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Contents

Vol. 15, No. 2

From the Editors	5
THE EVOLUTION OF AMPHIBIOUS WARFARE	
Maritime Militias: Disrupting Naval Operations in the Pacific Theater and the case for Intermediate Force Capabilities in the Maritime Domain <i>Peter Dobias, PhD</i>	9
Rescuing the Unreachable: Personnel Recovery and Resupply in a Contested A2/AD Environment <i>Captain William Fensterer, USN; Colonel Richard Marshall Jr., USMC; Commander Colleen Minihan, USN; and Lieutenant Colonel Jason Phillips, USA</i>	27
Land Power in the Littoral: An Australian Army Perspective <i>John Nash, PhD</i>	40
Reconnaissance-Strike Tactics, Defeat Mechanisms, and the Future of Amphibious Warfare <i>B. A. Friedman</i>	54
Bringing Clarity to Stand-in Forces: How Operational Art and Science Provide the Linkage between Stand-in Forces, Expeditionary Advanced Base Operations, and Reconnaissance/ Counterreconnaissance Operations <i>Major Pat Hassett, USMC</i>	79
Houthi Motivations Driving the Red Sea Crisis: Understanding How Ansar Allah’s Strategic Culture Goes Beyond Gaza and Iran <i>Jonah Carlson</i>	94

Oceans Are Now Battlefields: How the U.S. Navy and
Marine Corps can Counter North Korea's Navy in an Evolving Age
Alan Cunningham 115

Fires from the Shore: Supporting the Fight for Sea Control
Major Shaun Callahan, USA 125

China's "Second Battlefield": Political Warfare
in Combat Operations 145
Kerry K. Gershaneck

Selecting San Carlos: The Falkland War, 1982 171
Michael T. Maus

BOOK REVIEWS

Spymaster's Prism: The Fight against Russian Aggression 195
By Jack Devine
Reviewed by Jennifer Walters, PhD

*Escaping the Deadly Embrace: How Encirclement Causes
Major Wars* 198
By Andrea Bartoletti
Reviewed by Anthony Marcum, PhD

What It Means to Be a Man: How to Become a Better Person 203
By Major General Bill Mullen, USMC (Ret)
Reviewed by Mark R. Folse, PhD

*The Nuclear Club: How America and the World Policed
the Atom from Hiroshima to Vietnam* 205
By Jonathan R. Hunt
Reviewed by William R. Patterson, PhD

Fires from the Shore

Supporting the Fight for Sea Control

Major Shaun Callahan, USA

Abstract: The struggle to obtain, maintain, and exploit sea control during a campaign is an inherently Joint endeavor requiring a multi-Service, cross-domain application of firepower and maneuver. Maritime strikes from the land domain provide a critical offset to the People's Republic of China's (PRC) growing strength at sea and enable Joint force maneuver in the Western Pacific. To have a meaningful impact on the People's Liberation Army Navy's (PLAN) surface action groups and contribute to a Joint force objective to gain sea control in the Western Pacific as part of a coordinated campaign, the U.S. Army's maritime strike capability must be aggregated into effective salvos by the supported maritime component commander. If deterrence fails in a strategically near future, naval operations in the Western Pacific will need to incorporate the U.S. Army's multidomain task forces and their maritime strike capability to defeat the PRC's antiaccess, area-denial (A2/AD) strategy.

Keywords: sea control, Joint force maneuver, multidomain, U.S. Army, People's Republic of China, PRC, People's Liberation Army Navy, PLAN, antiaccess/area-denial, A2/AD

The struggle to obtain, maintain, and exploit sea control during a campaign is an inherently Joint endeavor requiring a multi-Service, cross-domain application of firepower and maneuver. Extended firing and sensing ranges provide opportunities to integrate land-based fires into the Joint force maritime component commander's concept of operation to gain, main-

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tain, and exploit sea control. Maritime strikes from the land domain provides a critical offset to the PRC's growing strength at sea and enables Joint force maneuver in the Western Pacific. To have a meaningful impact on the People's Liberation Army Navy's (PLAN) surface action groups and contribute to a Joint force objective to gain sea control in the Western Pacific as part of a coordinated campaign, the U.S. Army's maritime strike capability must be aggregated into effective salvos by the supported maritime component commander. If deterrence fails, naval operations in the Western Pacific will need to incorporate the U.S. Army's multidomain task forces and their maritime strike capability to defeat the People's Republic of China's antiaccess/area-denial (A2/AD) strategy.

Army forces can provide the JFMCC with an antiship capability in the Western Pacific through persistent presence, rotational forces that develop alliance structures and networks, and in creating targeting dilemmas for the PLAN. Achieving the effective delivery of aggregated salvos capable of penetrating the air defenses of a PLAN surface action group necessitates active integration. Aggregating land and sea based operational fires to gain sea control will require integration of Army multidomain task forces into the JFMCCs antisurface warfare (ASuW) concept of operations. Fully tapping into the delivery of combat power ashore to achieve sea control will require appropriate support relationships and active integration across services in the human and technical domains.

Sea Control and Landpower

History is replete with examples of naval forces fighting to obtain an acceptable level of sea control to enable a Joint landing force or to blockade an adversary and break their will from the sea. The British naval theorist Julian Corbett said it succinctly: "The object of naval warfare must always be directly or indirectly to secure command of the sea, or to prevent the enemy from securing it."¹ The fleet exists to gain, maintain, and exploit sea control for the Joint force through naval operations in maritime campaigns.

Coordination between maritime and land forces is critical to achieve Joint force operational objectives. This synergy is best exemplified in Joint operations, where the acquisition of sea control facilitates the projection of power onto land. Admiral William F. Halsey's victory at the Battle of Cape Engano enabled the requisite sea control to permit General Douglas MacArthur's invasion at Leyte Gulf, exemplifying the importance of maritime operations to influence events ashore.² Land forces have also exerted influence on maritime operations. The destruction of the Athenian fleet by the Syracusans in 413 BCE during the Peloponnesian War demonstrated the vulnerability of an isolated fleet.³ Similar themes emerge when studying Japan's assault on the Russian Port

Arthur fleet during the Russo-Japanese War, demonstrating the importance of a fleet's freedom of maneuver.⁴ Limitations in range and observation capabilities have hampered the ability of forces ashore to significantly impact the conduct of operations for obtaining and maintaining sea control, and the changing character of war is providing new opportunities to affect maritime operations from across the spectrum of warfighting domains.⁵ The advent of integrated long-range sensing and fires should broaden the Joint force's definition of the fleet and what forces should be employed to gain sea control in the course of a major operation or campaign. Sea control may still be a prerequisite for achieving major operational objectives, but it is no longer a single service effort, particularly in the Western Pacific.

PLA Modernization

The People's Liberation Army Navy's modernization threatens the U.S. Navy's ability to exercise sea control and project power in the Western Pacific. Analysts suggest that the PRC aims to develop its navy to function effectively within an antiaccess/area-denial framework to deny the U.S. Joint force operational access in the Western Pacific.⁶ A PRC counterintervention strategy would serve to dissuade the United States from involvement in a potential conflict within China's near seas, particularly concerning Taiwan or other Chinese excessive territorial dispute claims.⁷ If deterrence fails, China's objective would be to postpone or diminish the impact of U.S. intervention forces.⁸ In pursuit of this objective, the PLAN has hastened the construction of dozens of naval vessels to outfit their force with the necessary capability to support an A2/AD strategy.⁹

The rapid increase of PLAN surface combatants is particularly concerning and presents a serious threat to the U.S. Navy's ability to ensure access for the Joint force in the region. The PLAN is currently on pace to deliver 440 battle force ships by 2030, significantly enhancing their capability to exercise sea control within the first island chain (FIC) and conduct regional sea denial.¹⁰ The modernization of the PLAN and other forces across the PLA, including the People's Liberation Army Rocket Force (PLARF), that are critical to executing A2/AD operations presents the Joint force with an operational dilemma. Attacking the PLA's A2/AD operational construct in the Western Pacific requires innovative concepts and employment considerations by the Joint force that includes land-based fires as a method of disrupting PLAN attempts to exercise sea control.

Gaining Sea Control and Army Operational Fires

Land-based fires are highly survivable, dispersible, and present unique targeting challenges. The PLA's A2/AD system aims to counter the U.S. Joint force's strengths in both air and maritime domains with secondary objectives of ob-

structing space and cyber capabilities.¹¹ General Charles A. Flynn, commander of U.S. Army Pacific, points out the clear offset for the PLA's relative strength is the use of landpower due to the nature of "distributed, networked, meshed, reloadable, lethal or nonlethal ground forces."¹² By enabling preconflict operational access, land forces armed with antiship missiles (AShM) facilitate the JFMCC's efforts to hold PLAN assets at risk and mass forces from multiple domains to gain, maintain, and exploit sea control in the Western Pacific if necessary.¹³

To gain sea control in support of operational objectives in the Western Pacific, the Army's rotational M142 HIMARS and SMRF platforms provide the JFMCC with a persistent presence within the first island chain to strike targets at sea. Persistent forward presence enables the rapid employment of Army missiles in support of gaining sea control within the first island chain. Additionally, rotational Army fires forces deepen ties with partners and allies and increase the likelihood of employing Army fires in support of a crisis in the maritime domain. Finally, Army operational fires platforms can serve as a "fleet-in-being" that complicates PLA targeting and expands the decision space for the JFMCC in working to gain sea control.¹⁴

Persistent Presence and Joint Interior Lines

Forward presence enables the rapid employment of Army missiles in support of gaining sea control within the first island chain. A major lynchpin of the Army's strategy in the Pacific is the development of Joint interior lines. Persistent presence in the first island chain enables the Joint force to retain key terrain and flow forces within forward interior lines to respond to regional crises.¹⁵ Noted by Professor James Holmes, the Army provides the Joint force with the capability to retain key terrain in the region and deny freedom of maneuver to the PLA.¹⁶

Over time, this concept will include the buildup of Army fires platforms and requisite ammunition, storage, and protection across sites in the region. Persistent presence of Army AShM prevents the PLAN from executing a fait accompli against Taiwan by holding their naval assets at risk and preventing the rapid maneuver over the Taiwan Strait necessary for them to achieve their most sought-after strategic goals.¹⁷ Alberto Palazzo of the University of New South Wales theorizes that the future of naval warfare can be likened to the no-man's land of World War I, comparing the sailing of ships and combatants into an enemy's weapon engagement zone or net of A2/AD systems as the modern equivalent of frontal assaults into machine gun fields of fire.¹⁸ Army operational fires operating within joint interior lines flips the dynamics of the PLA's A2/AD approach by emplacing a web of land-based fires assets capable of restricting PLAN maneuver in the first island chain and enabling the

Map 1. Joint interior lines and sea control



Source: map of first and second island chain created by Peter McPhail, illustration by author, adapted by MCUP.

JFMCC to generate combat power to gain sea control at the time and place of their choosing.

Setting the Conditions for Operational Access

Rotational Army fires forces deepen ties with partners and allies and increase the likelihood of employing Army fires in support of a crisis in the maritime

domain. There are numerous recent examples where the U.S. Army uses exercises in the region to develop operational access. On Amami Island within the Ryukyu chain, U.S. Army HIMARS and the Japan Ground Self-Defense Forces Type-12 antiship missile batteries engaged in routine combined training as part of the enduring army-to-army exercise known as Orient Shield.¹⁹ The Army elected to leave several of the launchers in place instead of redeploying them back to their home station at Joint Base Lewis-McChord, Washington, in 2021.²⁰ The U.S. Army's relationship with the JGSDF is an example of the critical role army to army relationships play in ensuring operational access in the theater. A Rand study on conflict access in the Indo-Pacific found that increasing peacetime access requests could increase the likelihood of their approval by a partner during conflict.²¹ Persistent presence, exercises, and army-to-army integration is critical to assuring operational access in the Western Pacific and setting the conditions to support pulses of naval combat power reinforced by Army operational fires to roll back PLAN sea control.²²

Army Fires as a Fleet-in-Being

Concealed within intricate terrain for enhanced survivability, Army operational fires can serve as a “fleet-in-being” that complicates PLA targeting and expands the decision space for the JFMCC in working to gain sea control. Army forces positioned forward and dispersed pose a considerable operational scouting challenge for the PLAN and PLARF. The PLAN and PLARF are not equipped or trained to detect, engage, or neutralize distributed, lethal, reloadable ground forces.²³ Put simply in a U.S. Army chief of staff white paper in 2021, “Land forces are hard to kill.”²⁴ Land forces are resilient and highly mobile, able to rapidly reposition along land-based nodes to fire and maneuver, upsetting PLAN and PLARF targeting efforts.²⁵ Disrupting targeting efforts precludes the PLA from making decisions at speed necessary to rapidly achieve operational objectives.²⁶ Mobile and dispersed Army antiship units in the FIC, simply through their presence, can serve as a “fleet-in-being” and degrade PLAN decision making.²⁷ Difficult to find Army land-based AShM enable the JFMCC to hold PLAN surface assets at risk, creating decision uncertainty while generating combat power to conduct pulses back into the weapons engagement zone and strike enemy surface combatants with massed salvos.

Recommended Locations for Army Antiship Missiles

Extended munitions ranges enable flexible positioning of Army operational fires assets in support of JFMCC sea control operations in the Western Pacific. While specific ranges are classified, Army requirements for the Strategic Mid-Range Fires system capable of delivering Tomahawk, Maritime Strike Toma-

hawk, or the SM-6 specify the ability to be able strike targets between 483 and 2,736 kilometers away, filling the gap between the HIMARS' borne PRsM family of missiles and the Long-Range Hypersonic Weapon system currently under development.²⁸ Admiral Aquilino (USINDOPACOM) outlined his vision for a distributed force posture in the Western Pacific under four "clusters"; Guam, Japan, Philippines, and Australia.²⁹ The Army should continue to develop their relationship with the JGDSF to expand opportunities for employment of SMRF units forward, particularly in the Ryukyu Islands. The Army should also explore basing options in the Philippines from Enhanced Defense Cooperation Activity (EDCA) sites, which could provide additional value for forward basing with improved sustainment and rearming facilities to improve Army magazine depth. Both allies benefit from an archipelagic landscape that enables the dispersal of missile launchers across a broad geographic space, further complicating PLA targeting efforts.³⁰

The partnerships fostered by the Army can enable the Joint force to base and project power into the maritime domain from key locations in the first island chain. While the PRC continues building islands and bases in the South China Sea, the United States and its allies have effectively contained them within the first island chain.³¹ Political efforts to expand basing to the Solomon Islands may enable the PRC to break out of the Western Pacific, but in the current state, the Army holds the key terrain from which it can distribute AShMs that can strike at operational ranges.³²

The Multidomain Task Force and Antiship Capability

The multidomain task force represents the Army's key strategic effort for striking targets at sea and holding high-value Chinese naval assets in the Western Pacific at risk. Defined by the Army chief of staff in 2021, multidomain task forces are considered "theater-level maneuver elements designed to synchronize precision effects and precision fires in all domains against adversary anti-access/area denial (A2/AD) networks."³³ The capability to conduct cross-domain fires by an organic Army unit provides the JFMCC with credible, persistent forces to enable maneuver of naval task forces.³⁴

The Strategic Mid-Range Fires System

The Strategic Mid-Range Fires System, also known as the Typhon Battery within the Long-Range Fires Battalion of the multidomain task force, is the core of the Army's maritime strike capability. The SMRF utilizes a ground-based Mk70 Vertical Launch System (VLS) derived from the U.S. Navy Mk41 system for deploying Standard Missile-6, Tomahawk Land Attack Missiles, or the Maritime Strike Tomahawk, enabling forward positioned batteries in the Western

Pacific to hold PLAN combatants at risk and engage adversary surface vessels.³⁵ U.S. Army Pacific currently fields two SMRF batteries with a third expected to be employed in the coming years.³⁶

What the Army lacks in salvo quantity, it makes up for with its rapid reloadable capability. While an Arleigh Burke Flight IIA houses 96 VLS cells compared to the 16 VLS cells in a SMRF battery, a SMRF battery with enough Maritime Strike Tomahawk or SM-6 missiles stored in its operational area provides greater magazine depth over the course of an operation or campaign.³⁷ A U.S. Navy destroyer surpasses the VLS capacity of a SMRF battery by six times, but its inability to reload cells or reconfigure for land attack, antiair, or antiship missions once departing port constrains the JFMCC and imposes limitations on magazine depth. In an environment where sea control's highly temporal nature is prominent, magazine depth and reloadability are vital considerations for executing sea control operations.

To deliver effective fires against the PLAN's primary surface combatants, the Army must fully integrate the SMRF Battery into the planning and execution of the JFMCC's ASuW operations, starting with regional exercises.³⁸ Recent theater security cooperation exercises have included several single and multi-Service sinking exercises. During Rim of the Pacific 2022 (RIMPAC), the Joint force conducted two separate multi-Service sinking exercises off the coast of Kauai in the Hawaiian Islands to demonstrate its ASuW capability. The U.S. Navy coordinated a Joint and combined multi-Service sinking exercise, coordinating ships and aircraft from multiple allies and partners in an AShM salvo to destroy the decommissioned ex-USS *Rodney M. Davis* (FFG 60).³⁹ The U.S. Army's 1st Multi-Domain Task Force and the Japanese Ground Self-Defense Force combined AShM fires from HIMARS and Type-12 surface to ship missiles to destroy the decommissioned ex-USS *Denver* (LPD 9).⁴⁰ The 2023 Balikatan Joint multi-Service sinking exercise with a Joint and combined force of U.S. Army HIMARS, Philippine land-based artillery and missiles, and U.S. Navy Joint Strike Aircraft represents a step forward in connecting the Joint and combined kill chain. However, reporting from the Balikatan exercise suggests substantial room for improvement, revealing that mission success merely involved passing grid coordinates from sensor to shooters.⁴¹ Striking targets deep in the maritime terrain will require target tracking and effective command and control to successfully employ land-based fire salvos in conjunction with naval assets. Going forward, the incorporation of multidomain task forces and SMRF batteries are essential in these exercises, either in a live or constructive role. This inclusion enables maritime component commanders to synchronize ASuW fires seamlessly across multiple domains, including land. Much like the Army coalesces combat power around a combined arms approach, the Navy orients forces through distributed maritime operations to

tip the scales of relative combat power and ensure AShMs find their target and deliver effects.

Salvo Model and Land-based Antiship Missiles

Taking the Right Lessons from the *Moskva*

The sinking of the Russian Black Fleet flagship the *Moskva* in April 2022 represents a hallmark moment in the debate on the influence of land-based fires to conduct sea denial and sea control operations. Two Neptune AShM launched from mainland Ukraine struck the *Moskva* in the Black Sea approximately 65 nautical miles south of Odessa. The *Moskva* sank the next day, under tow attempting to reach port in Sevastopol.⁴² Proponents of land-based antiship capability point to the *Moskva* as an inflection point in naval warfare, highlighting the frailty of large capital-intensive ships against lower cost, replenishable land-based AShM.

While the sinking of the *Moskva* held strategic significance for the Ukrainians, one should exercise caution when attempting to identify major changes in naval warfare. The Neptune missiles fired at the *Moskva* are based on a Soviet-era cruise missile body, upgraded by the Ukrainians domestically.⁴³ With a range of up to 200 miles, Neptune missiles are sea skimming, subsonic cruise missiles adapted to fire from land-based platforms.⁴⁴ Dmitry Filipoff of the Center for International Maritime Security argues that “as a general rule of thumb, any alert and modern warship larger than a corvette should be able to hold its own against a salvo of only eight subsonic anti-ship missiles, or else the warship can hardly justify its cost.”⁴⁵ Expert analysis concluded that a combination of poor training, limited defensive awareness, and disruptive sea states caused the *Moskva* to fail to fire any antiair weapons in its defense.⁴⁶ The noteworthy sinking of the *Moskva* warrants consideration as an exceptional event within the literature of land-based missile capabilities for sea denial or the facilitation of a fleet’s sea control operations. As outlined below, a modern warship, equipped with a trained crew and appropriate defensive awareness, will demand a significantly larger salvo to guarantee a strike, possibly necessitating multiple strikes to incapacitate the ship.⁴⁷

Army Fires and Modern Missile Combat

Although the Army’s operational fires delivery platforms may enjoy distinctive regional operational access, maintain continual engagement with allies and partners, and offer unique employment capabilities, the integration of land-based AShM batteries into a maritime concept of employment is imperative for enabling effective sea control operations. Successful Army antiship fires must leverage the concept of aggregation to enable missile salvos to achieve decisive effects.⁴⁸ Retired Captain Wayne Hughes’s missile salvo equations form the

Figure 1. Salvo model of modern missile combat

$$\Delta A = \frac{\beta B - a_3 A}{a_1} , \quad \Delta B = \frac{a A - b_3 B}{b_1}$$

where:

A = number of units in force A.

B = number of units in force B.

β = number of well-aimed missiles fired by each B unit.

a = number of well-aimed missiles fired by each A unit.

a_1 = number of hits by B's missiles needed to put one A out of action.

b_1 = number of hits by A's missiles needed to put one B out of action.

a_3 = number of well-aimed missiles destroyed by each A.

b_3 = number of well-aimed missiles destroyed by each B.

ΔA = number of units in force A out of action from B's salvo.

ΔB = number of units in force B out of action from A's salvo.

Source: courtesy of author, adapted by MCUP.

foundation of understanding pulsed naval operations in an AShM dominated environment.⁴⁹

Figure 1 is the formula for Hughes's model of modern missile combat. Figure 2 is a representation of Hughes's missile salvo equation in which a theoretical SMRF battery is able to fire first against a surface action group of three generic PLAN surface combatants. In this theoretical scenario, each surface combatant can defeat six inbound missiles from the SMRF unit per salvo. This assumption is based on the surface action group detecting the high-altitude flight profile of an SM-6 at range or the lower speed Maritime Strike Tomahawk being acquired within the surface action group's engagement envelope. The surface action group can deploy a combination of surface to air missiles, close in weapon systems, electronic countermeasure systems, and decoys to defeat the missile salvos. This defensive combat power value can vary depending on the surface action group's defensive awareness, command and control, and other factors.⁵⁰

Figure 2. Salvo model representation of SMRF Battery strike on PLAN Surface Action Group

$\Delta B = \# \text{ of PLAN surface combatants out of action}$
from an SMRF battery salvo

$$\Delta B = \frac{[4(4)] - [6(3)]}{2} = -1 \text{ (no ships out of action from SMRF salvo)}$$

Source: courtesy of author, adapted by MCUP.

Hughes's equation demonstrates the importance of integrating SMRF antiship fires into the maritime concept of employment. The capability to strike an enemy surface combatant may impact PLAN decision making but cannot alone ensure an effective strike without integration into a larger maritime force. An Army multidomain task force is capable of orienting and delivering antiship fires but the example above representing a SMRF battery attacking a PLAN surface action group demonstrates a critical fact of salvo-based maritime warfare and the ability to impact the fight for sea control.

Assembling salvos from multiple domains and along multiple time horizons disorients enemy surface action groups and complicates their air defense posture. It is not enough for the multidomain task force to find the enemy surface action group first while the striking elements of the SMRF battery remain concealed; it will need to work cooperatively with the JFMCC to assemble a salvo of pulsed missile combat power with enough volume of fire to overwhelm the PLAN surface action group's air defenses. The precise volume, timing, and overlap of land-based, air-launched, ship-fired AShM is beyond the scope of this discussion.⁵¹ The key takeaway is that while the U.S. Army has the capability to strike targets at sea, multidomain task forces will require integration into U.S. Navy salvo patterns if they hope to effectively hold PLAN surface combatants at risk.

Integrating Army Fires into the JFMCC Sea Control Operations Fortress Fleet as a Model

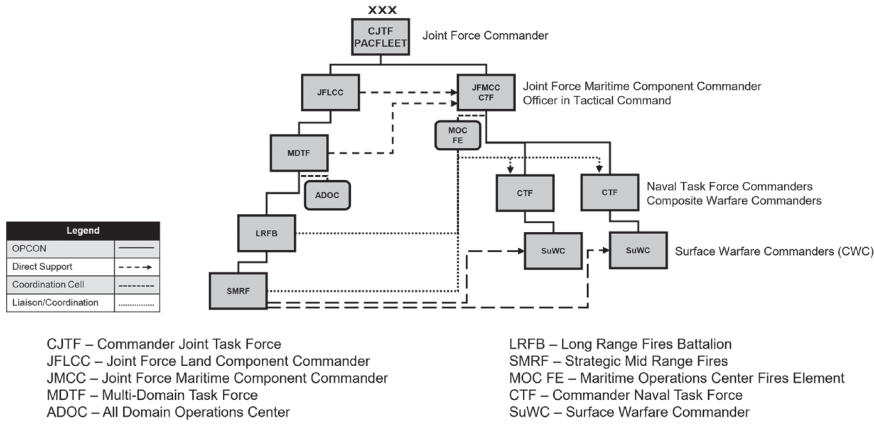
Assembling a Joint salvo that can penetrate a surface action group's air defenses requires effective command and support structures between multidomain task forces ashore and the JFMCC afloat at both the operational and tactical levels. Fortress fleets, derided by naval theorist Alfred Thayer Mahan in the aftermath

of the Russo-Japanese War as “radically erroneous,” may provide a useful construct for imagining how a land force would enable the maneuver of a naval force.⁵² Mahan’s stinging critiques were based on his belief that fortress fleets being inherently defensive in nature, flew in the face of the necessity for firepower and maneuver to dominate in the inherently offensive maritime environment. Fortress fleets, once confined to the range of their supporting coastal artillery, take on a new framework when considering the context of extended sensing, increased weapons ranges, and joint operations. Akin to a modern coastal fortress, Army land-based maritime strike capability could make true again the adage coined by Lord Horatio Nelson, “a ship’s a fool to fight a fort.”⁵³ Modern “forts” rely not on high walls and coastal artillery fire against naval combatants, but dispersion, camouflage, and maneuver to protect from adversary engagements. Effective command and control between the land-based antiship units and U.S. Navy combatants at sea can enable this historically defensive construct to transition into an operation to gain sea control. Transitioning from simply tactical coordination, fortress fleets supported by land-based multidomain task forces can strike effectively first at operational ranges and in close coordination with tactical naval commanders. Fortress fleets demonstrate the utility in placing land-based fires in direct support of a maritime commander to enable the delivery of a Joint salvo capable of penetrating enemy air defenses.

C2 Structure

In the context of coordinating multiple task forces within a single maritime area of operations in a broader Joint operational area, the Joint force maritime component commander assumes the role of officer in tactical command.⁵⁴ Subordinate task forces adhere to the composite warfare commander structure, delineating roles and responsibilities for concurrent offensive and defensive operations within their respective operational zones.⁵⁵ Meanwhile, the JFMCC acting as both the maritime operational commander and in a tactical role as the officer in tactical command, strategically concentrates ASuW capabilities across the Joint force to effectively execute sea control operations throughout the maritime operations area.

The JFMCC’s Maritime Operations Center, straddling the operational and tactical levels of war, is the key functional cell to integrate antiship fires across the maritime area of operations. Within the Maritime Operations Center, the Fires Element is responsible for developing and publishing tactical procedures to “define how other component assets join (check in) and operate in their naval operations.”⁵⁶ The Maritime Operations Center Fires Element is task organized to conduct deliberate and dynamic targeting as well as operational planning and may also include a Tomahawk Land Attack Missile cell “for expertise for operational-level planning and targeting.”⁵⁷ Employing the subsonic Maritime

Figure 3. Multidomain task force integrated into JFMCC C2

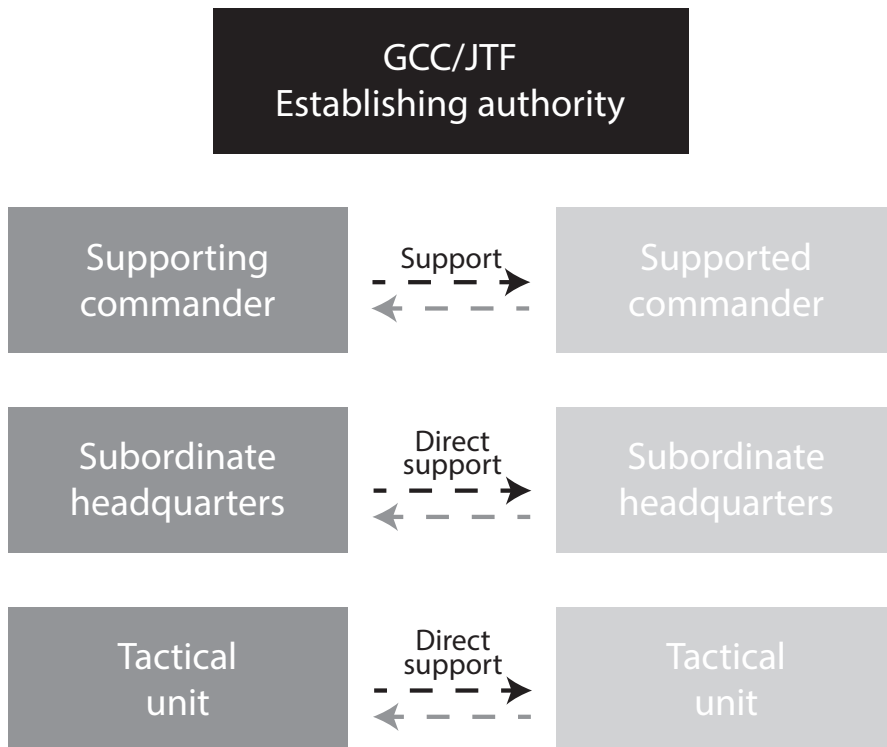
Source: diagram by author, adapted by MCUP.

Strike Tomahawk in particular may require in-flight target updates via satellite communications networks to enable aggregation of salvos over longer time horizons to synchronize subsonic, supersonic antiship fires.⁵⁸ Firing SM-6 and Maritime Strike Tomahawk from the SMRF will require in-flight updates both through the Tomahawk Strike Network and the Aegis Weapon System via a ship radar or Northrop Grumman E-2D Advanced Hawkeyes in flight.⁵⁹ The Maritime Operations Center Fires Element is the optimal coordination cell to establish and implement operating instructions with an Army multidomain task force that is capable of delivering fires in the surface warfare fight. To ensure timely and accurate antiship fires, the Joint force maritime component commander must integrate the extended ranges of the SMRF within the multidomain task force, distributing Army land-based fires delivery across subordinate task forces to enable pulses of combat power to achieve sea control.

Direct Support Relationship

The Joint force commander should designate a direct support relationship for Army multidomain task forces to the maritime component command when the Joint force maritime component commander is the Joint force commander's main effort in a particular phase or stage of an operation. *Maritime Operations*, JP 3-32, provides for this construct by designating the maritime component commander as the supported commander for operations in the maritime domain at large.⁶⁰ Support relationships are a powerful command relationship in terms of generating overmatch in a particular domain. A 2017 best practices study by the Joint Chiefs of Staff notes that support relationships can “provide the authority and basis for interdependence, and are often the most appropriate

Figure 4. Horizontal support relationships improve operational agility



Source: image from *Insights and Best Practices Focus Paper*, 14.

in today's complex operational environment.”⁶¹ The supported commander “is given access to supporting capabilities and has the authority to provide general direction, designate and prioritize missions, targets, or objectives, and other actions for coordination and efficiency (to include requesting liaison and directing of reporting requirements).”⁶² Figure 4 shows how support relationships are most effective when the supported and supporting commanders clarify appropriate parallel relationships to down trace units to enable rapid integration by horizontal subordinate elements. While commanders may typically be more comfortable with a command relationship, a support relationship provides the maritime component commander with adequate ability to leverage multi-domain task force fires in support of sea control operations. Simply assigning a support relationship is insufficient to enable aggregation of missile salvos across domains. Task forces should integrate with the JFMCC across the human and technical mediums.

From a human perspective, the maritime component headquarters should receive liaison officers into the fires element from both the multidomain task force and the long-range fires battalion with expertise in maritime strike. Liai-

son officers can provide advice and planning expertise to the maritime headquarters and enable integration as required between the multidomain task force and the surface warfare commanders across the task forces operating in the maritime domain. Maritime component liaison officers should be sent to integrate into the multidomain task force's All-Domain Operations Center to monitor the multidomain task force's operational requirements to the land component commander and look for windows of opportunity to synchronize joint maritime strike in support of sea control operations.⁶³ Pulses of combat power must be synchronized between the supported and supporting elements to enable the JFMCC to gain sea control and seize opportunities in the maritime domain.

Technical integration is particularly critical to enable the effective aggregation of salvos at range. A SMRF battery equipped with Maritime Strike Tomahawk aggregating fires with a surface action group employing SM-6 and Harpoon requires careful timing, missile flight planning, and launch sequencing to ensure salvos aggregate effectively against an enemy surface group.⁶⁴ Post-launch, operators may need to update targets in flight to direct land-based missiles against over-the-horizon enemy ships. Establishing redundant and resilient networking will require connecting national, operational, and tactical level sensing to missiles in flight to achieve effects. Employing missiles over the horizon in denied, disrupted, or degraded space environment presents a challenge to employment and may increase the required volume of missiles in a salvo to achieve an effect against an enemy surface action group.⁶⁵ The U.S. Navy is well versed in countering these challenges to inflight control and can provide technical, tactical, and operational expertise to integrating Army land-based forces.

Conflicts between Operational Control to Land Component Commander and Direct Support to the Maritime Component Commander

A reasonable tension that may impact the multidomain task force's ability to support Joint force maritime component commander's sea control operations is the multimodal nature of the SMRF battery. The SMRF battery's ability to strike both targets at sea and targets ashore will create tension between the joint force land component commander and the joint force maritime component commander. While the Joint force maritime component commander conducts operations to gain sea control, the Joint force land component commander will be conducting simultaneous operations to flow ground forces into the JOA and shape enemy actions in the land domain. Limited multidomain task force fires delivery platforms positioned in the Western Pacific to support both land and maritime operations will create a dilemma for the Joint force commander in determining if multidomain task force support to the maritime component de-

Table 1. Seven field artillery inherent responsibilities

Army direct support relationship	Answers calls for fire in priority from:	Has as its zone of fire:	Furnish-es fire support team (FIST):	Furnish liaison officer:	Is posi-tioned by:	Has its fires planned by:	Estab-lishes comms with:
SMRF	1. JFMC 2. MDTF 3. JFLCC	Maritime AO	N/A	LNO to JFMCC MOC	MDTF	JFMCC	JFMCC MDTF theater FE

Source: *Fire Support and Field Artillery Operations*.

tracts from the land component's ability to flow in forces and conduct shaping fires in the land domain.

To resolve this tension, operational level commanders should seek guidance from the tactical level. *Fire Support and Field Artillery Operations*, Army Field Manual 3-09, delineates six principles for executing Army fire support.⁶⁶ Commanders must prioritize the weighting of artillery assets to the main effort and avoid placing them in reserve. Joint force operational objectives should drive the apportionment of fires to either the land or maritime component by phase and in accordance with the joint prioritized target list. The Joint force, aiming to gain sea control and project power ashore during a major operation or campaign, cannot afford to keep SMRF batteries' antiship capabilities in reserve.

The land and maritime component commands must also reach mutual understanding on what "direct support" entails in responsibilities from both the supporting and supported command. *Fire Support and Field Artillery Operations* provides a format for detailing the seven field artillery inherent responsibilities in Army support relationships.⁶⁷ Table 1 is an example of how to clarify responsibilities and provides a starting point for formatting support relationship guidance from the Joint force commander to the maritime component commander and the land component commander to reduce conflict and ensure unity of effort.⁶⁸ Mutual understanding between commanders sets the conditions for success to enable the JFC through the JFMCC to gain sea control in concert with land-based Army fires.

Conclusion

The integration of Army operational fires into the joint force maritime component commander's concept of operations is essential for achieving and main-

taining sea control in the Western Pacific. By leveraging the capabilities of the multidomain task force and their maritime strike capability, the Joint force can counter the PRC's antiaccess area-denial strategy and project power in the maritime domain. However, successful integration requires not only the aggregation of operational fires but also the integration of human and technical elements across land and sea domains. Through effective collaboration, interoperability, and coordination through a direct support relationship, the Joint force can leverage the full spectrum of its capabilities to achieve its objectives in the complex and contested maritime environment of the Western Pacific.

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