries may be capable of controlling choke points, holding key maritime terrain, or denying freedom of action and maneuver within the littorals by imposing unacceptable risk to forces at ever increasing ranges. Additionally, some potential adversaries are attempting to expand their sea denial capabilities into the ability to achieve sea control. These conditions call for a paradigm shift and the reinvigoration of a unified naval approach that effectively integrates sea control and maritime power projection capabilities. To do that effectively, it is important to recognize the major factors that impact naval operations:

(1) We face potential adversaries that operate from a position of relative advantage in close proximity to their territory and basing networks, while we operate globally, in remote locations, with extended lines of communication. Some adversaries have significant capacity advantages, especially in precision weapons, shore-based sensors, and air and surface platforms within the region, which can negate our capability advantages.

(2) The new long range, precision missile era has added a landward dimension to naval combat, even for missions where the primary focus is at sea.

(3) Some adversaries have fielded advanced undersea capabilities that may challenge friendly naval operations.

(4) Even in peacetime, state and non-state actors employ space, cyberspace, and electromagnetic spectrum (EMS) capabilities, as well as information operations, against friendly naval forces. Adversaries may use these capabilities in attempts to deny, degrade and exploit our use of our historic command, control, communications, computer, intelligence, surveillance, and reconnaissance (C4ISR) strengths.

(5) Crisis response operations may be conducted with constrained rules of engagement to mitigate escalation, thereby limiting opportunities to shape the battlespace.

(6) Large overseas bases offer economy of scale but are also vulnerable.

[4] While the defense community has adopted the term "anti-access/area denial (A2/AD)" as short-hand to describe this situation, that term is highly problematic in two fundamental ways. The first is that it has created the impression outside the Naval Service that we face an impenetrable "wall at sea" that cannot be overcome. The second is the misperception that this is a new problem when, in fact, such strategies have been employed since at least the fifth century, B.C., when the Greeks employed what is more properly called a "sea denial" strategy against the Persians. See Sam Tangredi, *Anti-Access Warfare: Countering A2/AD Strategies*. Annapolis, MD: Naval Institute Press, 2013.

(7) Large ships offer superior endurance and flexibility for forward presence but are lucrative targets.

(8) Geography matters—especially key maritime terrain and hydrography.

c. **Naval Integration.** Recognizing the growing threat, beginning in 2006 successive Chiefs of Naval Operations (CNO) and Commandants of the Marine Corps (CMC) published a series of strategy, concept, and guidance documents, as well as professional journal articles, which increasingly called for more flexibility in task organizing and employing Navy and Marine Corps forces and capabilities.[5] Two of the Service chiefs summarized the issue succinctly in a professional journal by stating that the Navy and Marine Corps cannot "confront events in the littorals as carefully segregated specialists" because the "changing set of challenges in the emerging security environment requires a naval team that is smoothly integrated and easily adaptable to new situations."[6] *A Cooperative Strategy for 21st Century Seapower* outlines the need for the Naval Service to develop new warfighting concepts which identify the capabilities and solutions required to gain and maintain access and freedom of action in the global commons.

d. **Concept Development Guidance.** Given the foregoing, at the Navy-Marine Corps Warfighter Talks conducted on 10 June 2015, senior U.S. Naval leadership, using a framework spanning crisis response in uncertain environments and contingencies in hostile environments, issued guidance to develop the *Littoral Operations in a Contested Environment* concept. The word "littoral" was specifically chosen to frame the content in a manner that is much broader than just amphibious operations. The CNO and CMC endorsed the consensus position to explore a more integrated application of Navy and Marine Corps capabilities in operations on and from the sea. This included considering new, scalable models of command and control unconstrained by current force constructs and terminology.

e. **Concept Development Events.** In August 2015, the Deputy Chief of Naval Operations for Operations, Plans and Strategy and the Deputy Commandant for Combat Development and Integration issued a planning order that formalized the tasks and guidance to the concept development team. Accordingly, in September 2015, the writing team presented a plan of actions and milestones to the Naval Board, which had oversight authority for the project. The concept development plan, conducted as a collaborative effort between the Navy and Marine Corps, included a series of workshops, a "capabilities" game run by the Center for Naval Analyses (CNA) in December 2015, and the annual Naval Service Game in February 2016. The two wargames provided critical venues wherein Sailors and Marines from the operating forces were able to examine key ideas and provide insights to the concept development team.

f. **Literature Review.** In addition to the prescribed activities and events, the concept development team conducted an extensive literature review. This included research on littoral operations in general as well as specific related topics. These topics included adversary sea

[5] Most prominent among them are the 2007 and 2015 versions of the maritime strategy, the 2006 and 2010 editions of the *Naval Operations Concept*, the *Marine Corps Operating Concept*, the *36th Commandant's Planning Guidance*, the 37th Commandant's *FRAGO*, and the CNO's *A Design for Maintaining Maritime Superiority*.
[6] General James F. Amos and Admiral Jonathan W. Greenert, "A New Naval Era," U.S. Naval Institute *Proceedings*, June 2013.

denial/sea control strategies, sensor and weapon capabilities, naval command and control, and naval operational art. These writings allowed the team to leverage the insights of historians, naval theorists, allies, intelligence analysts, and experienced naval leaders over time in order to identify the considerations and enduring truths that informed the concept. Naval personnel who will be engaged in testing and refining this concept would be well served by leveraging the bibliography provided in Appendix C. At a minimum, for a thorough understanding of the nature and theory of littoral operations, they should start with *Fleet Tactics and Coastal Combat* by retired U.S. Navy Captain Wayne Hughes, Professor Emeritus of the Naval Postgraduate School, and *On Littoral Warfare* by Dr. Milan Vego, Professor of Joint Military Operations at the Naval War College.[7]

4. Military Problem

Certain aspects of naval operational art have not been adequately developed for 21st century warfare. The Navy and Marine Corps already possess some very effective capabilities. However, adversaries demonstrate the ability to rapidly adapt and implement sophisticated counters to U.S. capabilities. The Navy and Marine Corps need to renew integrated naval approaches for applying those capabilities, adapt them to meet emerging challenges, and identify capability gaps that must be overcome. At a time when adversary capabilities have extended the seaward reach of land-based weapons, thereby blurring the dividing line between land and sea, Navy and Marine Corps forces are often employed as separate entities in an artificially divided maritime battlespace. These practices inhibit the effective application of our complementary capabilities. Friendly naval forces lack recent experience employing unified and integrated task forces able to conduct operations in a contested littoral against advanced threats. Task-organized naval forces must be able to flexibly apply the capabilities resident in each Service both at sea and ashore. However, given advances in adversary sensor and weapon capability and capacity, as well as geographic considerations and global commitments, fleet commanders/JFMCC may be challenged to assemble the required capabilities, capacities, span of control, or optimal formations to effectively respond to crises, address larger contingencies, and deter aggression in contested littorals. Subordinate elements of the problem include:

a. **Dissimilar Command and Control Constructs**. Naval forces require a common tactical command and control doctrine for integrated Navy and Marine Corps operations in a unified maritime battlespace.

b. **Insufficient Marine Corps Representation Within the Fleet/JFMCC Staffs.** The strategic environment and Service chief guidance call for the more integrated application of Navy and Marine Corps capabilities, but there is insufficient Marine representation within the fleet/JFMCC staffs to do this effectively. While the maritime operations centers (MOC) within each fleet provide the venue for operational level planning and execution, the existing fleet/JFMCC staffs that man those facilities require resident expertise regarding landward operations in general and Marine Corps capabilities, limitations, and support requirements in particular.

[7] Dr. Vego's article offers a number of thought provoking force structure recommendations that helped inform, but are not mirrored in, this concept.

c. **Augmentation of Amphibious Ready Groups/Marine Expeditionary Units (ARG/MEUs).** The ARG/MEUs are optimized for forward-postured crisis response and may require augmentation to operate in some environments, depending on the nature of the threat.

d. **Capacity Challenges**. Navy and Marine Corps forces may be at a capacity disadvantage within key regions. In some instances, naval formations may need to composite additional assets to provide sufficient organic air and missile defense capacity or capability to conduct operations in the face of land-based precision weapons. Capacity challenges, and how they might be mitigated, can be viewed through three lenses:

(1) ***MAGTF Capabilities Not Fully Leveraged***. Marine air-ground task forces (MAGTFs) are designed for seaborne power projection in which their primary mission lies ashore. These include forward-postured MEUs that routinely conduct sea-based engagement and crisis response, as well as the episodic projection of Marine expeditionary brigades (MEB) as part of an amphibious or maritime preposition force operation. When required, these MEBs can be expanded into a full Marine expeditionary force (MEF) capable of conducting sustained operations ashore. In addition to these existing roles, MAGTFs have the as yet untapped potential to make significant contributions—from either a sea-based or land-based posture—to the sea control fight.

(2) ***Composition of the Surface Force.*** Following the Cold War, some surface force capabilities and capacities for sea control were de-emphasized, and select foundational warfare skills eroded over time. The emergence of sophisticated sea denial strategies has driven a need to shift to an offensive imperative to control the seas. The surface warfare community has identified the need to counter rapidly evolving missile, air, submarine, and surface threats. This includes the need to develop missiles that represent a significant improvement in capability and to employ them more broadly across the force. The surface warfare community has also called for a more fully integrated Marine Corps–surface force combat team to provide persistent presence that can influence and control events at sea and in the littorals.[8]

(3) ***Risk to High Value Units***. Each ship within the current carrier strike groups (CSGs) and ARG/MEUs provides capabilities critical to the force as a whole, meaning that the loss of a single ship would degrade the force's ability to accomplish the mission. It is therefore imprudent to task those ships with inshore operations in complex archipelagoes or confined and shallow waters, where geography and battlespace geometry allow an adversary to concentrate diverse weapons systems to maximum advantage. "The coastal defender's wide range of options and his freedom to initiate a strike practically any time he chooses to do so create a threat that is both continuous and immediate."[9] In the face of this unremitting threat, a surface platform's self-defense systems—along with its crew's vigilance and the captain's decision-making—must perform flawlessly 100% of the time. As stated by one of the participants in the Naval Services Game, "A fleet commander needs some chess pieces he can wager without risking the whole game." Lacking such assets, commanders can be expected—rightly—to approach littoral

[8] VADM Thomas Rowden, RADM Peter Gumataotao, and RADM Peter Fanta, USN, "Distributed Lethality," U.S. Naval Institute *Proceedings*, January 2015.
[9] Rear Admiral Yedidia Ya'ari, Israel Navy, "The Littoral Arena: A Word of Caution." Naval War College Review, (Spring 1995), p.8.

operations with a tactically defensive orientation. To promote a more offensive orientation, fleet commanders/JFMCC must have strong screening and scouting capabilities to develop and maintain a tactical picture. By complementing current capabilities with a sufficient number of lower-end units, commanders will have more options available to accept calculated risk in confined and shallow waters.

5. Desired End State

Naval forces capable of operating in contested littorals with sufficient freedom of action to accomplish likely objectives. Broadly stated, these objectives are:

a. Gain and maintain battlespace awareness.

b. Establish persistent sea denial capabilities forward to deter aggression in the littorals.

c. In a hostile environment, establish sea control.

d. In an uncertain environment, employ sufficient defensive and non-lethal capabilities to conduct operations in the face of sea denial threats.

e. Conduct maritime power projection operations.

> The main prerequisites for success in littoral warfare are suitable and diverse platforms, weapons, and sensors; robust command organization; close cooperation among friendly forces; air superiority; well-developed theory; and sound doctrine.
>
> —Dr. Milan Vego
> *On Littoral Warfare*
> Naval War College Review, 2015.

6. Central Idea

The Navy and Marine Corps will refine how we organize, train, and equip forces in order to provide the fleet commanders/JFMCC the ability to operate in all five dimensions of the littorals for the duration required. These five dimensions include: (1) seaward (both surface and subsurface); (2) landward (both surface and subterranean); (3) the airspace above; (4) cyberspace; and (5) the electromagnetic spectrum.[10] These refinements will give the fleet commanders/JFMCC a wider range of integrated, Navy-Marine Corps force options and additional sensor and weapons capacity. These task organizations will fight with unity of command, employing networked, sea-based and land-based capabilities as well as common doctrine and operating principles, to counter adversary sea denial forces, disrupt his C4ISR-strike complex, and overcome disadvantages in capacity and/or weapons range. In sum, the goal is to create a modular, scalable, and integrated naval network of sea-based and land-based sensors, shooters, and sustainers that provides the capabilities, capacities, and persistent yet mobile forward presence necessary to effectively respond to crises, address larger contingencies, and deter aggression in contested littorals.

[10] As we refine force organization, training, and equipment for operations in all dimensions of the littorals, there is a temporal aspect to force employment that must be considered. How long it takes to conduct key tasks, how long we can maintain certain conditions, as well as the anticipated duration of a given operation, are important factors.

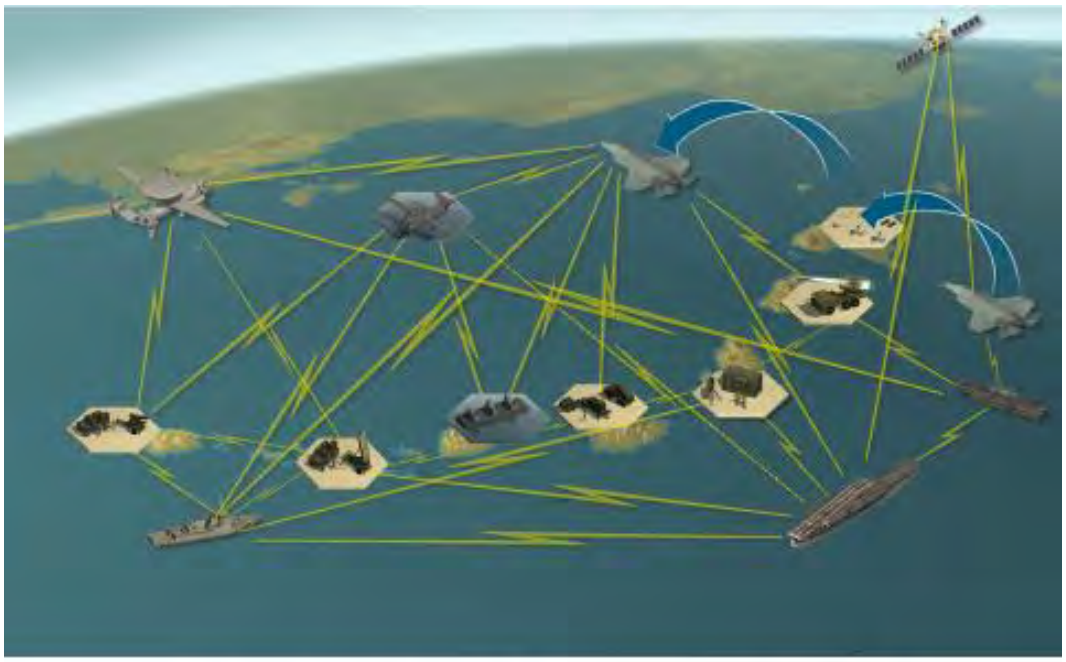

Figure 1: Notional example of an integrated naval network of sea-based and land-based sensors, shooters, and sustainers.

7. Supporting Ideas

a. **Composite Warfare Commander (CWC)**. The Navy and Marine Corps will conduct wargaming, experimentation, and exercises to determine the most effective way to integrate Marine Corps capabilities into the CWC construct for operations on the sea and from the sea, and from the land to the sea. Near-term wargames will be used to develop pre-doctrinal solutions that will be tested and refined in subsequent games, experiments and exercises. Marine participation in CWC has been debated for many years. Consensus feedback provided by participants during recent wargames and exercises has recommended that the Navy and Marine Corps explore CWC as a common command and control construct. The composite warfare organization facilitates simultaneous, integrated offensive and defensive combat operations against multiple targets and threats. Flexibility of implementation, reinforced by clear guidance to subordinates, and use of command by negation are keys to decentralized control of the tactical force. The officer in tactical command (OTC) may implement a composite warfare organization whenever and to whatever extent required, depending upon the composition and mission of the force and the capabilities of the adversary. The composite warfare construct allows the OTC to assign some or all of the command functions associated with mission areas to warfare commanders, functional group commanders, and coordinators, thus supporting decentralized execution.[11] The philosophy of decentralized execution that is inherent in CWC is entirely consistent with "mission tactics" as espoused in the Marine Corps' maneuver warfare doctrine. Potential revisions to NWP 3-56, *Composite Warfare: Maritime Operations at the Tactical Level of War,* include options for employing MAGTF commanders as a warfare commander. For example, landing force

[11] See NWP 3-56, *Composite Warfare: Maritime Operations at the Tactical Level of War*, for additional details.

operations, maritime prepositioning offload operations, and expeditionary advanced base operations (EABO) (described in paragraph 7.d. (1) below) are not currently included under any of the warfare commander options within CWC. These missions could be conducted by a MAGTF commander designated as an "expeditionary warfare commander" (EXWC). The potential solution may also include, depending on the formations involved, the option of employing the MAGTF commander as a strike warfare commander (STWC), given the capabilities of Marine aviation and ground-based fires. Each warfare commander, whether a Navy officer or Marine officer, will support or receive support from the other warfare commanders as the tactical situation demands and CWC directs. For example, current, emerging and envisioned Marine Corps capabilities (ISR assets, air defense batteries, F-35B/C, the High Mobility Artillery Rocket System (HIMARS), coastal defense cruise missiles (CDCM), etc.) can be integrated into the CWC construct as additional sensor and firing nodes for the various warfare commanders, including the STWC, surface warfare commander (SUWC), and air and missile defense commander (AMDC). For those cases in which expeditionary operations primarily encompass forces from Navy expeditionary forces (NEF), a Navy officer from these forces may be designated the EXWC. Alternate command and control options for Navy mine warfare capabilities should also be considered during follow-on wargaming and experimentation.

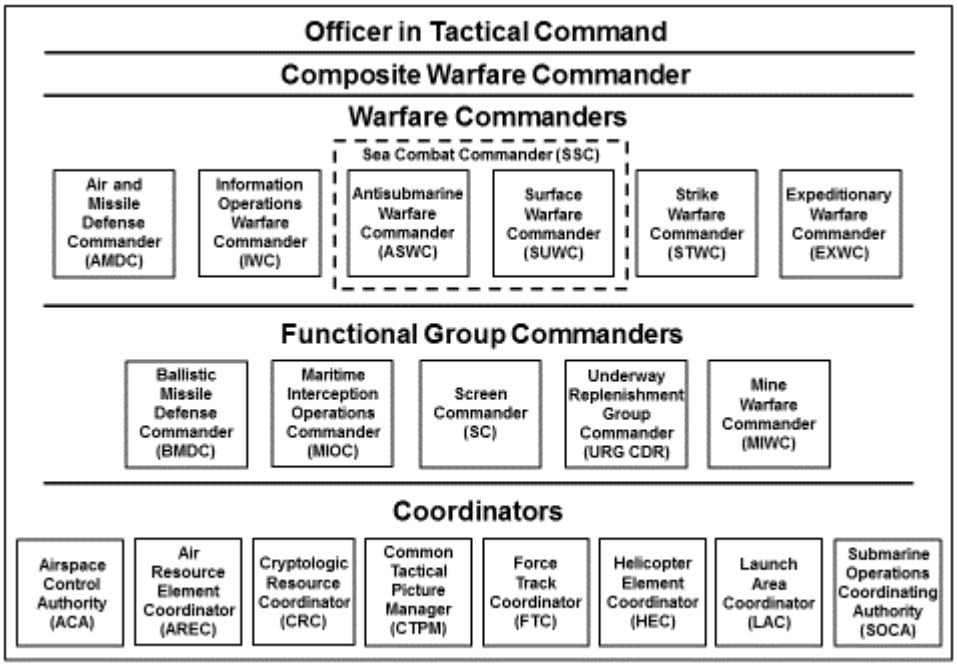

Figure 2: Notional Options Within a Revised Composite Warfare Construct.

b. **Integrated Fleet/JFMCC Staffs**. The Navy and Marine Corps will explore assigning Marine subject matter experts (SMEs) to fleet/JFMCC staffs to provide the requisite expertise regarding Marine Corps capabilities, limitations, and support requirements. These Marine assignments should be to actual billets within each staff, rather than liaison positions, to create an integrated "blue/green" staff. Such a staff will support the commander's ability to plan and execute operations involving the gamut of Navy and Marine Corps capabilities. Additionally, future crises and contingencies could benefit from deliberately planned force options that give the fleet commander/JFMCC flexibility. For example, while CSGs are the principle formations

that fleet/JFMCC commanders employ to establish sea control, a blue/green staff can advise the commander regarding the complementary application of Marine Corps capabilities within the CWC construct to support the sea control fight.

c. **Littoral Combat Groups (LCG)**. The Navy and Marine Corps will explore the viability of a force package designed to establish sea control in order to conduct crisis response in an uncertain environment. Due to the focus on sea control, the LCG would be Navy flag led as an integrated naval task group that includes an ARG, a MEU, one or more a surface combatants, and select capabilities from the NEF. In the event of an expanding crisis or larger contingency, when more combat power is required to gain sea control, the fleet/JFMCC commander may elect to reinforce the LCG with additional capabilities or combine the LCG with other formations such as a CSG, an afloat MEB, or a special purpose MAGTF. Major areas for innovation include:

(1) ***Command Element***. Commanded by a Navy flag officer who is supported by an integrated Navy-Marine staff, the LCG command element is envisioned as a means of providing continuity of command in the event that crisis response operations expand into larger contingencies. It also provides the seniority, expertise, and unity of command necessary to conduct integrated operations by a larger formation in the seaward and landward portion of the contested littoral. While in an earlier era both Navy admirals and Marine generals were eligible to command the original incarnation of the expeditionary strike groups (ESG), that construct was feasible only because U.S. naval forces enjoyed presumptive maritime superiority. The nature of the threats across the domain into and within the seaward portion of the littoral is such that an LCG is appropriately commanded by a Navy flag officer. Determining the composition and location afloat of the LCG command element, along with the command structures of the subordinate ARG, MEU, surface combatants, and NEF detachments, will rely on a detailed functional analysis conducted with due consideration for embarkation, allocation of spaces, C4ISR requirements, and be informed by rigorous live experimentation. This functional analysis should consider how the emerging family of expeditionary ships[12] might be added to the LCG as a means of redistributing embarked assets in order to accommodate a flag command element and NEF detachments, as well as to expand distributed maneuver options.

(2) ***Littoral Sea Combat***. Assign or attach SUW, ASW, and expeditionary MCM capabilities to the LCG, as required to gain sea control in the littorals. The fleet commander/JFMCC determines the capabilities and capacities required to counter the threats an LCG will likely encounter within the region, and assigns or attaches forces accordingly.

(3) ***Air and Missile Defense***. Ensure the defensive capabilities of the LCG are sufficient to operate in the contested littorals without unacceptable risk.

(4) ***Littoral Raid Forces.*** Provide the LCG a high-speed, long-range, low-signature combatant craft capable of projecting and recovering Marines for a variety of missions. As an interim measure/proof of concept, Mk VI patrol boats or Riverine Command Boats from the

[12] The family of expeditionary ships includes the following types: expeditionary fast transport (EPF) (formally called the joint high speed vessel/JHSV); expeditionary transfer dock (ESD) (formerly called the mobile landing platform/ MLP); and the expeditionary base mobile (ESB).

NEF Coastal Riverine Force (CRF) may be useful surrogates for experimentation that informs development of some future craft specifically designed for this purpose.

d. **Increasing Capacity**. Recognizing that capability and capacity will always be subject to resource constraints, the Navy and Marine Corps team needs to examine ways to leverage existing capabilities while also seeking relatively low-cost means to further negate adversary capacity. Major areas for innovation include:

(1) ***Expeditionary Advanced Bases***. Further mitigate the adversary's sensor and shooter capacity advantages by implementing the *Expeditionary Advanced Base Operations* (EABO) concept being developed by the Marine Corps. While EABO was initiated separately from the Navy's *Distributed Lethality* effort (described below), the two concepts are complementary and there has been beneficial interaction among the two development teams. The EABO concept further distributes lethality by providing land-based options for increasing the number of sensors and shooters beyond the upper limit imposed by the quantity of seagoing platforms available. The EABO concept espouses employing mobile, relatively low-cost capabilities in austere, temporary locations forward as integral elements of fleet/JFMCC operations. As such, these land-based capabilities would be employed by the EXWC within the CWC construct in support of the other warfare commanders. Expeditionary advanced bases may be used to position naval ISR assets, future CDCMs, anti-air missiles (to counter cruise and ballistic missiles as well as aircraft), and forward arming and refueling points (FARPs) and other expedient expeditionary operating sites for aircraft, critical munitions reloading teams for ships and submarines, or to provide expeditionary basing for surface screening/scouting platforms, all of which serve to increase friendly sensor and shooter capacity while complicating adversary targeting. They may also control, or at least outpost, key maritime terrain to improve the security of sea lines of communications (SLOCs) and chokepoints or deny their use to the enemy, and exploit and enhance the natural barriers formed by island chains. The EABO concept provides the opportunity to "turn the sea denial table" on potential adversaries and deter fait accompli actions. This can be done in a pre-crisis manner through security cooperation activities with our partners and allies. This could include pre-staging equipment and supplies in key regions, conducting EABO exercises, and perhaps even creating more persistently forward postured—but continuously mobile—forces task organized for EABO. This would give the fleet commander/ JFMCC sea denial assets persistently postured in potentially disputed areas in order to deter aggression. In the event of crises, EABO can be employed in support of task forces maneuvering into the area to seize the initiative. To fully leverage the DL and EABO initiatives, the Navy and Marine Corps must pursue the ability to network sea-based and land-based sensors and shooters. Additionally, the Navy should determine what current or planned sensors and weapons can be fielded in an expeditionary variant while the Marine Corps should determine what changes to existing Marine systems can enhance their utility in a sea denial or sea control fight. Furthermore, new initiatives, such as fielding a common anti-ship missile that can be launched from existing surface combatants, submarines, manned (and perhaps unmanned) aircraft, and mobile ground launchers, should be explored.

(2) ***Distributed Lethality***. Mitigate the adversary's sensor and missile capacity advantages by leveraging the ideas presented in the *Distributed Lethality* (DL) white paper. The DL white paper is a Surface Force initiative in which the offensive capacity of the entire surface fleet

would be increased and the surface force would be employed in "dispersed" offensive formations known as "hunter-killer" surface action groups (SAGs). Both of the DL and EABO concepts seek to impose increased battlespace complexity on the adversary and confound his decision calculus by forcing him to allocate sensors and shooters against a wider—and more dispersed—set of threats. The forward posturing of sensors and weapons, such as the Ground/Air Task Oriented Radar (G/ATOR), Navy tactical and electronic warfare collection capabilities, and re-purposed HIMARS, integrated into fleet operations via CWC, would further complement the DL initiatives designed to expand sea control capability and capacity.

(3) ***Screening/Scouting Surface Forces***. Explore complementing current fleet composition, incorporating the ideas of DL, and reducing the risk of inshore operations in complex archipelagoes or confined and shallow waters through the establishment of screening/scouting surface forces in proximity to key operating areas. The idea of fielding screening/scouting surface forces, employed in conjunction with manned and unmanned aircraft, supports the ideas within the DL and EABO concepts, as "hard to find, hard to hit" platforms, operating from mobile expeditionary locations or an afloat forward staging base would further complicate adversary targeting and help provide friendly forces a favorable missile ratio.

h. **Force on Force Littoral Exercises**. Our current certification exercises serve valid and useful purposes. However, they need to be complemented by realistic and stressful littoral exercises that challenge leaders' cognitive skills and accelerate learning. Revitalizing littoral operational art requires a realistic and challenging training environment that places humans and machines in conditions as close to actual combat as possible. The most effective way of achieving this is by conducting realistic, evaluated force-on-force exercises—using a combination of physical and virtual means—that produce winners and losers. To enable this approach, "friendly" forces must be pitted against a red team that replicates the capabilities and tactics likely to be employed by adversaries in the littorals. By putting our concepts, doctrine, organizations, tactics and capabilities to the test under stressful conditions, we will learn what works and what doesn't. We will determine how to integrate new technology and how to coordinate actions in all dimensions and warfare specialties. Most importantly, leaders will be forced to make time-sensitive decisions in the face of uncertainty and then—in a rigorous post exercise critique—explain their actions to their seniors, peers, and subordinates. This is not a novel idea; it is the method used by the fleet and fleet Marine force commanders during the interwar period that generated victory in World War II. Leaders need to prepare themselves for these demanding events through unremitting professional study, conducting rigorous analysis of friendly and enemy capabilities, developing an aggressive spirit tempered by realism, and fostering the ability to think like the enemy.[13]

8. Command and Control for a Continuum of Operations

The ability to conduct a continuum of operations is predicated on the idea that the fleet commanders/JFMCC can adjust command arrangements—to include task organization, subordinate unit command relationships, and the assignment of battlespace—as needed to meet

[13] Edward S. Miller, *War Plan Orange: The U.S. Strategy to Defeat Japan, 1897-1945*. Annapolis, MD: Naval Institute Press, 1991, p. 17.

changing circumstances. This flexibility can be understood by considering the evolution from initial deployment and steady-state activities to crisis response to larger contingencies.

a. Currently, ARG/MEU assets are often employed over wide areas within a region or tasked to conduct distributed operations across regional boundaries. Similarly, it is anticipated that LCG assets will normally be distributed within or across regions to conduct a wide array of missions, with maritime security operations and security cooperation activities being the most common. When episodic crises occur, the fleet commander/JFMCC may task organize available naval forces and assign them to a LCG commander. The most likely missions will be noncombatant evacuation, embassy reinforcement, foreign humanitarian assistance, and strikes or raids against violent extremist organizations.

b. In the event of larger contingencies, in which a significantly more capable force is required to deter or contain conflict, the fleet commander/JFMCC will review and prioritize requirements and aggregate additional Navy and Marine Corps forces as needed.

c. A key aspect of effective force aggregation is the need to develop common tactics, techniques, and procedures that promote effective integration of all fleet and select fleet Marine force units. An historical example of the benefit of a fleet-wide SOP can be found in *Current Tactical Orders and Doctrine, U.S. Pacific Fleet*, more commonly known as "PAC 10," of 1943. This manual made it "possible for forces composed of diverse types, and indoctrinated under different task force commanders, to join at sea on short notice for concerted action against the enemy without interchanging a mass of special instructions."[14] As noted in the manual's introduction. "The ultimate aim is to obtain essential uniformity without unacceptable sacrifice of flexibility."[15]

9. Proposed Capabilities

The following is a list of notable capabilities required to implement this concept. This list should not be considered exhaustive. Additional capabilities will likely be identified through wargaming, experimentation, and exercises.

a. **Command and Control**

(1) Ability to form and command and control scalable, integrated Navy and Marine Corps task organizations (i.e., task force, task group, task unit) from globally distributed forces based on mission requirements.

(2) Ability to command and control naval task organizations in denied, degraded, and exploited environments (D2E2).

[14] Thomas C. Hone, "Replacing Battleships with Aircraft Carriers in the Pacific in World War II." Naval War College Review, (Winter 2013). p. 63.
[15] Trent Hone, "U.S. Navy Surface Battle Doctrine and Victory in the Pacific." Naval War College Review, (Winter 2009), p 75.

(3) Ability to employ a combination of integrated and interoperable Navy and Marine Corps C4ISR systems and networks to enable operations in all dimensions of the littoral battlespace.

(4) Ability to conduct expeditionary airborne early warning in support of littoral operations.

(5) Ability to integrate sea-based and land-based Marine Corps capabilities into the Navy's CWC construct.

(6) Ability to employ common, collaborative, and adaptable Navy-Marine Corps processes to support rapid planning and execution.

b. **Intelligence**

(1) Ability to rapidly develop battlespace awareness in uncertain environments, particularly with regards to threat anti-ship missiles, naval mines, air defenses, improvised explosive devices (IED), cyberspace capabilities, and unmanned systems.

(2) Ability to perform rapid and accurate mission assessment of fires.

(3) Ability to understand the entire littoral operating environment. This includes not only military features, but also natural and man-made terrain, hydrography, the "human terrain" in the area (culture, society, economy, technology, and population concentration/dispersion), civilian traffic (air, sea and land), the climate, and regional weather patterns.

c. **Fires**

(1) Ability to integrate Navy and Marine Corps lethal and non-lethal effects from afloat and ashore (e.g., EAB) for sea control and power projection.

(2) Ability to disrupt adversary command and control, movement, and maneuver, and intelligence capabilities and to protect our own, by employing synchronized Navy and Marine Corps lethal and non-lethal effects.

(3) Ability to strike adversary naval forces at longer ranges using ground, surface, subsurface or aviation platforms. This includes development of long range SUW missiles.

(4) Ability to provide land-based support to sea denial and sea control operations (e.g., coastal defense cruise missiles, rockets, artillery). This includes developing Marine Corps shore based anti-ship capabilities that can be integrated with Navy surface combatant sensors and weapons systems. This may be accomplished by modifying the munitions for existing systems, such as the HIMARS, or by modifying off-the-shelf CDCMs to meet our needs. Ideally, to simplify systems integration and logistics support, the Navy and Marine Corps will field a common missile or family of missiles that can be launched from air, surface, subsurface, or land-based means.

(5) Ability to support over-the-horizon amphibious raids and assaults.

(6) Ability to conduct over-the-horizon fire support for amphibious operations.

(7) Ability to rapidly employ and closely integrate SOF in support of naval objectives.

d. **Movement and Maneuver**

(1) Ability to establish expeditionary advance bases to support sea denial, sea control, power projection, and sustainment operations in contested environments.

(2) Ability to maneuver in cyberspace and the electromagnetic spectrum to assure command and control and ISR and deny the same to the adversary.

(3) Ability to employ scalable landing forces using a variety of platforms including amphibious ships as well as alternative capabilities, including Expeditionary Fast Transport (EPF) (a.k.a., JHSV), Expeditionary Transfer Dock (ESD) (a.k.a., MLP), Expeditionary Base Mobile (ESB) (a.k.a., AFSB), Dry Cargo Ammo Ships (T-AKE) and Littoral Combat Ship (LCS). (The use of alternate platforms in contested environments will have to be weighed carefully, balancing the additional lift capacity and flexibility against force protection requirements and the legal status of merchant mariners. Depending on the assigned tasks, under international law platforms designations may need to be changed from “USNS” to “USS” and have Navy personnel assigned.)

(4) Ability to conduct sea-based inshore maritime raids and amphibious advanced force operations.

e. **Protection**

(1) Ability to defend expeditionary advanced bases through active and passive means (the latter including the use of low-signature, mobile assets).

(2) Ability to defend forward logistics capabilities afloat and ashore.

(3) Ability to conduct littoral mine detection, avoidance, and clearance.

f. **Sustainment**

(1) Ability to protect logistics capabilities, and provide selective redundancy for critical requirements.

(2) Ability to sustain distributed naval forces with precision munitions and sufficient fuel in high intensity combat.

(3) Ability to rapidly establish mobile, clandestine expeditionary logistics bases to provide sustainment to afloat and expeditionary operating forces.

(4) Ability to provide logistics forces the mobility, protection, and agility to support widely dispersed forces with diverse support requirements.

(5) Ability for logistics at-sea forces to sustain forces in the contested littorals.

(6) Ability to utilize auxiliary platforms to augment logistics sustainment capacity, spread sustainment risk, and enhance operational tempo.

(7) Ability to fully integrate naval force logistics staffs to realize efficiencies and maintain operational tempo throughout the naval campaign.

(8) Ability to operate in a communications contested / degraded environment.

(9) Ability to synchronize distributed logistics forces.

(10) Ability to achieve battlespace awareness, manage signal control and conduct dynamic maneuvering.

(11) Ability to safeguard and improve the integrity of logistics data.

(12) Ability to conduct expeditionary maintenance and battle damage repair.

(13) Ability to conduct casualty and medical treatment and evacuation.

Appendix A – List of Acronyms and Abbreviations

AC2	Assured Command and Control
AFSB	Afloat Forward Staging Base
AMDC	Air and Missile Defense Commander
ARG	Amphibious Ready Group
ASCM	Anti-Ship Cruise Missile
ASW	Anti-Submarine Warfare
ATACMS	Advanced Tactical Missile System
C2	Command and Control
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CDCM	Coastal Defense Cruise Missile
C-ISR	Counter Intelligence, Surveillance & Reconnaissance
CLF	Combat Logistics Force
CMC	Commandant of the Marine Corps
CNA	Center for Naval Analyses
CNO	Chief of Naval Operations
CO	Cyberspace Operations
COP	Common Operational Picture
CRF	Coastal Riverine Force
CSG	Carrier Strike Group
CTP	Common Tactical Picture
CWC	Composite Warfare Commander
DCO	Defensive Cyberspace Operations
DiAL	Distributed Agile Logistics
DCGS-N	Distributed Common Ground System-Navy
DL	Distributed Lethality
DOD	Department of Defense
DOTMLPF-P	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy
D2E2	Denied, Degraded, and Exploited Environment
EAB/EABO	Expeditionary Advanced Base/Expeditionary Advanced Base Operations
EMS	Electromagnetic Spectrum
EMW	Electromagnetic Maneuver Warfare
EO-IR	Electro-Optical-Infrared
EPF	Expeditionary Fast Transport (formerly Joint High Speed Vessel)
ESB	Expeditionary Mobile Base (formerly Afloat Forward Staging Base)
ESD	Expeditionary Transfer Dock (formerly Mobile Logistics Platform)
ESG	Expeditionary Strike Group
ESSM	Evolved Sea Sparrow Missile
EW	Electronic Warfare
EXLOG	Expeditionary Logistics
EXMCM	Expeditionary Mine Countermeasures Company
EXWC	Expeditionary Warfare Commander
F2T2	Find, Fix, Target, Track

FARP	Forward Arming and Refueling Point
F2T2EA	Find, Fix, Track, Target, Engage, and Assess
G/ATOR	Ground/Air Task Oriented Radar
GEOINT	Geospatial Intelligence
HIMARS	High Mobility Artillery Rocket System
HUMINT	human intelligence
ICS	Industrial Control Systems
IED	Improvised Explosive Device
IET	Intelligence Exploitation Team
ISR	Intelligence, Surveillance, and Reconnaissance
JFC	Joint Force Commander
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime Component Commander
LCG	Littoral Combat Group
LCS	Littoral Combat Ship
LPD	Amphibious Transport, Dock
LPI	Low Probability of Intercept
MAGTF	Marine Air-Ground Task Force
MEU	Marine Expeditionary Unit
MEB	Marine Expeditionary Brigade
MCM	Mine Countermeasures
MCO	Major Combat Operation
MIW	Mine Warfare
MIWC	Mine Warfare Commander
MLP	Mobile Landing Platform
MOC	Maritime Operations Center
NECC	Navy Expeditionary Combat Command
NECF	Navy Expeditionary Combat Force
NLI	Naval Logistics Integration
NTM	National Technical Means
NWP	Navy Warfare Publication
OCO	Offensive Cyberspace Operation
OTC	Officer in Tactical Command
OPLOG	Operational Logistics
RAM	Rolling Airframe Missile
SAG	Surface Action Group
SAM	Surface-to-air missile
SC	Surface Combatant
SIGINT	Signals Intelligence
SLOC	Sea Lines of Communication
SME	Subject Matter Expert
SOF	Special Operations Forces
SOP	Standard Operating Procedures
SSEE INC	Ship’s Signals Exploitation Equipment Increment
STWC	Strike Warfare Commander
SUW	Surface Warfare

SUWC	Surface Warfare Commander
TACSIT	Tactical Situation
T-AKE	Dry Cargo Ammunition Ship
TLAM	Tomahawk Land Attack Missile
TTP	Tactics, Techniques, and Procedures
UAS	Unmanned Aircraft System
UUV	Unmanned Underwater Vehicle/Vessel

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Appendix B – Key Definitions

advanced base: A base located near an operational area whose primary mission is to support military operations. (JP 3-34)

aggregate: To collect units or parts into a mass or whole.

air superiority: That degree of dominance in the air battle by one force that permits the conduct of its operations at a given time and place without prohibitive interference from air and missile threats. (JP 3-01)

all domain access: The ability to project military force in contested areas with sufficient freedom of action to operate effectively. (*A Cooperative Strategy for 21st Century Seapower*, March 2015)

amphibious advance force: A temporary support force assigned to the amphibious force that conducts shaping operations in the amphibious objective area or operational area prior to the arrival of the amphibious force. (JP 3-02)

amphibious assault: A type of amphibious operation that involved establishing a force on a hostile or potentially hostile shore. (JP 3-02)

amphibious raid: A type of amphibious operation involving swift incursion into or temporary occupation of an objective followed by a planned withdrawal. (JP 3-02)

area of operations: An operational area defined by the joint force commander for land and maritime forces that should be large enough to accomplish their missions and protect their forces. (JP 3-0)

assign: To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. (JP-03)

attach: The placement of units or personnel in an organization where such placement is relatively temporary. (JP-03)

clandestine: Any activity or operation sponsored or conducted by governmental departments or agencies with the intent to ensure secrecy or concealment. (JP 2-01-2).

composite: For the purposes of this concept, to attach disparate units from various organizations to form a new but temporary organization under a single commander for a specific mission. (NWDC, MCWL)

contingency operation: A military operation that is either designated by the Secretary of Defense as a contingency operations or becomes a contingency operation as a matter of law (Title 10, United States Code, Section 101(a)(13). (JP 1)

covert operation: An operation that is so planned and executed as to conceal the identity of or permit plausible denial by the sponsor. (JP 3-05)

crisis: An incident or situation involving a threat to a nation, its territories, citizens, military forces, possessions, or vital interests that develops rapidly and creates a situation of such diplomatic, economic, political, or military importance that commitment of military forces and resources is contemplated to achieve national objectives. (JP 3-0)

dispersal: Relocation of forces for the purpose of increasing survivability. (JP 3-01). For the purposes of this concept, this definition is expanded to include the following: Operations in which subordinate elements increase physical separation to mitigate threats or better support mission accomplishment. Dispersed elements remain under the command and control of their organic unit and their activities support its mission. (NWDC, MCWL)

disrupt: A tactical mission task in which a commander integrates direct and indirect fires, terrain, and obstacles to upset an enemy's formation or tempo, interrupt his timetable, or cause his forces to commit prematurely or attack in a piecemeal fashion (FM 3-90).

distributed: For the purposes of this concept, "distributed" refers to forces, platforms or capabilities that have been intentionally spread over an area in order to accomplish some designated military task. Some examples include: conducting concurrent security cooperation activities in multiple locations; conducting patrols or surveillance over an extended area; screening other friendly forces; deceiving an adversary; attacking an adversary from multiple locations/directions; or complicating an adversary's ability to target friendly forces. (NWDC, MCWL)

electromagnetic maneuver warfare (EMW): EMW is the Navy's warfighting approach to gain decisive military advantage in the electromagnetic spectrum (EMS) and enable freedom of action across all Navy mission areas.

end state: The set of required conditions that defines achievement of the commander's objectives (JP 3-0)

expeditionary force: An armed force organized to accomplish a specific objective in a foreign country. (JP 3-0)

expeditionary: For the purposes of this concept, the characteristics of a force—such as the institutional ethos, readiness, mobility, and complementary capabilities—that allow it to be light enough to get to a scene of action quickly yet capable enough to accomplish the mission or provide time and options prior to the arrival of additional forces. (Adapted from *Expeditionary Force 21*)

hostile environment: In a hostile environment, hostile forces have control, intent, and capacity to effectively oppose or react to the operations a unit intends to conduct. (JP 3-02)

integration: The arrangement of military forces and their actions to create a force that operates by engaging as a whole. (JP 1)

interoperable: The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. (JP 6-0)

kill chain: The adversary's command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems and weapons launchers. ("Breaking the Kill Chain", Admiral Jonathan Greenert and General Mark Welsh, 16 May 2013).

littoral: A. In naval operations, that portion of the world's land masses adjacent to the ocean within direct control of and vulnerable to the striking power of sea-based forces. (NTRP 1-02) B. The littorals comprise two segments of operational environment: 1. Seaward: the area from the open ocean to the shore, which must be controlled to support operations ashore. 2. Landward: the area inland from the shore that can be supported and defended directly from the sea. (JP 1-02)

littoral operations area: For the purposes of this concept, a geographical area encompassing the seaward and landward portions of the battlespace and the airspace above that is of sufficient size for littoral forces to accomplish assigned missions. (NWDC, MCWL)

maritime domain: The oceans, seas, bays, estuaries, islands, coastal areas, and the airspace above these, including the littorals. (JP 3-32)

maritime power projection: Power projection in and from the maritime environment, including a broad spectrum of offensive military operations to destroy enemy forces, their logistic support, or to prevent enemy forces from approaching within enemy weapons' range of friendly forces. Credible power projection supports deterrence objectives and activities. Power projection may be accomplished by an amphibious raid or assault, attack of targets ashore (e.g., strike operations, close air support [CAS}, naval surface fire support [NSFS], ballistic missile defense [BMD]), sea-control operations, operations conducted from a seabase, or a combination of these. (JP 3-32)

maritime superiority: That degree of dominance of one force over another that permits the conduct of maritime operations by the former and its related land, maritime, and air forces at a given time and place without prohibitive interference by the opposing force. (JP 3-32)

mission: The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore (JP 3-0)

neutralize: As pertains to military operations render ineffective or unusable (JP 3-0).

noncombatant evacuation operations: Operations directed by the State Department or other appropriate authority, in conjunction with the Department of Defense, whereby noncombatants are evacuated from foreign countries where their lives are endangered by war, civil unrest, or natural disaster to safe havens as designated by the Department of State. (JP 3-68)

objective: The clearly defined, decisive, and attainable goal toward which every operation is directed (JP 3-0)

operation: A sequence of tactical actions with a common purpose or unifying theme. (JP 3-0)

operational environment: A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. (JP 3-0)

outpost: For the purposes of this document, to put a force that is small but combat capable in a location forward in order to detect and delay an approaching enemy so the main force has advance warning and time to prepare. (NWDC, MCWL)

power projection: The ability of a nation to apply all or some of its elements of national power – political, economic, informational, or military – to rapidly and effectively deploy and sustain forces in and from multiple dispersed locations to respond to crises, contribute to deterrence, and to enhance regional stability. (JP-1-02)

raid: An operation to temporarily seize an area in order to secure information, confuse an adversary, capture personnel or equipment, or to destroy a capability culminating with a planned withdrawal. (JP 3-0)

scalable: Easy to make larger, more powerful, etc. (Merriam Webster Online Dictionary, June 2016)

sea control: The condition in which one has freedom of action to use the sea for one's own purposes in specified areas and for specified periods of time and, where necessary, to deny or limit its use to the enemy. Sea control includes the airspace above the surface and the water volume and seabed below. (NTRP 1-02)

sea denial: Partially or completely denying the adversary the use of the sea with a force that may be insufficient to ensure the use of the sea by one's own forces. (NTRP 1-02)

uncertain environment: Operational environment in which host government forces, whether opposed to or receptive to operations that a unit intends to conduct, do not have totally effective control of the territory and population in the intended operational area. (JP 3-0)

undersea warfare: Military operations conducted to establish and maintain control of the undersea portion of the maritime domain. (JP 3-32)

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"Today, the range of modern sensors and weapons extends hundreds of miles both seaward and landward, blurring the distinction between operations at sea and on land and necessitating an operational approach that treats the littorals as a singular, integrated battlespace."

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