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Composite Warfare Doctrine – Providing the JFMCC with the Optimal Command and Control Method for Amphibious Operations

by

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

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

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Paper Abstract

To maintain the capability to conduct large-scale amphibious operations in hostile environments, the JFMCC's command and control method must enable the closest cooperation between functional activities occurring simultaneously across multiple warfare domains. The existing command and control methods for amphibious operations must be reexamined to support the JFMCC's ability to fight in the 21st Century operational environment. This paper will examine and recommend for the JFMCC a command and control method to achieve the closest cooperation between disparate functional warfare domains in support of a brigade-size landing during a major operation. With the integration of a functional amphibious warfare commander, the command and control method defined by composite warfare (CWC) doctrine, will provide the JFMCC the optimal command and control method to support large-scale amphibious operations against increasingly hostile littoral regions.

INTRODUCTION

Operations conducted in the littoral region are characterized by greater increases in complex and diverse threats than in the past.¹ These increased threats, specifically those against maritime forces challenge the Joint Force Maritime Component Commander's (JFMCC) ability to provide sea control, project power, and gain and maintain access in the littoral region. In the future, amphibious operations to introduce large-scale forces will most likely occur in a hostile maritime area of operation.² In hostile littoral regions, cooperation and integration of functional warfare domains become increasingly importance to establishing sea control, power projection, and gaining access than in permissive maritime environments. As such, effective operations in the littoral region must seek to achieve the closest cooperation between disparate functional warfare domains.³

To maintain the capability to conduct large-scale amphibious operations in hostile environments, the JFMCC's command and control method must enable the closest cooperation between functional activities occurring simultaneously across multiple warfare domains. The existing command and control methods for amphibious operations must be reexamined to support the JFMCC's ability to fight in the 21st Century operational environment. This paper will examine and recommend for the JFMCC a command and control method to achieve the closest cooperation between disparate functional warfare domains in support of a brigade-size landing during a major operation. With the integration of a functional amphibious warfare commander, the command and control method defined by composite warfare (CWC) doctrine, will provide the JFMCC the optimal command and

¹ Milan Vego, "On Littoral Warfare," *Naval War College* Volume 68, no. 2 (2015): 31.

² United States Marine Corps, *Amphibious Operations in the 21st Century*, White Paper, Quantico, VA: USMC Combat Development Center, (18 March 2009): 10.

³ Milan Vego, "On Littoral Warfare," *Naval War College* Volume 68, no. 2 (2015): 30.

control method to support large-scale amphibious operations against increasingly hostile littoral regions.

BACKGROUND

The existing command and control methods, doctrinally associated with naval task forces and amphibious forces, do not provide the most effective method to conduct a brigade-size amphibious assault against a defended shore. Per joint amphibious doctrine, the traditional command relationship for amphibious operations, as defined by the co-equal relationship between the Commander Amphibious Task Force (CATF) and Commander Landing Force (CLF), provides the best command and control method for amphibious operations. However, a distinctly different command and control method, CWC doctrine, defines the amphibious task force's (ATF's) primary method of command and control. The CWC method of command and control establishes a command organization distinct from the CATF-CLF method. Though the CWC method supports the CATF, the complement of assets and capabilities in the embarked landing force (LF) are excluded from the CWC command and control organization. The existence of these two distinct command and control methods within the amphibious force prevent the landing force from achieving the closest integration with the amphibious task force to support power project and access against defended littoral regions.

Shortfalls in integration threaten the JFMCC's ability to realize the greatest utility from the assets in the maritime force. JP 3-02, *Amphibious Operations*, does imply that seams exist between CWC doctrine and amphibious doctrine. JP 3-02 states that, "the integration of the CWC doctrine with amphibious doctrine is difficult"⁴ Ineffective

⁴ U.S. Office of the Chairman of the Joint Chiefs of Staff, *Amphibious Operations*, Joint Publication (JP) 3-02, Washington, DC: CJCS, 18 July 2014: C-1.

integration between the CWC doctrine and amphibious doctrine can deprive the JFMCC of the ability to synchronize functional activities of the amphibious force's two task forces: the LF and the ATF. Furthermore, ineffective integration also denies the JFMCC of the synergistic effect created by employing the complementary capabilities of multi-mission capable platforms. The optimal command and control method for the JFMCC will support a higher-degree of integration than currently exists in amphibious forces, and will also support the new combinations and methods of force employment. Improvements in each of these aspects, facilitated by an improved command and control method, will better enable the JFMCC to support brigade-sized amphibious operations against defended littoral regions.

CATF-CLF Defined

The inherent complexities of conducting amphibious operations in a hostile maritime area of operations require a unique command relationship. Complexities exist in efforts to effectively integrate the disparate forces - naval assets and amphibious ships with embarked land forces - into a unified amphibious force.⁵ Once organized, complexities also exist in sequencing and synchronizing the activities necessary to transition combat power from the sea domain across the littoral to objectives in the land domain. In support of the JFMCC, JP 3-02 proposes the preferred method of command and control for this dynamic and inherently complex environment: the CATF-CLF framework.⁶

In a dynamic maritime environment, where the closest integration of naval assets and landing forces must be achieved, and while contending with the challenges of planning a cross-domain transition, the CATF-CLF framework appears to be optimal for the JFMCC. This is because the CATF-CLF framework provides the JFMCC with two commanders from

⁵ U.S. Office of the Chairman of the Joint Chiefs of Staff, *Amphibious Operations*, Joint Publication (JP) 3-02, Washington, DC: CJCS, 18 July 2014: I-1.

⁶ *Ibid.*, II-2.

disparate functional warfare domains through whom co-equality and shared expertise can develop a common understanding of the amphibious problem set.⁷

While conducting amphibious operations, the CATF and CLF participate in a transitioning command relationship, where the degree of authority shifts between commanders.⁸ This is mission dependent. The supported commander will exercise authority to direct elements in the amphibious force in support of the priority effort.⁹ One example occurs during shaping operations for an amphibious assault; the CATF will exercise authority over the general employment of amphibious force elements, while during operations ashore, this authority will transition to the CLF. There is one caveat to the transitioning command relationship. Per the CATF-CLF command and control method, the assets in the embarked landing force remain under operational control of the CLF, while the CATF has tactical control of the assets.¹⁰ Under this command relationship, scenarios might arise where the CLF may retain assets. For example, embarked aviation assets from the LF can contribute to the defense of the amphibious task force during movement and maneuver to a sea echelon area. While tactical control resides with the CATF during this phase, the CLF may retain aviation assets in order to preserve combat power against a defended shore. However, that aside, this unique transitioning command relationship places the authority to prioritize resource allocation and force employment from the amphibious force with the commander most directly responsible for achieving a specific objective or mission.

Uniquely suited to amphibious operations, the CATF-CLF framework command and control method fosters improved integration through the co-equal commanders, and unifies

⁷ U.S. Office of the Chairman of the Joint Chiefs of Staff, *Amphibious Operations*, Joint Publication (JP) 3-02, Washington, DC: CJCS, 18 July 2014: I-3.

⁸ *Ibid.*, II-4.

⁹ *Ibid.*, II-3.

¹⁰ Robert E Milstead, "Defending the ATF," *Marine Corps Gazette*, September 1987: 69.

the efforts of the amphibious forces' disparate elements through the transitioning command relationship. Although others exist, the CATF-CLF framework demonstrates one type of command and control method to integrate disparate forces producing effective integration of force and capabilities from disparate functional domains. It also supports effective employment of forces based upon a shared understanding of problems associated with amphibious operations in a dynamic maritime environment.

CWC Defined

Naval task forces comprised of multi-mission capable platforms frequently pursue multiple objectives in disparate warfare domains, and do so simultaneously. A cruiser or destroyer, for example, could simultaneously conduct surface warfare and air and missile defense. Composite warfare doctrine provides guidance on the organization of U.S. Navy forces, and a framework to decentralize command to subordinate commanders.¹¹ This doctrine prescribes a composite warfare organization with naval task forces organized along functional warfare domains, with assigned subordinate commanders under a single command authority, the composite warfare commander (CWC). The five functional warfare commanders under the command authority of the composite warfare commander are the surface warfare commander (SUWC), antisubmarine warfare commander (ASWC), strike warfare commander (STWC), air and missile defense commander (AMDC), and information operations warfare commander (IWC). Per CWC doctrine, one platform can respond to the authority of multiple functional warfare commanders. In the case of a cruiser, while task-organized into a surface action group, the cruiser is functionally responsible to the SUWC;

¹¹ Department of the Navy, *Composite Warfare Doctrine*, Navy Warfare Publication (NWP) 3-56, Newport, RI: 1-2.

yet, will also support tasks generated by both the ASWC and AMDC, or any other primary functional warfare commander.

Like the CATF-CLF framework, the CWC command and control method provides the JFMCC with a means to integrate naval forces from disparate domains, and provides a mechanism to prioritize, allocate, and direct resources. The CWC's method of command and control is referred to as "command by negation." Based on pre-planned responses in accordance with assessed threats in the maritime area of operations, command by negation allows functional commanders to take the required actions to defend the naval task force. Decentralized control, manifested through commander's intent, mission-type orders, and pre-planned responses, allows the naval task force, and specifically, the amphibious task force, to minimize response time in a fast-pace, multi-threat environment.¹²

The complexity of threats against the maritime force, and the maritime force's tradition for independent action in accordance with the commander's intent, makes command by negation a key tenet for command and control of the maritime force.¹³ The functional warfare commanders and decentralized nature of the CWC command and control method provide the JFMCC with a matrix for action. In that, multi-mission capable platforms, supporting action in disparate physical domains, can offer the CWC (and the JFMCC) a variety of options to respond to threats. For example, surface, air, and subsurface assets can, in a unified and complementary manner, provide supporting fires ashore, and similarly provide for the defense of the task force. When employing the CWC command and control method, the JFMCC's ability to quickly allocate resources through pre-planned responses -

¹² W. Lee Harris, "CATF, CWC, and Amphibious Doctrine," U.S. Army War College Paper, Carlisle Barracks, PA, 4 April 1991: 26.

¹³ U.S. Office of the Chairman of the Joint Chiefs of Staff, *Command and Control for Joint Maritime Operations*, Joint Publication (JP) 3-32, Washington, DC: CJCS, 07 August 2013: I-2.

and to reallocate if higher priorities arise - is greatly supported by the matrix (or complementary variety) of options fielded from the unified effort of platforms in disparate warfare domains.

The Problem of Integration

The similarities of the CWC and the CATF-CLF command and control method should facilitate seamless integration for the JFMCC. Like in the CATF-CLF framework, the five primary functional warfare commanders from the CWC construct serve as co-equal planners and commanders of their functional warfare domains. The co-equal footing of the functional warfare commanders is present in both the CATF-CLF and CWC command organizations. In either case, were the JFMCC to select the CATF-CLF or the CWC command and control method, both would provide subordinate commanders and planners to advise, recommend, and aid in developing priorities for resource allocation and force employment of a diverse complement of assets within the naval task force. Both command and control methods also integrate platforms and assets from disparate functional warfare domains to achieve unity of effort across the task force.

The problem of integrating the CATF-CLF and CWC command and control method is one of distinction. The amphibious force employs two distinct command and control methods. When placed within a notional construct for amphibious operations, these two command and control methods appear to be distinct and separate.

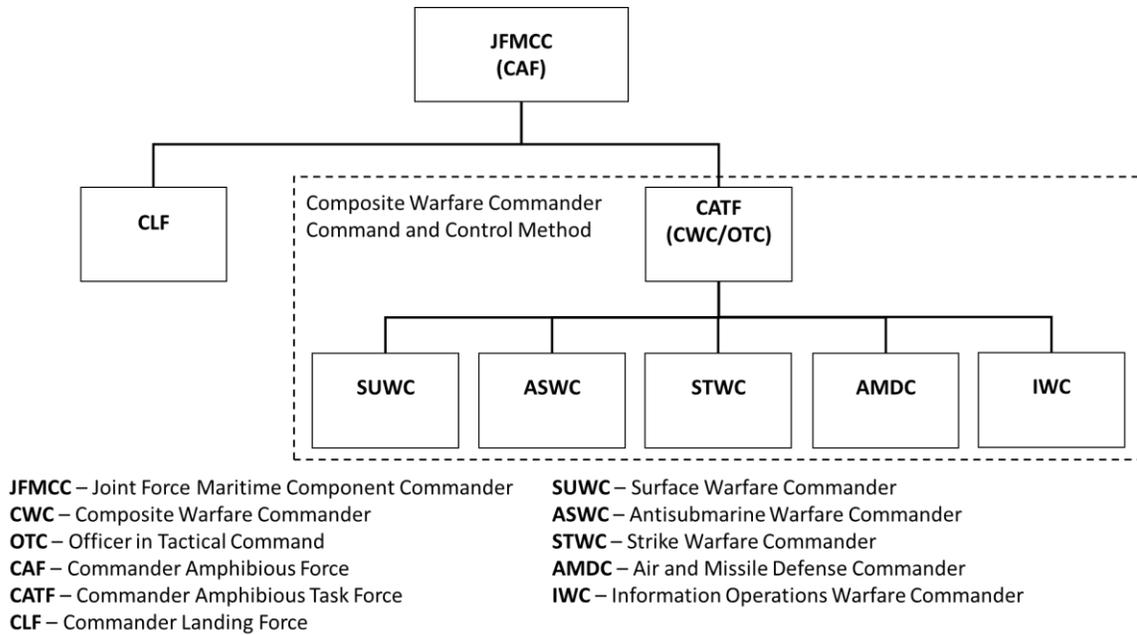


Figure 1 – Notional CWC and CATF-CLF construct for an amphibious force

The existence of these two distinct and command and control methods within the JFMCC’s command organization hinders force integration and asset allocation. The increasing lethality of threats against the naval task force requires a command and control method supporting fluid synchronization of the entire complement of assets in the naval task force. Furthermore, if success in the littoral region requires the closest integration of the entire complement of assets in the maritime domain, the landing force’s potential contributions to the entire naval task force are not facilitated by this command and control method. Figure 1 shows the exclusion of the landing force from the CWC construct. Reexamination of the CATF-CLF and the CWC command and control method will resolve the command and control seam in the amphibious force, and support closer force integration.

DISCUSSION

Though the CATF-CLF command and control method, per doctrine, intends to support amphibious operations of various scales, there is an upper limit to its applicability.

The upper limit of the CATF-CLF command and control method falls short of the JFMCC's requirements to support brigade-sized amphibious landings. In 2014 the United States Marine Corps conducted more than 30 amphibious operations.¹⁴ These operations were most frequently conducted by amphibious ready groups and marine expeditionary unit (ARG/MEU) teams.

Exercises like BOLD ALLIGATOR seek to train, develop, and ultimately re-establish the ability to conduct large-scale amphibious assaults, specifically focused on brigade-sized landings. The training focuses on developing the planning, proficiency, and skill of the Expeditionary Strike Groups (ESGs) and the Marine Expeditionary Brigades (MEBs). ESGs integrate L-class ships with an embarked landing force, along with the combat power of surface and subsurface combatants, into a scalable, adaptable force capable of planning rapid strike, combat, and amphibious operations.¹⁵ Due to the limited defensive capabilities of the L-class ships in the ATF, the integration of surface and subsurface combatants into the ESG provide greater protection for the amphibious force and supporting and shaping fires of the landing force ashore.¹⁶ The composition of an amphibious force with these multi-mission platforms creates a qualitatively different force for the JFMCC than an ARG/MEU.

The traditional CATF-CLF command relationships shared by the Expeditionary Strike Group and Marine Expeditionary Brigade are quickly overwhelmed by the composition of the integrated task force.¹⁷ Cruisers, destroyers, frigates, and submarines

¹⁴ United States House of Representatives, hearing before the House Appropriations Committee Subcommittee on Defense, "Statement of General Joseph Dunford, Commandant, United States Marine Corps," 26 February 2015: 4.

¹⁵ Susan G. Hutchins, William G. Kemple, David L. Kleinman, Susan P. Hovevar, "Expeditionary Strike Group: Command Structure Design Support," Naval Postgraduate School, Information Sciences Department Paper, Monterey, CA, June 2005: 3.

¹⁶ *Ibid.*, 3.

¹⁷ U.S. Fleet Forces Command, "Exercise BOLD ALLIGATOR – 2012: Final Report," Norfolk, VA, 15 May 2012: 7.

provide additional capability to the JFMCC. Yet, these platforms also impose upon the JFMCC the additional responsibility to conduct surface warfare, undersea warfare, theater missile defense, and operational fires for the Joint and Coalition force.¹⁸ As opposed to amphibious operations conducted by an ARG/MEU, at the ESG/MEB-level, the JFMCC becomes responsible for additional functional warfare domains. Activities conducted in these additional functional warfare domains, throughout the maritime area of operations, are critical to successful amphibious operations against defended shores. Synchronization of these activities facilitate the establishment of and subsequent actions within the amphibious operating area. Ultimately, the added responsibility needed to conduct brigade-size landings extends beyond the functional framework established by the CATF-CLF construct, thus straining the command organization. Though well-suited for ARG/MEU operations, the scale and scope of operations conducted by the JFMCC, at the ESG-level and above, require a command organization better able to support the expanded functional responsibilities than provided by the CATF-CLF construct.

The CWC command and control construct more effectively scales to support the needs of the JFMCC for a brigade-sized landing in hostile maritime environment than the CATF-CLF framework. The CWC construct allows the commander to tailor the functional organization of the command to fit the naval task force's composition and mission. Based on the mission and activities required, the CWC can expand the number of functional commanders when needed to supervise specific activities or resources.¹⁹ This tailorable character of the functional warfare commanders enables the command organization to

¹⁸ U.S. Fleet Forces Command, "Exercise BOLD ALLIGATOR – 2012: Final Report," Norfolk, VA, 15 May 2012: 5.

¹⁹ Department of the Navy, *Composite Warfare Doctrine*, Navy Warfare Publication (NWP) 3-56, Newport, RI: 1-17, 1-18.

expand in a manageable manner to meet a broadened mission set of larger, more integrated, and more capable naval task forces.

The CWC command and control method can effectively support the functional activities of a small ARG/MEU-sized element, and will scale to support large expeditionary strike forces (ESFs). In 1988, a CWC construct was placed over the entire ARG/MEU-sized contingency MAGTF (CM 2-88) while supporting Joint Task Force Middle East (JTFME) in the Persian Gulf.²⁰ During CM 2-88's deployment, the integrated landing force and amphibious task forces conducted a variety of amphibious and non-amphibious activities. Through to present day, conceptual development for expeditionary strike forces (ESFs) envisions a command and control structure that is functionally-aligned with composite warfare commanders.²¹ ESFs are composed of several naval task groups, contain subordinate functional components, and are potentially the largest of naval task forces available to the JFMCC and the joint force. The CWC command and control method has, in times past, effectively supported ARG/MEU operations, and can scale to support larger naval task forces. As the size of the amphibious force employed by the JFMCC increases, so too does the requirement to command and control a greater number of functional responsibilities. The JFMCC receives a more robust command and control framework through CWC doctrine.

The CWC command and control method provides greater capability to the JFMCC. As presented earlier, the functional warfare commanders and decentralized nature of the CWC command and control method provide the JFMCC with a matrix of options. Multi-mission capable platforms provide the JFMCC with a variety of options to respond to threats and to quickly allocate resources toward higher priorities. The matrix of options provided to

²⁰ William M. Rakow, "Marines in the Gulf – 1988," *Marine Corps Gazette*, December 1988: 64.

²¹ Todd S. Desgrosseilliers, "Expeditionary Strike Force – A Practical Solution in the Littoral Domain," Marine Corps War College Paper, Quantico, VA, 2004: 60.

the JFMCC allows capabilities to be shared across the entire task force. As evidenced from the example provided by surface combatants, these platforms can contribute capabilities to multiple functional warfare domains, and do. While employing a CWC method of command and control over the entire maritime force, a greater complement of assets and capabilities become available to the JFMCC for application across the maritime area of operations.

Though the CWC command and control construct is scalable and can be tailored to meet the expanded responsibilities of the JFMCC, one could argue that the CATF-CLF model is the optimal method of command and control during amphibious operations. JP 3-02 implies that the inherent complexities of amphibious operations exist in efforts to effectively integrate disparate forces: naval assets and amphibious ships with embarked land forces.²² Due to the inherent complexities of amphibious operations challenging the maritime force's ability to gain and maintain access in the littoral region, the key command relationship defined in JP 3-02 by the CATF-CLF must be maintained at every echelon of command and scale of operation. The CATF, who is often unfamiliar with the considerations to employ landing forces or provide support ashore, requires the CLF's contributions as a co-equal to advise and educate.²³ Furthermore, the disparate focuses of the CATF and the CLF forms a shared perspective. The shared impact of the commanders' differing priorities serves to resolve conflicts and to establish a balanced and unified perspective toward the amphibious problem.²⁴ Though the CWC method of command and control can be effective for the JFMCC, based on the character of the amphibious problem set, and the desire for a shared

²² U.S. Office of the Chairman of the Joint Chiefs of Staff, *Amphibious Operations*, Joint Publication (JP) 3-02, Washington, DC: CJCS, 18 July 2014: I-1.

²³ Thomas D. Waldhauser, "Composite Warfare/Amphibious Doctrine Dilemma," *Marine Corps Gazette*, November 1992: 69.

²⁴ T. C. Gillespie, S. M. Leshner, P. D. Miner, B. P. Cyr, "Composite Warfare and The Amphibians," *Marine Corps University, Command and Control Systems Course*, Quantico, VA, 23 March 1992: 9-30, 9-31, 9-34.

understanding of amphibious problems, the CATF-CLF command and control method must be preserved.

CONCLUSIONS

The effectiveness of a command and control method at one echelon does not ensure its applicability at every echelon. Though the CATF-CLF command and control method would have been more effective to engage the amphibious problem set, the shortfalls of this command and control method would not have been entirely rectified. The CATF-CLF command and control method provides co-equal planning for commanders from disparate domains focused on one type of tactical problem: amphibious operations. The composition of ESG needed to support brigade-sized landings in a hostile maritime area of operations becomes a qualitatively different force, with the addition of surface and subsurface combatants. This force assumes the responsibility to execute eight core missions of which amphibious operations are one.²⁵ Because the JFMCC is responsible for all action, if the ESG was the sole maritime element, additional functional warfare commanders from their respective warfare domains would be needed to support the expanded mission set. These additional functional warfare commanders support activities critical to the amphibious operating area, especially when against a defended littoral region. In support of brigade-sized landings, the CATF and CLF become commanders familiar with one specific domain among many within the JFMCC purview. Though CATF-CLF doctrine effectively supports the unique characteristics and complex planning considerations associated with amphibious operations, more can be gained by the JFMCC through integration of additional functional warfare commanders from the CWC doctrine.

²⁵ Susan G. Hutchins, William G. Kemple, et al, "Expeditionary Strike Group: Command Structure Design Support" Naval Postgraduate School, Information Sciences Department Paper, Monterey, CA, June 2005: 6.

Greater integration would enable the JFMCC to control the comprehensive warfighting capabilities of the entire naval task force within a single common organizational command and control construct.²⁶ During amphibious operations, the JFMCC's responsibilities lie in simultaneously conducting multiple missions and synchronizing activities in multiple warfare domains.²⁷ Any proposed optimal method of command and control for maritime forces during amphibious operations must retain the time-tested principles of the traditional CATF-CLF relationship. At the same time, this method must provide a framework for closer integration of the landing force, and its potential contributions to activities in other functional warfare domains. The melding of the two command and control doctrines, or specifically the incorporation of the CATF-CLF framework into the CWC would provide the JFMCC with the ability to allocate resources across the entire maritime area of operations.

Incorporation of an amphibious warfare commander as a primary functional warfare commander in the CWC command and control method can be additive for the JFMCC. By incorporating the amphibious force into its construct the JFMCC's CWC better establishes a unified effort of resource allocation and force employment across the entire naval task force.²⁸ The caveat present in the CATF-CLF command and control method would be less likely in the CWC command and control method. All resources assigned to the maritime force are most often operationally controlled by the JFMCC.²⁹ When employing the CWC command and control method, all resources are tactically controlled and shared by the

²⁶ David M. Cayce, "Composite Maneuver Warfare Commander," *Marine Corps Gazette*, March 1995: 44.

²⁷ U.S. Office of the Chairman of the Joint Chiefs of Staff, *Command and Control for Joint Maritime Operations*, Joint Publication (JP) 3-32, Washington, DC: CJCS, 7 August 2013: II-12.

²⁸ Terry C. Pierce, "MAGTF Warlords: A Naval Perspective," *Marine Corps Gazette*, July 1991: 38.

²⁹ Department of the Navy, *Composite Warfare Doctrine*, Navy Warfare Publication (NWP) 3-56, Newport, RI: 1-9.

functional warfare commanders.³⁰ The shared resources across the entire maritime force, and the inclusion of the landing force, will provide opportunities for the embarked landing force to make complementary contributions to activities in adjacent functional domains. The result will be added capability and options for the JFMCC with the landing forces' inclusion in the CWC command and control method.

The means of achieving close integration, detailed coordination, and cooperation arise from combining the appropriate expertise from the various warfare domains, while at the same time blending differing philosophies, biases, and technical backgrounds.³¹ The increasingly dynamic character of conflict requires additive and new combinations of force integration. Blending expertise and perspectives aids in achieving these new combinations and a shared understanding of problems. The shared understanding and new complement of assets provided to the JFMCC under a common command and control method makes composite warfare doctrine the optimal method for the JFMCC to orchestrate the application of force in the maritime area of operations during amphibious operations.

RECOMMENDATIONS

The addition of the CLF as an Amphibious Warfare Commander (AMWC) serving as a primary functional commander within the CWC construct will provide the optimal command and control method the JFMCC. The AMWC, focusing on the landward domain of the littoral region, will recommend to the JFMCC how best to exploit the capabilities of the landing forces - very much like the existing responsibilities of the CLF. Rather than placing the expertise of the CLF in a command and control structure distinct from the CWC, the CLF

³⁰ Department of the Navy, *Composite Warfare Doctrine*, Navy Warfare Publication (NWP) 3-56, Newport, RI: 1-12.

³¹ Stephen D. Gilmore, "Bring Gators Into the Fold—A Look at Amphibious Doctrine," U.S. Army War College Paper, Carlisle Barracks, PA, 2 April 1990: 5.

will be a co-equal with the adjacent functional warfare commanders. As such, the expertise of the CLF, in the AMWC role, will contribute to the common shared understanding of the problem in the maritime area of operations with the adjacent functional warfare commanders. Of note, the functional warfare responsibilities of the CATF would be assumed by the surface warfare commander, though the amphibious task force could be task-organized separate from the ESGs integrated elements, like a destroyer squadron.

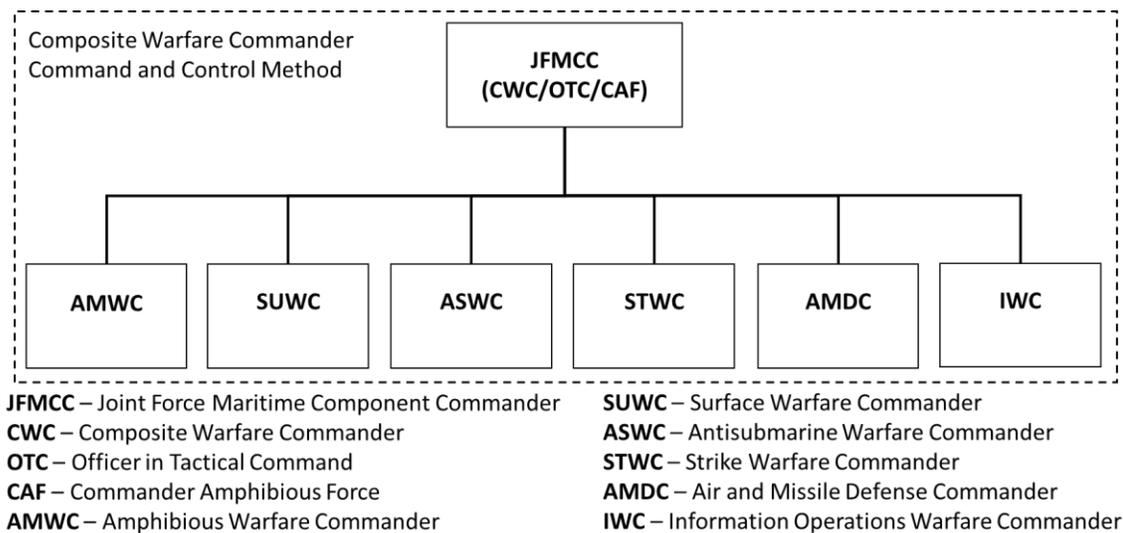


Figure 2 - CWC with an incorporated AMWC

In this proposed CWC construct, the challenges associated with the CATF-CLF scalability can be resolved by employing the composite warfare doctrine’s structure. Rather than straining the CATF-CLF command and control method to meet the scale and broadened mission set necessary to support brigade-sized landing, the CATF and CLF are incorporated alongside the requisite functional warfare commanders.

The chief benefit of this proposed model is the increased cross-domain synergy provided to the JFMCC. As previously discussed, the integration of surface combatants, subsurface combatants, and sea-based aviation can aid the JFMCC’s ability to support landing of large-scale forces and the subsequent conduct of operations against defended

shores. Greater integration can extend the reach of naval task forces in support of the landing force beyond the tactical high-water mark. For example, as a naval task force approaches the land, attack from land-based points of origin can threaten the task force.³² Forces operating ashore, or launched from sea-bases, can identify and reduce threats to the naval task force. Simultaneously, these forces and assets extend the landmass that can be influenced by amphibious force's integrated assets. A landing force's organic radars and sensors can extend the range of the naval task force's battlespace and influence. The increased degree of mutual support between the landing force and the naval task force extends the JFMCC's littoral situational awareness, especially over land. The resultant cross-domain synergy extends the influence of both the sea-based and land-based forces across both domains, and dissolves the tactical high-watermark that traditionally separated operations ashore from operations afloat. Fundamentally, the distinction between the land domain and the sea domain dissolves.³³ The littoral domain becomes a seamless physical domain influenced by the entire complement of assets within the amphibious force.

The benefits of greater cross-domain synergy beg research into new methods of employment and integration for the amphibious force's complement of assets supporting brigade-sized landings. The embarkation of the F-35 Lightning II as a component of the landing force can contribute to multiple functional warfare domains. Planners in the Navy and Marine Corps should expect this multi-purpose platform to contribute to more than close air support taskings, and as such should be prepared to employ it toward its greatest effect. The concepts of operation associated with sea-basing and distributed lethality should consider development of multi-mission platforms capable of contributing shared and

³² Philip D. Shutler, "Thinking About Warfare," *Marine Corps Gazette*, November 1987: 21.

³³ Wayne P. Hughes, *Fleet Tactics and Coastal Combat*, 2nd ed. Annapolis: Naval Institute Press, 2000: 185.

complementary rather than single-mission or redundant capabilities to the amphibious force. Like in the case of CM 2-88, the embarked landing force while prepared to conduct amphibious operations can support non-amphibious activities.³⁴ Finally, once ashore, with consideration to the above mentioned sensors and radars, C4ISR platforms and infrastructure can significantly extend littoral situational awareness of the naval task force. The landing force's complementary contributions to both amphibious and non-amphibious activities provide new capabilities to the JFMCC and support development of new methods of force employment for the Navy-Marine Corps team, and moreover the joint maritime force.

Finally, additional research should be conducted to determine how high this proposed CWC construct can scale. While this construct provides the optimal method of command and control for brigade-sized landings, plans exist requiring the Navy and Marine Corps to conduct forcible entry from the sea with landing forces much greater than a single brigade. Conceptually, the optimal command and control method for a JFMCC should support command and control of an Expeditionary Strike Force or the entire complement of maritime assets of the Pacific Fleet – the largest maritime theater. With consideration to geographic dispersion, unique regional threats, and friendly asset availability this paper's proposed command and control method provides a starting point to examine application at higher echelons. Further research and training exercises on these topics are needed to provide the JFMCC with the necessary command and control methods to support the existing operational plans.

Captain Wayne P. Hughes in his landmark book, *Fleet Tactics and Coastal Combat*, wrote that command and control transforms the potential to deliver force into reality, and as

³⁴ William M. Rakow, "Marines in the Gulf – 1988," *Marine Corps Gazette*, December 1988: 64-67.

such command and control methods are of fundamental importance.³⁵ Changes in threats and the increasing lethality of littoral defenses facing the current and future maritime force require a reexamination of command and control methods.³⁶ This is specifically applicable to the JFMCC. Reexamination will ensure all available combat potential assembled in the amphibious force is transformed into reality against our adversaries. While the CATF-CLF command and control method has successfully supported scores of amphibious operations in the past year, the CWC construct provides the optimal command and control method for the JFMCC when employing brigade-sized landing forces. The character of the threat the maritime area of operations of today and tomorrow requires a command and control method to best support force integration, and that can adjust to support new methods of employment. Based on scalability and its tailorable nature, the CWC construct provides the best mechanism for the JFMCC to integrate forces and develop new methods of force employment. While conducting amphibious operations with brigade-sized landing forces against a defended littoral region, the JFMCC will be best served by employing the CWC command and control method with an integrated amphibious warfare commander (AMWC) serving as a primary functional warfare commander.

³⁵ Wayne P. Hughes, *Fleet Tactics and Coastal Combat*, 2nd ed. Annapolis: Naval Institute Press, 2000: 175.

³⁶ Frank Hoffman and Robert Work, "Hitting the Beach in the 21st Century," *U.S. Naval Institute Proceedings*, November 2010: 18.

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