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**Maritime Prepositioning Force in  
Theater Level Campaigning**

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**A Monograph  
by**

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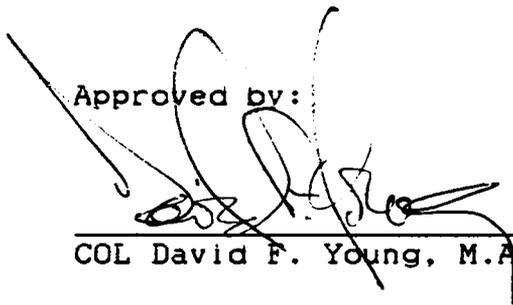
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## ABSTRACT

MARITIME PREPOSITIONING FORCE IN THEATER LEVEL CAMPAIGNING  
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This monograph examines the efficacy of the Maritime Prepositioning Force (MPF) as an instrument of theater level campaigning. A relatively new concept of expeditious military power projection, the MPF was employed for the first time in a real world contingency operation in operation Desert Shield. Maritime Prepositioning Force operations are a strategic deployment option that provide unified commanders in chief (CinCs) a means of rapidly employing a Marine Air Ground Task Force (MAGTF) into their theater of operations in a variety of circumstances. The goal of the research is to not only determine the worth of the MPF concept, but to seek possible ways to enhance the concept for future warfighting scenarios.

The monograph first defines the MPF concept and discusses its role as an instrument of operational artistry. It then examines the theoretical and historical underpinnings of the MPF as a subordinate element of the U.S. maritime strategy. The MPF is then analyzed to determine how much combat power it can generate when called upon by an operational commander. U.S. Marine Corps Fleet Marine Force Manual 1-1 Campaigning (FMFM 1-1) provides a list of seven functions and capabilities that generate combat power. These seven functions and capabilities are the criteria by which the MPF concept is evaluated.

This monograph concludes that the current MPF concept has clearly met the expectations of its originators, but that there are many enhancements required if it is to realize its full potential in future contingency operations. Operation Desert Storm provided an ideal first test for this unique concept, but the results indicate that the MPF concept needs to be enhanced for future employment.

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## Introduction

During the spring of 1990, American defense planners labored diligently to cut defense spending, force structures and overseas commitments in order to take advantage of the "peace dividend". However, war in the Middle East and violent political unrest in the Soviet Union and Eastern Europe quickly destroyed this post-Cold War optimism. In a dangerous world, defense professionals struggle to develop a new military strategy to meet this dynamic geopolitical context. They recognize a single reality: the resources (means) at their disposal are diminishing.

As the means change, so must the ways. Cold War paradigms of forward positioning of U.S. forces at bases around the globe will be altered. Reduced defense spending will mean downsizing U.S. forces by as much as 25%. Much of this reduction will come from forward basing in Europe and Asia due to treaty agreements such as the Conventional Forces in Europe (CFE). These reductions will limit our ability to project inter-theater military power as was recently accomplished in the Gulf War when the U.S. Army's VII Corps deployed from Germany to Saudi Arabia. It therefore, becomes imperative that U.S. forces develop the ways and means to project military power forward to safeguard our interests which heretofore had relied on forward basing.<sup>1</sup>

The purpose of this paper is to examine the efficacy of the Maritime Prepositioning Force (MPF), a relatively new concept of expeditious military power projection. Maritime Prepositioning Force operations are a strategic deployment option that provide the unified commanders in chief (CinCs) a means of rapidly employing a Marine Air Ground Task Force (MAGTF) in their theater of operations in a variety of circumstances.<sup>2</sup>

A secondary goal of this research is to provide students at the School of Advanced Military Studies and students of the operational art a concise primer on this relatively new naval concept to aid in their joint operational planning exercises. Operation Desert Shield/Storm saw the first real world employment of the MPF concept. The great success of the MPF in this contingency was due in part to the joint participation of all U.S. rapid deployment forces to include the U.S. Army.<sup>3</sup> The existing MPF concept will be examined in some detail, but more importantly this research will focus on seeking ways of improving it for future contingency operations. The fundamental research question is: How can the Maritime Prepositioning Force concept be enhanced to increase its utility as an instrument of theater-level campaigning?

I will begin my search for answers to the research question by defining the Maritime Prepositioning Force in enough detail to acquaint the reader with the basic concept

and its application as an instrument of operational artistry. Secondly, I will examine the theoretical and historical underpinnings of the MPF as a subordinate element of the U.S. maritime strategy. It is important that we clearly appreciate the role of the MPF in relation to an evolving U.S. national military strategy. Thirdly, I will analyze the existing MPF concept utilizing the criteria introduced in Chapter II. The fruits of this analysis should result in logical answers to the research question, allowing me to draw conclusions and present plausible implications of those conclusions.

The 1986 version of the U.S. Army Field Manual 100-5, Operations argues that the dynamics of combat power decide the outcome of campaigns, major operations, battles, and engagements. It defines "combat power as the ability to fight".<sup>4</sup> Combat power is generated by combining maneuver, firepower, protection and leadership in combat actions against an enemy in war. The skill with which this "combining" is executed determines the degree of combat power produced in relation to the enemy.<sup>5</sup> The U.S. Marine Corps also regards combat power as the principle means for the application of military force.<sup>6</sup> The U.S. Marine Corps Fleet Marine Force Manual Campaigning 1-1 (FMFM 1-1) offers a related, but expanded list of functions/capabilities that generate combat power: maneuver, mobility, tempo, intelligence, surprise, logistics and leadership.<sup>7</sup>

These functions and capabilities will become the criteria by which I will evaluate the Maritime Prepositioning Force concept. During the initial phase of analysis, I will attempt to determine how effectively the existing MPF is able to perform these combat functions and capabilities. How much capability "to fight" does the MPF program give warfighting ClnCs? Secondly, I will examine the MPF concept in view of the changing operational and strategic paradigm of future warfighting scenarios to determine the adequacy of the concept.

In summary, let me re-emphasize that the intent of this monograph is to critically analyze the MPF concept in order to discover ways to enhance its future utility and to introduce students of the operational art to an instrument of joint warfighting that most are not familiar with. The spirit of this endeavor is in keeping with the Marine Corps' philosophy which argues that "military activities that do not contribute to the conduct of a present war are justifiable only if they contribute to preparedness for a possible future one."<sup>8</sup> In this spirit, there is a need to begin our quest for answers to the basic question by examining the historical and theoretical underpinnings of the Maritime Prepositioning Force.

## II.

### Theoretical and Historical Underpinnings of MPF Concept

Saddam Hussein set the stage for the largest rapid deployment exercise in human history when his forces invaded Kuwait on 2 August 1990. The U.S. decision to defend Saudi Arabia against Iraqi aggression resulted in the first real world employment of the maritime prepositioning squadrons.<sup>1</sup> Maritime Prepositioning Squadron 2 (MPS-2) anchored at Diego Garcia put to sea and within seven days delivered the heavy tanks, self propelled artillery and sustainment package for a 16,000 man Marine Expeditionary Brigade. "The ships pulled up simultaneously, and we had all the gear off in 36 hours," marvelled a I Marine Expeditionary Force (I MEF) logistics officer.<sup>2</sup> As the ships arrived at Jubail, Saudi Arabia, Marines assigned to MPS-2 were on the ground ready to receive their MPS equipment having been flown into theater by strategic airlift. In less than a week, a combat ready Marine Air Ground Task Force (MAGTF), heavy in tanks, self-propelled artillery, fighter aircraft, helicopters and thirty days of sustainability, was prepared to shield and support the light fighters of the U.S. Army's 82nd Airborne Division.<sup>3</sup>

Maritime Prepositioning Force (MPF) operations are a strategic deployment option that consisting of the marriage of equipment and supplies prepositioned aboard forward

deployed ships and a Marine expeditionary brigade (MEB) that is flown into a theater of operations.<sup>4</sup> These operations are global in nature in that the three squadrons of the MPF are home ported in the Pacific theater, the Atlantic theater and the Indian Ocean. Figure 1 gives a national picture of



Figure 1

the strategic reach of each MPSRON. MPF operations are naval in character and are designed to support the maritime strategy by providing a meaningful forward deployed naval presence.<sup>5</sup> Maritime prepositioning provides the fleet commander and ultimately the supported CInCs a unique deployment flexibility to respond to crises with a credible force. It is necessary to look briefly at the naval doctrine that underpins the MPF concept.

The United States of America is an island nation dependent on sea lines of communication (SLOCS) for her economic and alliance well being. The classical naval theorist, Alfred Thayer Mahan, was one of the first to argue this fact. He has been given credit for opening America's eyes to the potential greatness afforded nations who can control the seas. "The Influence of Sea Power Upon History was perhaps the most powerful and influential book written by an American in the nineteenth century." according to Mahan biographer Robert Seager II.<sup>6</sup> Mahan argued that the U.S. needed to build a capital fleet in order to control the seas while denying them to the enemy. Seapower when properly used would bring wealth and power, but if improperly used would lead to national decline.<sup>7</sup> Craig Symonds, a professor of history at the U.S. Naval Academy, argues that the evolution of naval policy and the rapid U.S. naval expansion of the late 19th century were more a product of changing national and international circumstances than of Mahan's writings. Symond states, "Mahan was not so much a prophet of sea power as he was a weathervane for a philosophical outlook whose time had come".<sup>8</sup> Alfred Thayer Mahan had a dramatic impact on the strategic thinkers in the United States in the last decade of the 19th century: his theoretical constructs were used to provide justification for a naval expansion unparalleled in American history. The United States moved into the 20th century with a new

assertiveness: she began to develop the naval force structure to meet her expanding strategic interests. Despite two world wars and a hundred smaller crises in the 20th century, a formal written maritime strategy would not surface until the early 1980's.

The Maritime Strategy, the Maritime Component of the U.S. National Military Strategy, was formalized over a seven year period beginning in 1979 after a classic struggle to win official acceptance within the naval services and the Department of Defense. The Maritime Component of U.S. National Military Strategy prescribes aggressive forward operation of naval forces to complicate Soviet planning, ensure access to Euroasia, help cement alliances, deny the Soviets free access to the open oceans, provide useful offensive options to the National Command Authorities (NCA), and protect the sea lines of communications (SLOC).<sup>9</sup> The Maritime Prepositioning Force concept was conceived as one means of implementing the U.S. Maritime Strategy.

The maritime prepositioning concept calls for the ships of the MPS squadron (MPSRON) to be forward deployed with the combat equipment and sustaining supplies for a Marine Expeditionary Brigade (MEB). When directed, the Marines and sailors of the MEB and a Navy Support Element (NSE) are airlifted by the Military Airlift Command (MAC) to the vicinity of an arrival and assembly area where the MPSRON ships are off-loaded and the combat units are assembled with

their equipment. Fixed-wing aircraft and CH-53 helicopters are flight ferried to an airfield in the designated area of operation. Figure 2 depicts this basic concept.<sup>10</sup>

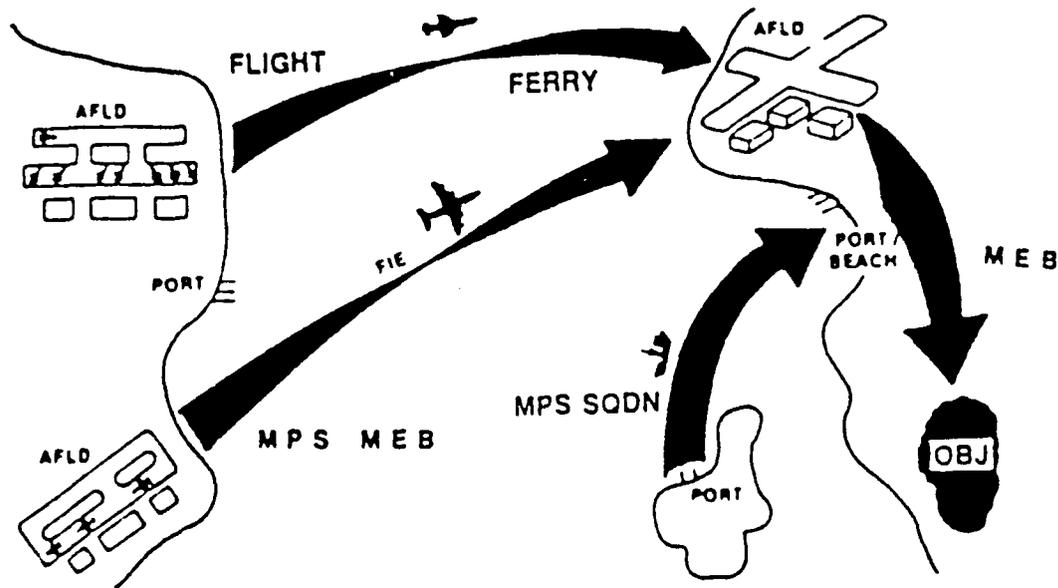


Figure 2

Once the equipment and supplies have been issued to the units, command, control, and communications have been established and the MEB commander states he is combat ready, the MPF operation is terminated. Operational control of the MAGTF is transferred to the numbered fleet commander or to a joint or combined task force commander for subsequent operations ashore. A fully capable mechanized MEB can be combat ready in ten days or less and can sustain itself for thirty days.<sup>11</sup>

The MPF provides the National Command Authority with a flexible, lethal MAGTF which can be assigned to unified commands for a variety of campaign planning alternatives. The following is just a sample of the possible taskings a MPF might receive:<sup>12</sup>

(1) Preemptively occupy and defend key strategic points along lines of communication in support of a naval campaign.

(2) Support an ally or friendly nation prior to commencement of hostilities to demonstrate U.S. resolve, establish a credible force for combat operations and to provide a secure area for further introduction of U.S. forces (Desert Shield is case in point).

(3) Reinforce an amphibious operation. MPF operations provide the capability to rapidly build up forces on a beachhead previously secured.

(4) Establish a sizable force in support of sustained operations ashore. Within a matter of a few days an MPS or multiple MPF squadrons can establish a MAGTF ashore capable of assuming main or supporting attacks, reserve missions or re-embarking aboard amphibious ships for employment.

(5) Deterrence mission. The relocation of an MPS squadron into an area of increasing tensions can signal U.S. resolve and may discourage escalation of simmering conflict.

The list of possible missions is extensively covered in Operational Handbook 1-5 (Draft), Maritime Prepositioning Force (MPF) Operations. However, a critical requirement for an MPF operation is a secure area that will allow for the arrival, offload of ships and aircraft and the assembly of personnel and material. The MPF concept does not provide a forcible entry capability.<sup>13</sup> In theory this task would be accomplished by a classical amphibious MAGTF.

The MPF concept was first articulated during August 1979 in the Department of Defense's (DOD) Amended Program Decision Memorandum, the decision document that specifies what programs will be budgeted for during the next five years.<sup>14</sup> MPF was the Marine Corps' answer to an unhealthy strategic mobility shortage to include inadequate amphibious lift for U.S. Army and Marine forces. Strategic planners determined that by combining strategic airlift (750 C-141 equivalents) and fourteen Maritime Prepositioning Ships, the Marine Corps could rapidly project a 50,000 man spearhead for the newly formed Rapid Deployment Force (RDF).<sup>15</sup> The focus was, of course, on Southwest Asia.

The Rapid Deployment Joint Task Force would eventually become U.S. Central Command and the MPF program would consist of three squadrons totaling thirteen ships. These temperature and humidity controlled ships offer the unified CinCs a new dimension in mobility, readiness and responsiveness. MAGTF response time has been reduced from weeks to days. Equipment and supplies can be selectively offloaded and employed to support smaller MAGTF's.<sup>16</sup> Appendix A provides specific information on the capabilities of the maritime prepositioning ships squadron (MPSRON). Appendix B depicts a detailed MEB troop list and the major weapons and equipment aboard each MPSRON. Appendix C outlines the composition of the Naval Support Element (NSE) and how it supports an MPF operation.

As stated, the purpose of an MPF operation is to rapidly establish a Marine Expeditionary Brigade ashore, prepared to conduct subsequent combat operations.<sup>17</sup> It must be ready to fight, but more importantly it must demonstrate the ability or capacity to fight. Which brings us to the critical analytical focus of this research effort. How much "fight" does the existing MPF concept deliver?

#### COMBAT POWER

The 1986 version of FM 100-5 says that "combat power is the ability to fight" and that "the dynamics of combat power decide the outcome of campaigns, major operations and battles."<sup>18</sup> The U.S. Army's capstone doctrinal manual argues that combat power is generated by combining the elements of maneuver, firepower, protection, and leadership.<sup>19</sup> Utilizing FM 100-5 as a point of reference, U.S. Marine Corps doctrine writers defined combat power in slightly different terms.

"Combat power is the total destructive force we can bring to bear on our enemy at a given time."<sup>20</sup> The U.S. Marine Corps Fleet Marine Force Manual 1 Warfighting (FMFM 1) makes it clear that there are too many variables or components of combat power to draw up complete lists and thus categorize them in a simple check list approach. In an attempt to focus the campaign planning of Marines, FMFM 1-1 Campaigning, presents seven critical functions and capabilities that are tangible and intangible elements of

fighting at the tactical, operational and strategic level of war. They are maneuver, mobility, tempo, intelligence, surprise, logistics and leadership.<sup>21</sup> A brief explanation of each concept will clarify their operational meaning for our analysis in the next chapter.

#### MANEUVER

Maneuver is the employment of forces to secure an advantage in relationship to an enemy. At the operational level of war we seek to gain advantage which directly impacts on the outcome of the campaign or in the theater of operations.<sup>22</sup> Operational maneuver requires anticipation of friendly and enemy actions well beyond the current battle.<sup>23</sup> Maybe the best example of operational maneuver was the classic amphibious landing at Inchon, Korea on 15 September 1950. General Douglas MacArthur boldly landed elements of the 1st Marine Division, X U.S. Corps thereby cutting the North Korean army's lines of communication to the Pusan perimeter far to the south. The impact of maneuver on this campaign was direct!<sup>24</sup>

#### MOBILITY

A closely related concept to maneuver is mobility. The object of operational mobility is to develop leverage/ advantage against an enemy by creating superiority at a decisive point or to avoid disadvantageous battle. Operational mobility is the ability to move between battles and engagements within the context of the campaign or

theater.<sup>25</sup> It was MacArthur's advantage in operational mobility that allowed his classic maneuver at Inchon. His amphibious naval forces allowed him to move around his enemy at Pusan and concentrate at a decisive point (Inchon) of relative advantage.

#### TEMPO

General MacArthur's maneuver and mobility capabilities presented him yet another significant weapon thus enhancing his combat power. He was able to set the 'Tempo' of the campaign. Operational tempo is the rate of work between engagements or the ability to consistently shift quickly from one tactical action to another.<sup>26</sup> Once X Corps was ashore, MacArthur synchronized multiple tactical actions far faster than the foot mobile North Korean People's Army (NKPA). Together, X Corps and the Eighth Army conducted an offensive campaign that completely shattered the North Korean Army.<sup>27</sup> The recent Gulf War provides another clear example of the function of tempo. U.S. forces were able to set the tempo of the ground campaign by simultaneously attacking at multiple points. In addition coalition forces were able to maintain a rapid tempo of operations by avoiding enemy strengths and giving combat when and where desired.<sup>28</sup>

#### INTELLIGENCE

Combat can be accepted or denied at the operational level because of superior intelligence. another combat power

function and capability so effectively employed by General MacArthur at Inchon. Operational intelligence provides information which impacts on the overall campaign and focuses less on current combat capabilities and more on future enemy capabilities, intentions and options.<sup>29</sup> According to author Clayton James, General MacArthur was secure in his knowledge of enemy defensive dispositions at Inchon and felt confident that the U.S. Navy would be able to navigate the precarious Flying Fish Channel and land the landing force.<sup>30</sup> Effective operational intelligence gave General MacArthur a substantial edge and allowed him to surprise his opponent completely.

#### SURPRISE

Surprise is a state of disorientation caused by unexpected events which can degrade an enemy's ability to react effectively.<sup>31</sup> Operational surprise can be decisive in a campaign. MacArthur claims to have selected Inchon precisely because the North Koreans would not expect anyone to attempt an amphibious landing at so unsuitable a site. He argued that "surprise would be the priceless advantage" his force would gain.<sup>32</sup> It is interesting to note that MacArthur gave up tactical surprise at Inchon in order to soften up the objective, yet was still able to gain operational surprise because the NKPA was unable to react in time.<sup>33</sup> Surprise was possible because the U.S. forces

enjoyed a marked advantage in not only operational tempo, mobility, intelligence and maneuver, but also in logistics.

#### LOGISTICS

Operational logistics may determine what is possible and what is not.<sup>34</sup> In campaign planning, operational logistics take the resources (means) made available by the strategic logisticians and effectively provides them to the tactical commander in sufficient amounts at the appropriate time and place.<sup>35</sup> Prior to the landing at Inchon, MacArthur and his logisticians struggled to gather adequate manpower, shipping and material to successfully conduct the Inchon landing on 15 September. After personally fighting a hard campaign for resources, MacArthur eventually received the reconstituted 1st Marine Division, which included four battalions of South Korean marines. These highly trained forces brought the X Corps to a strength of 71,000 officers and men who would be transported on a hurriedly assembled international fleet of 230 ships.<sup>36</sup> MacArthur's employment of the severely limited resources (both manpower and material) available for his campaign was clearly a measure of his leadership genius.

#### LEADERSHIP

"Leadership is the personal ability to influence the performance of human beings in pursuit of a goal."<sup>37</sup> It may be the most important component of combat power when all else is equal. Without the vision, strength of will and

moral courage of MacArthur, Inchon would not have taken place. All the experts argued eloquently against landing at Inchon because of the known hazards. Admirai Forrest Sherman, Chief of Naval Operations, General Lawton Collins, Army Chief of Staff and finally, Maj General O.P. Smith, Commanding General of 1st Marine Division, could not persuade MacArthur to select a safer course of action.<sup>38</sup> He was steadfast and displayed a confidence that inspired his subordinate commanders to trust him. A measure of MacArthur's moral courage was demonstrated by his decision to personally take command of the landing aboard the USS Mount McKinley. If the landing had failed, he would have been present to personally bear the blame. It did not fail and has been called "one of the most triumphant military operations in history".<sup>39</sup>

The combat power functions and capabilities described above will provide a reasonable focus for analyzing the Maritime Prepositioning Force Concept. The employment of the MPF concept in the recent Gulf War was declared to be one of the brightest "success stories" of the conflict.<sup>40</sup> However, the conditions and situation surrounding its employment may have been too perfect to fully test its operational efficacy as a tool of theater level campaign planning.

### III.

#### Analysis and Evaluation

The art of campaigning includes deciding who, when and where to fight and for what purpose. An overriding consideration in conducting the campaign is determining the aims, resources and limitations established by theater and national military strategy.<sup>1</sup> A campaign plan synchronizes land, sea/air effort within the theater of operations by providing the overall specific purpose, objectives, concepts and assets required to achieve strategic assignments.<sup>2</sup> The MPF concept was designed to provide fleet commander and theater level campaign planners with a viable instrument of war with which to execute their campaigns. The operational commander requires forces which will enable him to seize and maintain the initiative and shape events: in short, he must be provided effective tools to fight. A critical analysis of the MPF concept and its ability to provide a responsive, flexible and sustainable instrument of theater level warfighting follows.

#### MANEUVER

FM 100-5 defines maneuver as "the movement of forces in relation to the enemy to secure or retain positional advantage". The Maritime Prepositioning Force can assist the operational planner in gaining an advantage of relational movement and fire power on a grand scale. Forces

maneuver both to secure the advantages of position before battle is joined and to exploit tactical success to achieve strategic results.<sup>3</sup> The unique nature of MPF operations which combines forward deployed prepositioned shipping with strategic airlifted personnel, allows an operational commander substantial flexibility and freedom of action.

The strategic basing and naval character of the MPSRONS permit rapid projection of the MPF squadrons into a theater of operations; contingent upon an early decision by the National Command Authority (NCA). Once in the theater of operations, the MPF elements aboard ship can stay over the horizon in anonymity or can act as a deterrent force by making its presence known to signal U.S. resolve.<sup>4</sup> MPF operations currently rely on a secure area for the arrival and assembly phase (marriage of personnel with their equipment) of the operation which may take up to ten days to complete. Consequently, several planning factors must be considered during campaign planning.<sup>5</sup>

(1) Adequate arrival airfield capacity to receive B-747/C-5/C 1-141 aircraft delivering personnel and equipment into theater is required.

(2) MPF operations require a port or beach capable of offloading and throughputting MPS ships. Port must have sufficient water depth, maneuvering depth and overhead clearance to admit MPS ships. Over the shore offload requires beach conditions (tides, gradients, egress, etc.) conducive to landing operations.

(3) MPF operations require an adequate road network between the port/beach offload sites and the airfield(s) utilized to facilitate the timely arrival and assembly of airlifted and sealifted personnel, equipment and supplies.

In Operation Desert Shield, port and airfield facilities had been especially built for just such a contingency, thus conditions were ideal. Consequently, the first of nine MPS ships from the Indian Ocean and Western Pacific squadrons was rapidly offloading the "go-to-war" equipment for two 16,500 man Marine Expeditionary Brigades within seven days of the order to move.<sup>6</sup> The ability of the United States to rapidly concentrate a combined arms team over 30,000 strong complete with their organic aircraft, heavy equipment, ammunition and thirty days sustainment was unparalleled in history and placed Saddam Hussein at positional disadvantage. In a matter of days, sufficient joint and combined forces had been concentrated to effectively contest any further threat to Saudi territory and allowed time for the formation of a powerful allied coalition of nations. The MPF was an important element of this U.S. led coalition and would eventually help make Iraq pay a heavy price for its aggression.

In the case of Desert Shield, we clearly see an example of how operational maneuver set the conditions for the tactical battle and led to strategic success. Unified commanders have multiple maneuver options because MPF operations can be conducted over the shore as well as into developed port facilities. This dual capability also enhances the MPF operational mobility.

## MOBILITY

I argued that operational mobility is the ability to move between engagements and battles within the context of the campaign or theater. The MPF is deployed forward and can move quickly via the sea lines of communications to an objective area. The combination of MPSRON shipping and strategically airlifted MAGTF forces is key. Not only can a viable combat force rapidly move into a theater of operations, but the MPSRON is then available to rapidly move elements within the theater of operations during the conduct of the campaign.

In Operation Desert Shield all three maritime prepositioning squadrons were deployed to the Persian Gulf. Several of the ships were then reverted to "common user status" under the U.S. Transportation Command (USTRANSCOM). This means they were available for assignment to any sealift requirement for which they were suited.<sup>7</sup> Two of the ships were then reloaded with equipment for the amphibious MEBs assigned to the theater: they were loaded with assault follow-on echelon (AFOE) gear to be used in the latter phase of an amphibious assault should it have occurred. The AFOE is that echelon of assault troops, vehicles, aircraft, equipment and supplies which, though not needed in the initial assault, is required to sustain the assault.<sup>8</sup>

As demonstrated in Desert Storm, an amphibious force (MAGTF) carried aboard amphibious and/or MPSRON shipping

enjoys far greater operational mobility than a land-bound enemy along a coast. Marine units from 4th and 5th MEBs afloat in the Persian Gulf tied down large numbers of Iraqi troops who were expecting an assault from the sea. An elaborate sandtable map captured in Kuwait City later confirmed this fact. In less than 100 hours, these troops were fleeing back into Iraq leaving behind their heavy weapons pointing toward the sea.<sup>9</sup>

While the MPS concept allows an operational commander to quickly concentrate a viable combat force in time and space, there are limitations that must be addressed. The most important consideration is the fact that MPF ships are not warships; they cannot adequately defend themselves or take substantial punishment. Unlike standard Navy amphibious shipping which is compartmented and equipped to seal-off holds which sustain damage, the MPF ships are modified Roll on/Roll off breakbulk cargo ships built for commercial purposes. In brief, they require a secure area that will allow for the unopposed arrival and offload of their supplies and equipment.<sup>10</sup> They would be easy to kill! MPF operations require what FM 100-5 calls "protection" in order to conserve the fighting potential of the MPF.<sup>11</sup>

A second operational mobility consideration planners must consider when employing MPF operations is site selection within the theater of operations for force introduction. In the last chapter the special requirements

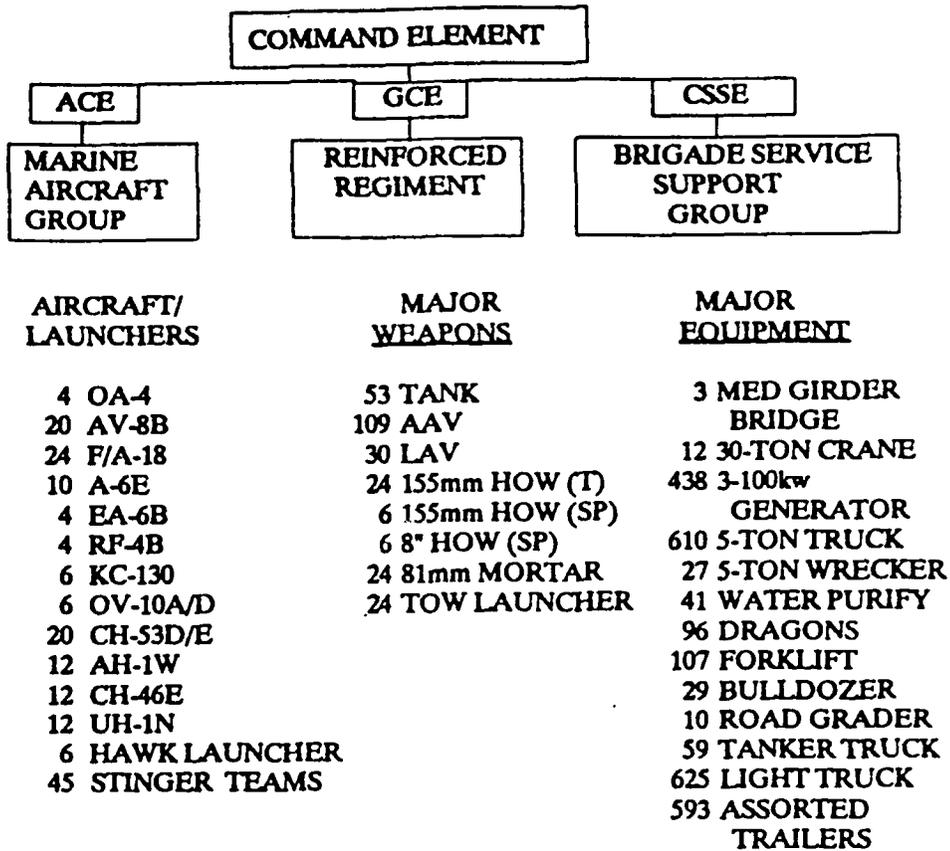
for adequate airfield, port/beach, road networks, laydown area, etc., to introduce and assemble the disparate elements of the MPF were discussed, however, employment was not addressed. Ideally, a planner would like to provide the commander the option of immediate employment of the MAGTF once the force is combat ready. The force must be deployed where it can be employed effectively; this becomes a major logistical consideration due to the sheer size of the arrival and assembly area required. I make this point because students of the operational art have found this to be a difficult problem to visualize in past joint exercises.<sup>12</sup>

#### TEMPO

In Chapter 1 operational tempo was defined as the ability to shift quickly from one tactical action to another. The Marine Corps has officially adopted a maneuver warfare philosophy that: "seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."<sup>13</sup> In other words, to set an operational tempo that causes the enemy to capitulate without a major fight if possible. The Army's AirLand Battle doctrine seeks a similar outcome. In Desert Storm, General H. Norman Schwarzkopf taught the world a modern lesson on the efficacy of superior operational tempo with his masterful, multifaceted air, ground, sea campaign to

drive Iraqi forces from Kuwait. He validated Sun Tzu's maxim that says "rapidity is the essence of war".<sup>14</sup>

How does the MPF concept facilitate the establishment of a fast operational tempo within a theater of operations? The MPF can be rapidly concentrated in a theater of operations if conditions are amenable. Desert Shield clearly demonstrated the flexibility of the MPF concept to rapidly reinforce a committed force within a theater of operations. Employment of the MPFs set the conditions for the defensive phase of the campaign. A second characteristic of the MPF concept that facilitates a favorable tempo of operations results from the unique capabilities of the MAGTF. A brief doctrinal review of the Marine Expeditionary Brigade (MEB) assigned to the MPF may be instructive. Figure 3 displays the optional MPF MEB which is substantially heavier than the traditional amphibious MEB.<sup>15</sup> The MPF MEB was designed for Mid to High intensity mechanized combat and has additional tanks, AAVs, artillery, TOWs, aircraft and heavy support equipment to fight in a scenario not unlike Desert Shield/Storm. This MAGTF is an agile combined arms team capable of operating independently for long periods, as part of a joint task force or as a reinforcing element to another U.S. Marine MAGTF already ashore. The fact that there are three MPFRONS available provides a warfighting commander numerous options for attacking multiple points simultaneously, if deemed



**NOTES:**

Task-organized to accomplish specific missions.  
 Structure can vary from the organization shown.  
 Approximate personnel: 15,500 USMC  
 875 USN

Figure 3

appropriate. In Desert Shield/Storm we saw two of the three MPRONS employed immediately to quickly concentrate a powerful Marine Air Ground Task Force and thus blunt

continued Iraqi aggression. Eventually portions of all three MPSRONS were employed in Desert Shield/Storm.<sup>16</sup>

A quick look at the structure of an MPF MEB and the tactical mobility, firepower and sustainability it offers a CinC, along with his capability to maneuver this force within a theater of operations via amphibious and/or MPSRON shipping is interesting. It is not inconceivable to imagine a scenario where elements of an MPF Marine Air Ground Task Force once assembled and combat ready, could be reloaded aboard ship and be used to conduct amphibious envelopments not unlike Inchon or the amphibious demonstrations of a Desert Storm.

In addition, a clear facilitator for controlling the operational tempo and shaping the battlefield is provided by the extensive capabilities inherent in the Aviation Combat Element (ACE) of the MPF MEB. Capable of providing both tactical and operational fires, the Aviation Combat Element will include offensive air support, assault support, air reconnaissance, antiair warfare, electronic warfare and command and control functions.<sup>17</sup> The flexibility and combat power which can be rapidly generated for a warfighting commander-in-chief by a combined arms combat force, such as the MPF MAGTF is considerable.

However, the MPF concept is not without limitations that could negatively affect tempo. The primary limitation revolves around the lack of forcible entry capability of the

MPF. Since an MPF operation can only be conducted in a benign environment, it must await the protection of an amphibious MAGTF or, as was the case in Desert Shield, the protection of other United States and allied forces. In a scenario less favorable to an expeditious MPF offload operation, the risks might be too high for early introduction. Marine Corps doctrine on MPF operations does not address the feasibility of U.S. Army forces providing the forcible entry capability for an MPF operation.

The idea of combined airborne-amphibious operations is not new.<sup>18</sup> The requirement to employ the MPF into a benign environment means that it must be preceded by an amphibious MAGTF or some other U.S. or allied protective force. In fact, in Desert Shield we saw 82nd Airborne forces providing security for the MPF operation while being sustained from the MPSRON. Despite the unkind allusion to this elite but light force as a "speed bump" in the road should the Iraqi forces attack, the fact remains that they assumed the risks and accomplished the assigned mission without incident. The tempo of operations was set by the U.S. led coalition as a result of this timely seizure of the operational initiative. Seizure of the moment and the inclination to take risks is far more likely if the operational commander has good information gathering assets.

## INTELLIGENCE

Marine Corps doctrine agrees that "operational intelligence must provide insight into the strategic situation and all factors, military and otherwise, that influence it."<sup>19</sup> MPF operations are unique in relation to other Marine Corps amphibious operations in that operational intelligence support will automatically be provided by a variety of national, theater and fleet level organizations because of their "joint" nature. Figure 4 represents one of several possible command relationships which depicts those organizations capable of and responsible for supporting the

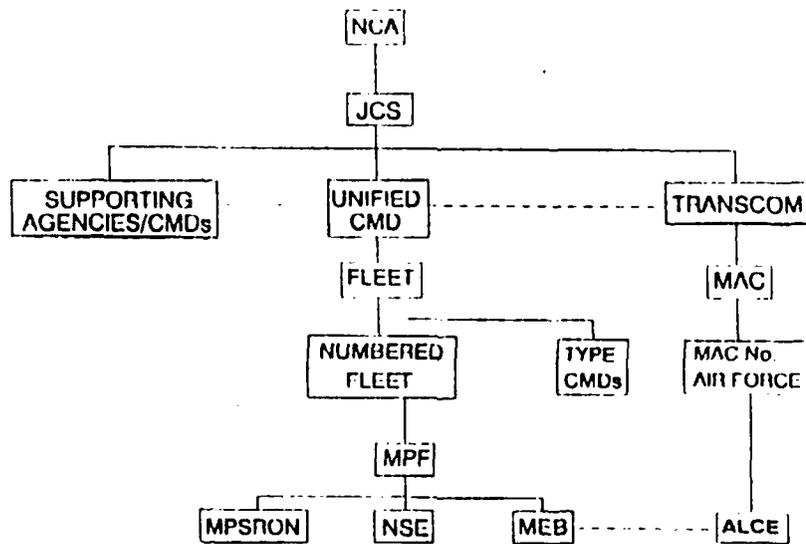


Figure 4

commander of the maritime prepositioning force employed during a contingency operation.<sup>20</sup> The intelligence ladder begins at the NCA level and works its way down to the Commander Maritime Prepositioning Force (CMPF), who is

responsible for ensuring continuous intelligence support to the subordinate elements depicted in figure 4.

A key element of intelligence planning for an MPF operation is the dissemination of information, reports and summaries. Special attention must be given to the exchange of information and intelligence between commands and across services to ensure mutual understanding.<sup>21</sup> For example, the mutual interest of the Military Airlift Command (MAC) and the Numbered Fleet (MPF) in potential arrival airfields, ports, beaches, roadways, etc., make close coordination imperative. It is in their best interests to proactively share information and knowledge of the data available.

At the bottom of the MPF concept intelligence ladder is the MAGTF commander whose organic information gathering assets are principally tactical in scope.<sup>22</sup> The Marine Corps is struggling to enhance its intelligence organization to better support deployed MAGTFs. For instance, Marines deployed to Southwest Asia were the first service to test a new, lightweight satellite communications system called multiple access communication satellite, in hopes of enhancing the intelligence capability of commanders in the field.

MAGTF commanders assigned as part of the MPF will enjoy the best intelligence support available simply because of the joint character of the MPF concept and the multiple agency support sources available. If operational

Intelligence planning is done correctly, the likelihood of achieving operational surprise in a theater utilizing the MPF concept is quite possible.

#### SURPRISE

The enemy must not know where I intend to give battle. For if he does not know where I intend to give battle he must prepare in a great many places. And when he prepares in a great many places, those I have to fight in any one place will be few.<sup>23</sup>

Surprise at the operational level of war may be the product of deception or of ambiguity by which we confuse the enemy as to our intentions or it may be the product of a flair for the unexpected.<sup>24</sup> We discussed the MPF's capability to rapidly concentrate in a theater of operations at multiple sites. Saddam Hussein was undoubtedly surprised by the speed and efficiency with which the three MPSRONS composited at Jubil, Saudi Arabia. In a span of under two weeks a Marine Expeditionary Force (MEF) of over 30,000 men equipped with double the equipment package listed in figure 3, was combat ready. No nation in history has concentrated so much combat power, so quickly and with so little warning.

The current structure of the MPF is not without flaws that might inhibit the realization of operational surprise. For example, the fly-in echelon (FIE) of the MPF requires airfield facilities capable of handling not only a variety of MAC aircraft (C141/B747/C5), but a wide array of Marine Corps fixed wing aircraft organic to the MAGTF. The enemy

knows this. On the other hand, the MPSRON is able to land almost anywhere suitable beaches/ports permit.

However, a degree of flexibility is lost by the nature of the way the MPSRON vessels are loaded. In brief, they are administratively loaded to maximize cargo space, material preservation, and equipment maintenance. This means that the off-load will be administrative in nature and the arrival and assemble phase of the MPF operation will of course take more time than a CinC at war might desire. This increases the complexity of off-loading, warehousing and moving a force as large as the MPF. Thus, achieving operational surprise is more difficult and requires greater leader genius.

#### LEADERSHIP

At the operational level of war the leader must establish a climate of cohesion among the widely dispersed elements of his command as well as with adjacent and senior headquarters.<sup>25</sup> General N. Schwartzkopf demonstrated to a high degree the clarity of vision, strength of will and moral courage we say is desirable. He clearly understood the capabilities and limitations of the forces assigned him and made maximum use of each asset assigned.

The lesson here is that while the MPF concept provided a warfighting commander with a self-contained air/land fighting formation (MAGTF) task-organized to suit the assigned mission, it was the knowledge, judgement and

operational artistry of a U.S. Army theater commander who effectively employed the means at his disposal. It is critically important that unified commanders understand the nature and capabilities of the MPF concept and establish a command and control structure to maximize its combat power. This sounds simple, but U.S. military history is littered with examples of inter-service command problems which impeded operational success.

The cultural differences between U.S. services, along with an era of heavy defense spending during the past decade, have not completely erased the joint interoperability problems that led to excessive friction during operations such as Desert One and Grenada.<sup>26</sup> If the MPF concept is in truth "joint" by design, its effective deployment and employment depends on "informed" joint leadership like that of General N. Schwarzkopf, the first warfighting CinC to employ the MPF concept in war.

Figure 5 outlines the basic composition of the Maritime Prepositioning Force that a unified CinC might plan on receiving in a contingency.<sup>27</sup> More detailed information on each of the three elements of the MPF is provided in the appendixes.

While the MAGTF commander would probably choose to be assigned as operational commander directly under a fleet or unified commander in an independent operation, the situation will determine the command relationships. The MPF was

MARITIME PREPOSITIONING FORCE  
COMPOSITION

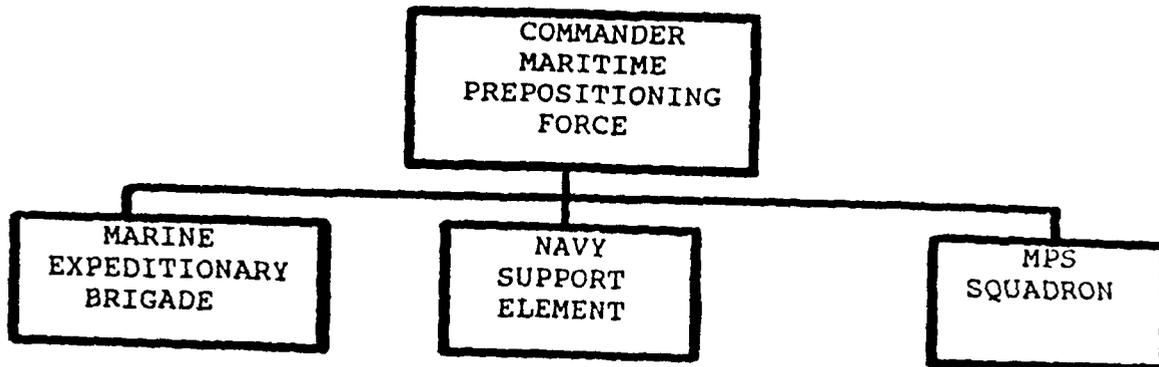


Figure 5

designed to fit smoothly into a variety of reinforcement or independent operations. For example, in Desert Storm we saw all three MPF brigades quickly composited into a Marine Expeditionary Force (MEF) under a three star commander. Compositing is a doctrinal process by which MAGTFs are joined together in a theater of operations. For example, in Desert Shield as the MPF MEBs were absorbed by the MEF, the MEB staffs dissolved and provided personnel to augment MEF and higher level staffs.

The Gulf War was probably a good example of the nature of future conflict at the higher end of the operational continuum. Operational planners must be prepared to counter increasingly sophisticated force structures and technologically advanced weapon systems in the hands of unstable third world states. U.S. military strategy in the future will focus more on regional contingencies and on

sustaining forward military presence in peacetime as opposed to the global war against the Soviet alliance. The proliferation of chemical, nuclear and biological weapons of mass destruction will greatly complicate theater level campaign planning. The MPF concept has limitations and must evolve in a positive manner if it is to meet the future needs of theater level campaign planners.

#### Improving the MPF Concept

The first limitation that must be addressed is the loss of combat power due to the administrative nature of current MPSRON load plans. As discussed earlier, MPSRON is loaded with a cross section of equipment and supplies to maximize storage capacity, efficiency of maintenance and warehousing effectiveness. Virtually every square foot of each ship is utilized. Consequently, access to specific items/classes of supply, timeliness of offload, and distribution on shore are not optimal. Ten days is too long to offload, divide and issue the millions of individual items of equipment and supplies. In war, speed is life.

This problem was identified by Marine Corps planners in late 1989. The Commandant of the Marine Corps directed his Fleet Marine Force commanders to develop a package of flexible force modules for use by unified commanders in crisis situations.<sup>28</sup> The goal was to "improve the advertised force closure of our forces" and thereby increase the flexibility, deployability, and sustainability of Marine

Corps Crisis Action Modules.<sup>29</sup> It was discovered that the MPF concept had the potential to enhance the value of a whole array of Marine Air Ground Task Forces specially designed for contingency operations.

One key to enhancing MPF embarkation (load) planning will be to tactically load the MPSRON. This has been done to a limited extent by loading some of the commercial containers with complete "sets of equipment" which include items required for a specific unit such as an infantry battalion.<sup>30</sup> This concept can literally shave days off the time required to conduct an MPF operation and field a combat ready force. The operational advantages accrued by this process should be obvious. Not only will the MAGTF be formed more rapidly, but selected supplies and equipment can be offloaded up front to build priority units quickly. However, the monetary costs involved in building, maintaining, inspecting and reconstituting these sets will be high. Imagine the complex logistical problems involved in unpacking and spread loading thousands of supply items and individual pieces of equipment, tools, material and spare parts.

A second limitation affecting the combat power potential of the MPF concept is the requirement to carefully select off-load sites. Currently the MPF has a unique requirement for both a beach/port and a nearby airfield for the arrival and assembly phase of an MPF operation. These

are required to composite air and sea forces and equipment. While tactical loading of the MPF ships will allow smaller elements of the MPSRON to offload over a beach or in port more quickly and thus not require a general offload, ways must be found to increase the areas where arrival and assembly operations can be conducted. Technology may provide some answers.

Aircraft currently in development, such as the Air Force's C-17 and the Marine Corps' V-22, will facilitate the rapid introduction of forces into a theater of operations. The C-17 will provide the heavy lift capability required; these aircraft will be able to land on airfields far less capable than those currently required by MAC aircraft. The V-22 Osprey program continues to survive the budget knife, and will be able to carry 24 Marines at speeds in excess of 300mph for 1000 miles without refueling.<sup>31</sup> These systems will allow warfighting CinCs to conduct MPF operations at sites far less mature than current technology permits. Like MacArthur at Inchon, the theater commander will be able to apply force where the enemy least expects it.

A final and significant limiting factor of the existing MPF concept is its dependency on other forces to provide protection during its introduction into the theater. What is the best method of bringing the combat power capabilities of an MPF to bear in a contingency? In Desert Shield we saw U.S. Army airborne forces inserted on the ground prior to

the MPF operation, while U.S. Air Force and U.S. Navy forces provided a shield in the air and at sea. We may never know if the MPF was in serious danger from an Iraqi attack or if the protection provided by the combined forces was adequate, because the critical test of combat was not faced. However, Desert Shield did demonstrate the flexibility of the concept in "joint" terms. MPSRON-2 did not have to wait for a Marine amphibious force to secure a landing site. Rapid deployment forces from the other services provided the welcoming mat. However, the MPSRON may have had difficulty adequately sustaining U.S. Army forces had they been committed to combat. There is no provision in the MPF program to stock non-standard items of equipment and supplies which might have been in high demand under combat conditions. Heavy U.S. Army forces and support forces were not on line for weeks due to sealift shortfalls.

It is fair to now ask how much protection the lightly armed army airborne forces would have provided should Saddam Hussein have seized the initiative. There were two ways to reduce the risk accepted by the theater commander in the scenario discussed above. First, the CinC might have opted to use Marine Corps air contingency forces who were on alert to execute such missions and require basically the same strategic airlift to arrive in theater. The benefit is, of course, the interoperability of the air contingency and MPF MAGTF's once joined in theater. A second option would have

been to provide special equipment, supplies and personnel from the U.S. Army to augment the MPF. In other words, plan for joint MPF operations and load the MPSRON accordingly. High ranking officers in the U.S. Army reject the MPF concept as too expensive for the Army and argue that it is not the best means of power projection.<sup>32</sup> The fact remains that it would have taken 9000 C-141 aircraft to deliver the supplies and equipment delivered by the first nine MPF ships in Desert Shield.<sup>33</sup> What can we conclude from this analysis?

#### IV. Conclusion

In operation Desert Shield/Storm, the Maritime Prepositioning Force concept demonstrated a masterful integration of technology and creative doctrinal thinking. The MPF concept passed its first real world employment test, providing the National Command Authorities and the theater commander a combat power capability that was timely, flexible and substantial. However, despite the success enjoyed by the MPF concept in the Gulf War, key shortcomings have been highlighted by my analysis. These "shortcomings" have implications for future theater level campaigning and warrant discussion.

The leadership of the U.S. Army clearly recognizes that our nation is at an important historical juncture which will require a new national military strategy resulting in fewer forces forward based.<sup>1</sup> The army must develop force structures and doctrine that permit power projection from the United States. The MPF concept offers both a model and a warfighting partner for Airland operations doctrinal development. The potential for greater cooperation between Army and Marine forces in joint campaign planning is considerable. Both services will be much smaller in the years to come and could benefit from working together to enhance the MPF concept. The Marines would get additional forcible entry capability and responsive protection, while the Army would get a means of sustainment and mobility that current airborne operations lack.

The Commandant of the Marine Corps' initiative to increase the flexibility of MPFs by improving their ability to conduct selective offloading is a good starting point. Smaller, special purpose MAGTFs will be able to draw equipment, supplies and selective sustainment from a single MPF ship or MPSRON, thus greatly expanding the types of missions an operational commander may assign to MPF. This "tactical loading" of MPF shipping will offer advantages in each of the combat power functions we have discussed in our analysis. The cost will be considerable in terms of additional maintenance, replacement and management

expenditures. The Marine Corps should consider adding more ships to the MPF, because tactical loading will naturally result in less economical space and storage utilization.

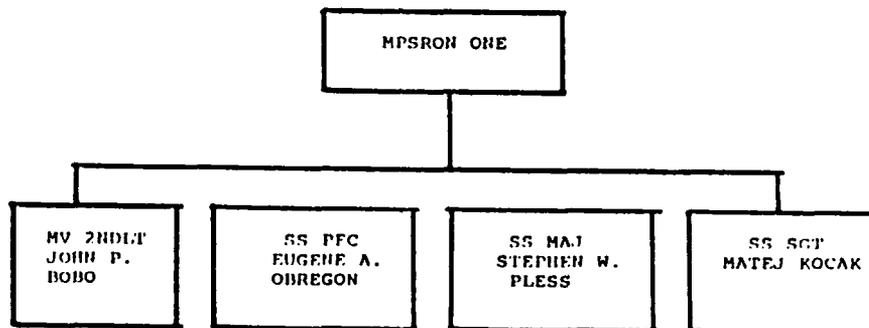
A final conclusion which can be deduced from this critical analysis of the MPF concept is the requirement to enhance the knowledge and training of joint planners responsible for planning campaigns. Too few U.S. military officers fully appreciate the combat power potential of the MPF. This is important, because the MPF concept has the potential for integration into a multitude of joint contingency scenarios. The possibilities for the MPF are only limited by our "joint" imagination and intellectual flexibility. The MPF concept will only be enhanced if campaign planners aggressively question traditional service roles, missions, doctrine and thinking.

## Appendix A: Maritime Prepositioning Ships Squadron

1. Maritime Prepositioning Ship Squadron one (MPSRON ONE) home ported out of Norfolk, Virginia, is one of three MPF squadrons available for assignment to unified commanders. The following data is provided from a 6th Marine Expeditionary Brigade publication called Maritime Prepositioning. Although all three MPSRON's are slightly different (MPS-3 has 5 ships), this data provides a good basic overview.

2. MPSRON-ONE consists of active duty navy personnel who serve a twelve month tour aboard MPSRON ONE. In addition, the ships complement is composed of a combination of Merchant Marines, who operate the ships, and civilian contractors, who maintain the MPF equipment.

3. MPSRON ONE is composed of 3 WATERMAN and 1 AMSEA type ships. The ships were named for Marines who were awarded the Medal of Honor.



4. Each ship carries fuel, water, equipment, and supplies needed for deployed MEB operations. Helicopter landing decks capable of handling CH-53E helicopters have been installed on each ship. Additionally, each ship is configured with equipment repair and maintenance shops to provide limited maintenance support for the embarked equipment.

These ships have the following capabilities:

\*Berthing for:

- Ship's crew (30 merchant seamen)
- MPS squadron commander and staff (on flag-configured ships) (5 officers, 15 enlisted)
- Contract maintenance team (13 civilians)
- Off-Load Preparation Party/debark team (2 officers, 98 enlisted)

- \*Environmentally controlled, dehumidified cargo spaces
- \*In-stream self-sustained off-load capability
  - 2 LCM-8 landing craft
  - 10 causeway sections (4 powered, 6 unpowered)
  - 1 side-loadable warping tug
- \*Roll on/Roll off Discharge Facility
- \*On-board fueling of embarked equipment
- \*Secure voice radio capability (on flag-configured ships)
- \*Offload in 5-foot waves, 15-knot winds, 1.5 knot current (Sea State 3)
- \*Discharge:
  - Bulk liquid cargo from up to two miles offshore
  - Assault amphibious vehicles using a stern ramp in 5-foot waves
  - All cargo at pier in three days
  - All cargo in-stream in five days

5. One of the four ships assigned to MPSRON ONE, the MV 2NDLT JOHN P. BOBO is a newly constructed AMSEA class ship, operated by the American Overseas Marine Corporation. The other three ships, SS SGT MATEJ KOCAK, SS PFC EUGENE A. OBREGON and the SS MAJOR STEPHEN W. PLESS, are WATERMAN class ships. They are operated by the Waterman Steamship Company and are conversions of Waterman combination container/break bulk/RO-RO ships. The BOBO and the OBREGON are flag-configured to support the CMPF and MPSRON ONE commander.

	WATERMAN (X3)	AMSEA
Draft (feet)	32.8	29.6
Length (feet)	822.1	673.2
Height	122	182
Cargo Fuel, Lubricants (gallons)	1,527,204	1,637,589
Cargo Water (gallons)	91,932	98,990
Containers	545	571

Appendix B: 6th Marine Expeditionary Brigade and Major Equipment Items

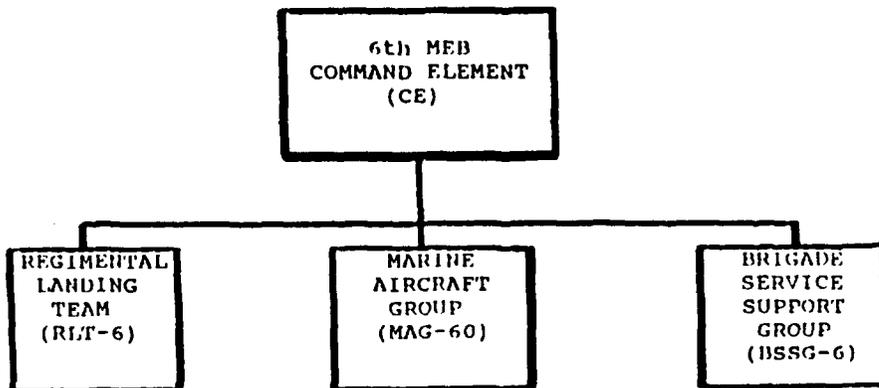
1. The 6th Marine Expeditionary Brigade (6th MEB) Command Element was activated on 26 July 1983 at Camp Lejeune, North Carolina. The combat forces presently assigned to 6th MEB are: Regimental Landing Team-6 (RLT-6), Marine Aircraft Group-60 (MAG-60) and Brigade Service Support Group-6 (BSSG-6). The Command Element, RLT and BSSG-6 are located at Marine Corps Base, Camp Lejeune, North Carolina. MAG-60 Headquarters is at Marine Corps Air Station New River, while its subordinate elements come from the various units of the 2d Marine Aircraft Wing which are located at Cherry Point and New River, North Carolina and Beaufort, South Carolina.

2. The 6th MEB was the first Marine Air-Ground Task Force (MAGTF) to become part of an operational Maritime Prepositioning Force (MPF) when the ships of Maritime Prepositioning Ships Squadron One (MPSRON ONE) were delivered to the Military Sealift Command and loaded with Marine Corps equipment in 1984 and 1985.

3. The primary mission of the 6th MEB is to conduct MPF operations. In addition to its primary mission, the MEB can also perform an amphibious as well as an air contingency mission. In its MPF role, the 6th MEB, in conjunction with the Navy Support Element (NSE), will join with the MPSRON ONE to provide the National Command Authority with a mission-tailored MAGTF of up to 16,849 Marines and sailors that can rapidly respond to a crisis. Once deployed and joined with its prepositioned equipment and supplies, the 6th MEB is capable of conducting a variety of combat operations ashore.

PERSONNEL	USMC	USN	TOTAL
COMMAND ELEMENT (MEB)	833	20	853
REGIMENTAL LANDING TEAM (RLT)	6360	295	6655
MARINE AIRCRAFT GROUP (MAG)	6019	121	6140
BRIGADE SERVICE SUPPORT GROUP (BSSG)	2784	417	3201
TOTALS	15996	853	16849

6TH MARINE EXPEDITIONARY BRIGADE  
COMPOSITION



GROUND COMBAT ELEMENT  
ORGANIZATION

Regimental Landing Team 6

- \* Infantry Regiment
  - Headquarters Company (24 TOW Missile Launchers)
    - Det, Headquarters Bn, 2d MarDiv
    - Det, Communications Co
    - Det, Service Co
    - Det, Truck Co
  - 3 Infantry Bns (72 Dragon Missiles) (24) 81mm Mortars
- \* Assault Amphibious Bn (-)
  - Headquarters and Service Company (-)
  - 2 Assault Amphibious Cos (108 Assault Amphibious Vehicles)
- \* Combat Engineer Bn (-)
  - Headquarters and Service Company (-)
  - 2 Combat Engineer Cos
  - Det, Engineer Support Co (-)
- \* 2 Light Armored Infantry Co (LAI)
  - Det, Headquarters and Service Company (28) LAV 25s, 2 Recovery Vehicles
- \* Direct Support Artillery Bn (Rein)
  - Headquarters Battery
  - (3) 155mm How Btrys (24) M198 155mm How
  - 155mm How Btry (SP) (6) 155mm (SP) How
  - 8" How Btry (SP) (6) 8" (SP) How
- \* Reconnaissance Co (Rein)
- \* Tank Bn (-)
  - Headquarters Service Company (-) (2 M60 Tanks)
  - 3 Tank Cos (51 M60 Tanks) (3 Armored Vehicle Launched Bridges)
  - Anti-Tank Co (-) (48 TOW Missiles Launchers)

AVIATION COMBAT ELEMENT  
ORGANIZATION

Marine Aircraft Group 60

- \* 2 Marine Aviation Logistics Sqdns (FW/RW)  
(4 OA-4 Skyhawk Observation Aircraft)
- \* 2 Marine Fighter Attack Sqdn  
(24 F/A-18 Hornet Fighter/Attack Aircraft)
- \* Marine Attack Sqdn  
(20 AV-8 Harrier V/STOL Attack Aircraft)
- \* Marine All Weather Attack Sqdn  
(10 A-6E Intruder All Weather Attack Aircraft)
- \* Marine Air Control Sqdn (-)
- \* 2 Marine Wing Support Sqdn  
(VF/VA) (VH)
- \* Det, Marine Air Support Sqdns
- \* Marine Heavy Helicopter Sqdn  
(8 CH-53D Sea Stallion Helicopters)
- \* Marine Heavy Helicopter Sqdn  
(12 CH-53E Super Stallion Helicopters)
- \* Marine Medium Helicopter Sqdn  
(12 CH-46 Sea Knight Helicopters)
- \* Marine Lt/Attk Helicopter Sqdn  
(12 UH-1 Helicopters)  
(12 AH-1W Super Cobra Attack Helicopters)
- \* Det, Marine Communications Sqdn  
- Unit, Marine Wing Communications Sqdn
- \* Det, Marine Air Traffic Control Sqdn
- \* Det, Marine Tactical Electronic Warfare Sqdn  
(6 EA-6B Prowler Electronic Warfare Aircraft)
- \* Det, Marine Aerial Refueler Transport Sqdn  
(6 KC-130 Hercules Aerial Refueler Transports)
- \* Det, Marine Observation Sqdn  
(6 OV-10 Bronco Observation Aircraft)
- \* Det, Marine Tactical Reconnaissance Sqdn  
(4 RF-4 Phantom Photo Reconnaissance Aircraft)
- \* Low Altitude Air Defense (LAAD) Battery  
- 3 LAAD Platoons  
(45 Stinger Teams)
- \* HAWK Missile Battery, Light Anti-Aircraft Missile Bn  
(6 HAWK Missile Launchers)

COMBAT SERVICE SUPPORT ELEMENT  
ORGANIZATION

Brigade Service Support Group 6

- \* Det, Headquarters and Service Bn
  - Det, Headquarters Co
  - Det, Military Police
  - Det, Service Co
  - Det, Communication Co
- \* Det, Supply Bn
  - Det, HqSvcCo
  - Det, Ammunition Co
  - Det, Supply Co
  - Det, Medical Logistics Co
- \* Det, Maintenance Bn
  - Det, HqSvcCo
  - Det, Electronic Maint Co
  - Det, Ordnance Maintenance Co
  - Det, Motor Transport Maint Co
  - Det, General Support Maint Co
  - Det, Engineer Maint Co
- \* Det, Landing Support Bn
  - Det, HqSvcCo
  - Landing Support Co.
  - Det, Beach and Terminal Ops Co
  - Det, Landing Support Equip. Co
- \* Det, Engineer Support Bn
  - Det, HqSvcCo
  - Det, Engineer Support Co
  - Engineer Co
  - Bulk Fuel Co
  - Det, Bridge Co
- \* Det, Motor Transport Bn
  - Det, HqSvcCo
  - Det, General Support Co
  - Direct Support Co
- \* Det, Medical Bn
  - Det, HqSvcCo
  - Surgical Support Co
  - Collection and Clearing Co
- \* Det, Dental Bn

**COMBAT SERVICE SUPPORT ELEMENT**  
**MAJOR ITEMS OF EQUIPMENT**

**\* Motor Transport**

- 26 Tractors, 5-ton
- 15 40-ton Low Bed Trailers
- 284 5-ton Cargo Trucks
- 46 5-ton Dump Trucks
- 26 5,000-gallon Fuel Trailers
- 14 1,000-gallon Water Trucks
- 116 400-gallon Water Trailers
- 24 5-ton Wreckers
- 1 65-ton Tank Transporter Trailer

**\* Logistics Vehicle System**

- 109 Front Power Units
- 72 22 1/2-ton Trailers
- 4 Wrecker Trailers
- 18 5th Wheel Trailers
- 17 20-ton Trailers

**\* Fuel Storage and Distribution**

- 8 600,000-gallon Amphibious Assault Fuel Dispensing Systems
- 10 60,000-gallon Tactical Airfield Dispensing Systems
- 8 6,000-gallon Helicopter Expedient Refueling Systems

**\* Engineer and Material Handling**

- 3 60-ton Capacity Bridges
- 10 Rough Terrain Container Handlers
- 12 30-ton Cranes
- 21 7 1/2-ton Cranes
- 8 Road Graders
- 5 Road Scrapers
- 34 Bulldozers
- 95 Rough Terrain Forklifts
- 361 Electrical Generators
- 41 Reverse Osmosis Water Purification Units
- 1 Water Supply Support System, 1.2 mil. gallon
- 50 Floodlight Sets
- 49 Storage Tank Module, Fuel (sixcon)
- 215 Storage Tank Module, Water (sixcon)

**\* Medical**

- 1 120 bed hospital
- 1 60 bed hospital

**\* 1 Assault Amphibious Vehicle - Recovery**

## KEY PREPOSITIONED SUSTAINING SUPPLIES

### \* Ammunition (Ground)

- 9,400,860 small arms rounds
- 1,409,750 .50 cal rounds
- 51,655 grenades
- 5,092 mines
- 152 bangalore torpedoes
- 162 linear charges
- 10,360 demo charges
- 46,270 25mm (LAV) rounds
- 276,694 40mm rounds
- 37,474 60mm rounds
- 40,986 81mm rounds
- 8,358 105mm Tank rounds
- 84,092 155mm rounds
- 14,448 8 inch rounds
- 500 AT-4
- 3,375 LAAW
- 2,592 SMAW
- 536 Dragon missiles
- 1,048 TOW missiles
- 120 Stinger missiles
- 42 I-Hawk missiles

### \*Ammunition (Aviation)

(Specific numbers are classified)

- over 450,000 small arms rounds
- over 65,000 .50 cal rounds
- over 250,000 20mm/25mm rounds
- over 200 2.75 inch rockets
- over 2,500 5 inch rockets
- over 7,000 bombs
- over 500 TOW (A) missiles
- over 150 air-to-ground missiles

### \* Meals Ready to Eat

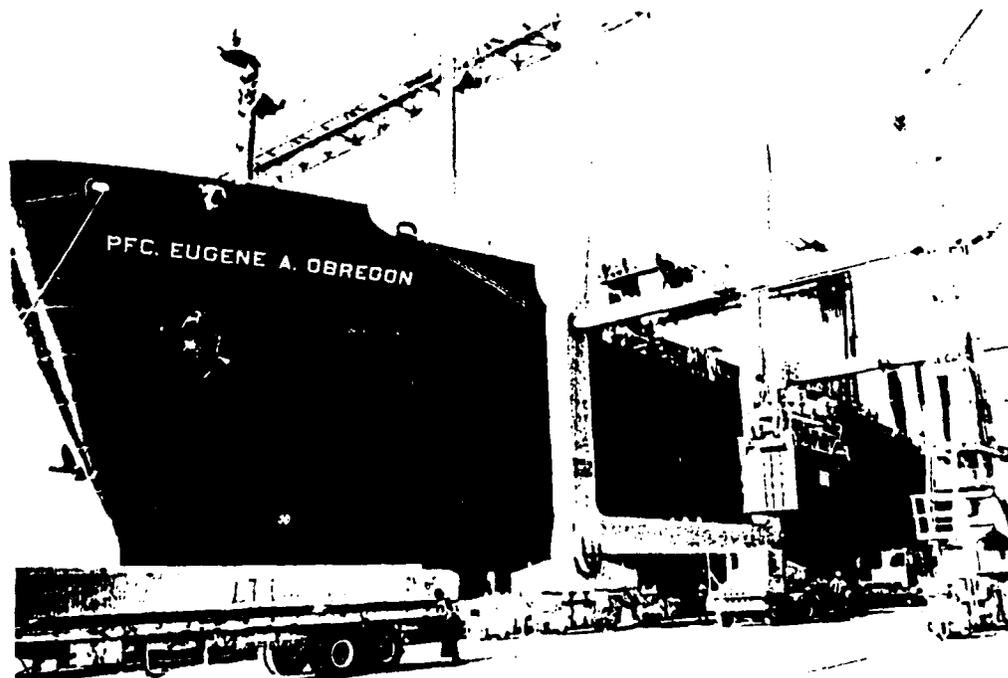
- 1,368,274 MREs

### \* Petroleum, Oils and Lubricants

- 5,154,895 gallons JP-5
- 357,106 gallons MOGAS

### \* Water capacity

- 374,943 gallons

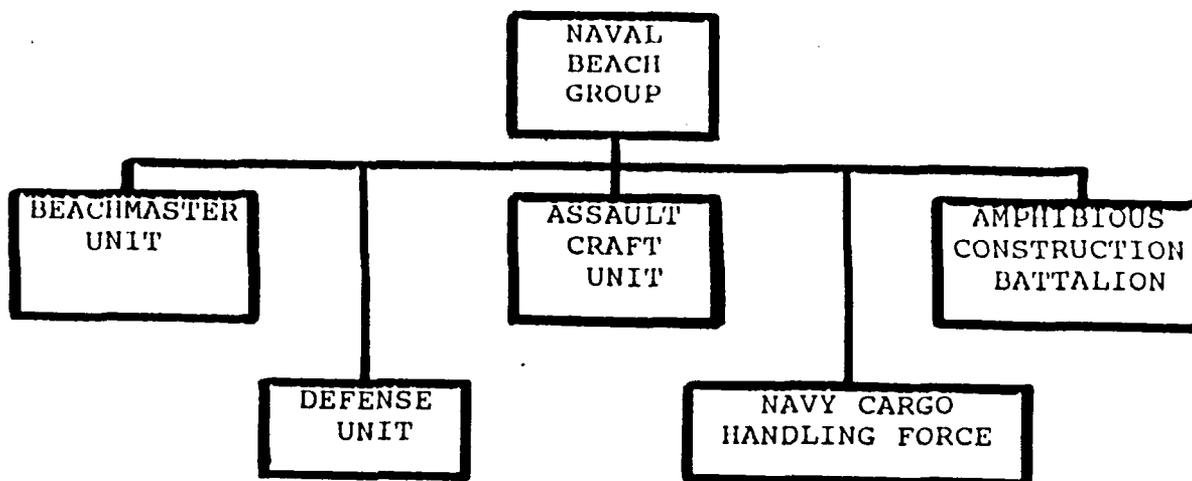


Appendix C: Navy Support Element

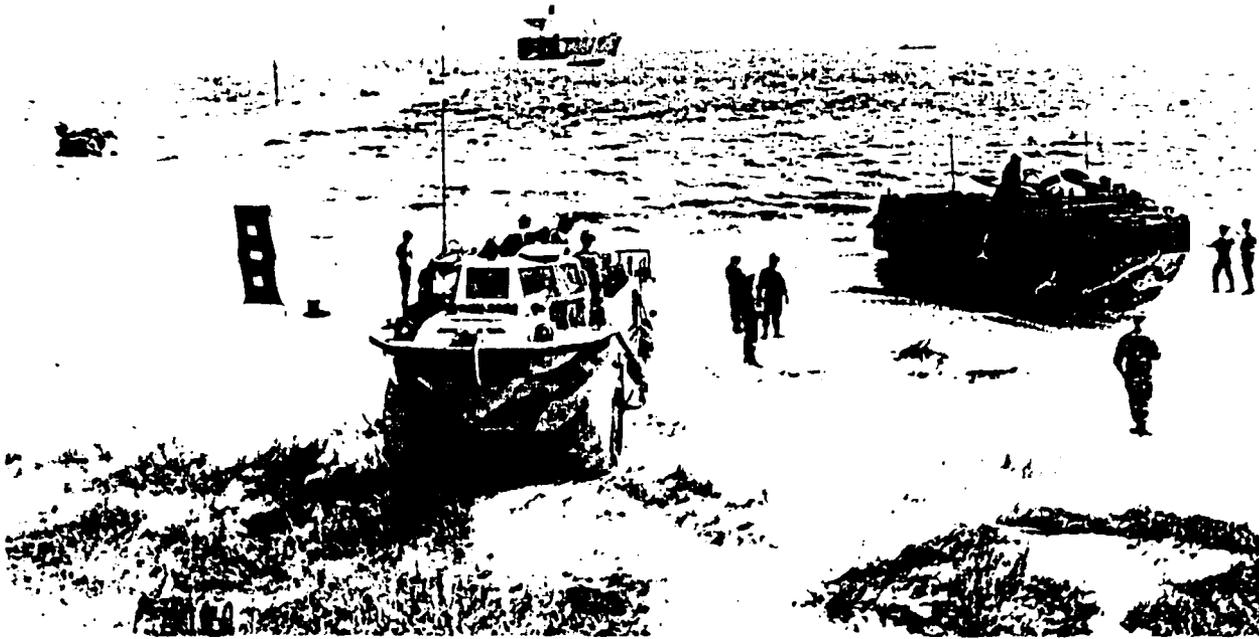
1. The Navy Support Element (NSE), a component of the MPF, conducts the off-load of the equipment aboard the MPF. The NSE is the link between the Marine Corps' equipment and supplies aboard the MPF ships and the MEB personnel flown into the area by Military Airlift Command (MAC). The NSE operates the ships' cranes, mans and operates all lighterage, conducts the ship-to-shore movement, performs bulk fluids transfer ashore and beachmaster functions on the beach.

2. The NSE is headed by the Naval Beach Group, which consists of a beachmaster unit, assault craft unit, an amphibious construction battalion, a defense unit and a detachment from the Navy Cargo Handling Force.

NAVY SUPPORT ELEMENT  
COMPOSITION



<u>PERSONNEL</u>	<u>USN</u>
COMMAND ELEMENT (NBG)	60
BEACHMASTER UNIT	70
ASSAULT CRAFT UNIT	85
AMPHIBIOUS CONSTRUCTION BN	400
NAVY CARGO HANDLING GROUP	275
DEFENSE UNIT	66
TOTAL	956



### NAVY SUPPORT ELEMENT

#### Functions

- Lighterage/Causeway Operations
- Bulk Fuel and Water Operations
- Limited Construction
- Beach Salvage
- Beach Communications
- Landing Craft Operations
- Hatch, Crane, and Hold Operations
- Offload Containers
- Obstacles Clearing
- Anti-Swimmer Defense

NAVY SUPPORT ELEMENT  
ORGANIZATION

- \* Beachmaster Unit
  - 4 Lighter Amphibious Resupply Cargo (LARC V)
- \* Assault Craft Unit
  - 16 Causeway Section Powered
  - 24 Causeway Section Non-powered
  - 6 Roll on/Roll off Discharge Facility Sections
  - 4 Sideloaded Warping Tugs
- \* Amphibious Construction Battalion
  - 4 Bulldozers
- \* Cargo Handling Force
  - Slings for Cranes
- \* Defense Unit
  - Mobile Inshore Underwater Warfare Unit (MIUWU)
  - Radar Sonar Surveillance Center (RSSC) (AW/TSQ-108 Van)



## ENDNOTES

### I. Introduction

1. National Security Strategy of the U.S., March 1990, p. 25.
2. Maritime Prepositioning Force (MPF) Operations, (OH 1-5), p. 1-1.
3. MajGen John Stanford, J-5 USTRANSCOM, briefed SAMS in Feb 1991 and reported that MPF was one of greatest success stories in Operation Desert Shield/Storm. An Army officer, he argued that the U.S. Army should pursue a MPF of its own, but was not willing to pay the price despite the Marines success.
4. U.S. Army, Operations, FM 100-5, p. 11.
5. Ibid.
6. U.S. Marine Corps, Warfighting, FMFM 1, p. 21.
7. U.S. Marine Corps, Campaigning, FMFM 1-1, p. 64.
8. Warfighting, p. 54.

### II. Theoretical and Historical Underpinning of MPF Concept

1. LtCol David Evans. "From the Gulf." Naval Proceedings, January 1991, p. 77-80.
2. Ibid.
3. Ibid.
4. Maritime Prepositioning Force Operations, OH 1-5 (Draft), March 1990, p. 1-1.
5. Ibid.
6. Robert Seager II, Alfred T. Mahan: The Man and His Letters (Annapolis: Naval Institute Press, 1977), p. xi.
7. Herbert Rosinski, The Development of Naval Thought (Newport: Naval War College Press, 1977), p. x.

8. Geoffrey Tilli. Maritime Strategy and the Nuclear Age 2nd ed. (New York: St. Martens Press, 1984), p. 29.
9. Rodney Kennedy-Minott, U.S. Regional Force Application: The Maritime Strategy and Its Effect on Nordic Stability (Stanford: Hoover Institution, 1988), p. 8.
10. Maritime Prepositioning, U.S. Marine Corps, 6th MEB, 1 March 1990, p. 2.
11. Ibid.
12. Section 1 of OH 1-5 discusses in great detail the capabilities, considerations for employment, purpose, scope of the MPF concept. Student planners should use in campaign planning.
13. "The Maritime Component," The U.S. National Military Strategy. Unclassified portion, 1989, p. 3.
14. David A. Quinlan, "The Role of the Marine Corps in Rapid Deployment Forces." (Washington, D.C.: National Defense University Press, 1983). p. 10.
15. Ibid.
16. "Marine Corps Capabilities Plan." Unpublished draft. Vol. 1 (Department of the Navy, Headquarters U.S. Marine Corps), p. 12.
17. OH 1-5, ES-1.
18. U.S. Army, FM 100-5, Operations. p.11.
19. Ibid., p. 12-14.
20. U.S. Marine Corps, FM 1, Warfighting, p. 30.
21. U.S. Marine Corps, FM 1-1, Campaigning, p. 64.
22. Ibid., p. 65.
23. U.S. Army, FM 100-5, Operations, p. 12.
24. Clay Blair. The Forgotten War (New York: Anchor Books, 1989), Chapter 10.
25. FMFM 1-1. Campaigning, p. 71.
26. Ibid., p. 72.

27. Blair, Chapter 11.
28. See FMFM 1-1 on methods of capturing tempo advantage.
29. FMFM 1-1, p. 75.
30. D. Clayton James, The Years of MacArthur. Vol. III (Boston: Houghton Mifflin Co. 1958), p. 473-474.
31. FMFM 1-1, p. 75.
32. E.B. Potter, Sea Power A Naval History (Annapolis: Naval Institute Press, 1984), p. 365.
33. FMFM 1-1, p. 76.
34. Ibid., p. 78.
35. Ibid.
36. Potter, p. 665-666.
37. FMFM 1-1, p. 82.
38. Potter, p. 365.
39. Ibid., p. 367.
40. MajGen John Stanford. J-5 TRANSCOM briefed SAMS students on 25 Feb and praised the MPF concept as a resounding success. He applauded the wisdom of the Marine Corps in fighting for the concepts implementation despite the U.S. Navy's objections.

### III. Analysis and Evaluation

1. FMFM 1-1, P. 55.
2. Col. William W. Mendel, Campaign Planning (Pennsylvania: Carlisle Barracks, 4 Jan. 1988), p. 100-103.
3. Large Unit Operations. FM 100-6 (Kansas: U.S. Army Command and General Staff College, 30 Sep 1987). p. 3-13.
4. MPF Operations. OH 1-5, p. 1-3.
5. Chapter 1 of OH 1-5 discusses these and additional considerations for MPF operations.

6. L. Edgar Prina. "Two If By Sea...Are We Ready?" Army, Dec. 1990, p. 12.
7. "MPS Activities", Marine Corps Gazette, Feb. 1991, p.6.
8. Recommend a review of Landing Force Manual (LFM) 01 for those assigned as AFOE is normally required--within a five day period.
9. "Reconstitution Under Way", Marine Corps Gazette, April 1991, p. 6.
10. Maritime Prepositioning Force (MPF) Operations, 6th MEB, U.S. Marine Corps, 1 Mar 1990, p. 5.
11. U.S. Army, FM 100-5, Operations, p. 13.
12. One of the most frequent problems that consideration is not given to is the introduction of the fixed wing aircraft that comes as part of the MEB. Remember much of the support equipment for the fixed wing aircraft group is aboard the MPSRON.
13. Warfighting, FMFM 1, p. 59.
14. Sun Tzu, The Art of War, p. 41.
15. Marine Prepositioning, 6th MEB, p. 19.
16. "MPS Activities", Marine Corps Gazette, Feb 1991, p.6.
17. Marine Air Ground Task Force Presentation Team Pocket Guide, p. 2.
18. Recommend students read LtCol H. Murdock's SAMS monograph entitled: Doctrine for Combined Airborne and Amphibious Operations.
19. "MPF Operations", OH 1-5, p. 4-1.
20. Ibid., p. 2-15.
21. Ibid., p. 4-5.
22. Campaigning, FMFM 1-1, P. 75.
23. Sun Tzu, The Art of War, p. 98.
24. Campaigning, FMFM 1-1, p. 76.
25. Ibid., p. 83.

26. John H. Cushman, Sr., Command and Control of Theater Forces: Issues in Mideast Coalition Command (Cambridge: Harvard Univ., Nov. 1990), p. 47-51. Cushman provides an excellent orientation on the command and control structure of Operation Desert Shield. He discusses in excellent fashion the MAGTF role in the theater organization.

27. "Maritime Prepositioning", 6th MEB, p. 7.

28. Commanding General, Fleet Marine Force Pac ltr., 9 Apr 1990, p. 1.

29. *Ibid.*

30. The equipment sets contain a cross section of equipment and supplies needed to begin an operation. Essentially a unit can pick up its "sets" and be combat ready in a matter of hours instead of days.

31. Marine Corps Gazette, Oct. 1990, p. 2.

32. MajGen John Stanford. J-5 TRANSCOM brief on 25 Feb---strongly argued that U.S. Army should copy a great idea. Reduced forward basing and inadequate sealift threaten U.S. Army role in contingency operations.

33. Marine Corps Gazette, Oct. 1990, p. 2.

#### IV. Conclusion

1. Gen. Carl Vuono, "Shaping the Army and Airland Battle-Future," (Unclassified) CSA ltr, March 1991.

## BIBLIOGRAPHY

### Books

- Blair, Clay. The Forgotten War. New York: Anchor Press. 1987.
- Clausewitz, Carl Von. Ed. and trans. by Michael Howard and Peter Paret. On War. Princeton: Princeton University Press. 1976.
- Clausewitz and Modern Strategy. Ed. by Michael I. Handel. London: Longmans, Green and Co.. 1986.
- James, Clayton D. The Forgotten War. Boston: Houghton Mifflin Co.. 1985.
- Mahan, Alfred Thayer. The Influence of Sea Power Upon History 1660-1783. Boston: Little Brown and Co.. 1890.
- Military Strategy: Theory and Application. Ed. Col. Arthur F. Lykke, Jr. Carlisle Barracks, PA: U.S. Army War College, 1989.
- Minott-Kennedy, Rodney. U.S. Regional Force Application: The Maritime Strategy and Its Effect on Nordic Stability. Stanford: Stanford Univ., 1988.
- Potter, E.B. Sea Power. Annapolis: Naval Institute Press, 1981.
- Rosinski, Herbert. The Development of Naval Thought. Newport: Naval War College Press, 1977.
- Seager II, Robert. Alfred Thayer Mahan: The Man and His Letters. Annapolis: Naval Institute Press, 1977.
- Till, Geoffrey. Maritime Strategy and the Nuclear Age. New York: St. Martins Press, 1984.

### MAGAZINES AND NEWSPAPERS

- Braunbeck, Michael, C. LCDR., "Desert Shield: The First Lessons Learned." Naval Institute Proceedings, Jan. 1991, p. 14.
- Campbell, Scott, Capt. "Ahuas Tara '90 Challenges Marines." Marines, Sept. 1990, p. 15.

- Evans, David, LtCol. "Desert Shield: From the Gulf." Naval Institute Proceedings, Jan. 1991, p. 77.
- Garrett, H. Lawrence III and Gen. A. M. Gray and Adm. Frank B. Kelso, II. "The Way Ahead." Naval Institute Proceedings, April 1991, p. 36.
- Grant, Greg. "Operational art of war was key to allied victory." Army Times, Mar 11, 1991, p. 25.
- Gray, A. M. Gen. "The Annual Report of the Marine Corps to the Congress." Marine Corps Gazette, p. 19..
- Gray, A. M. Gen. "Planning For the Future: A Policy of Stability." Strategic Review, Winter 1991, p. 9.
- "MPS Activities." Marine Corps Gazette. Feb 1991. p.6.
- Moore, R. Scott, Maj. "Finding the Gaps: Intelligence and MAGTF Warfare." Marine Corps Gazette. March 1991. p. 59.
- Pocaiyko, Michael N. "Desert Shield: The First Lessons Learned." Naval Institute Proceedings. Specials. Oct 1990. p. 58..
- Prina, L. Edgar. "Two If By Sea...Are We Ready?" Army. Dec 1990. p. 12.
- "Reconstitution Under Way." Marine Corps Gazette. April 1991, p. 6.
- Walsh, Edward J. "Amphibious Sealift Plans Face New Realities." Armed Forces Journal, April 1990. p. 60.

#### MISCELLANEOUS WORKS

- Cushman, John H. Sr. Command and Control of Theater Forces: Issues in Mideast Coalition Command. (Draft) Cambridge: Harvard Univ.. Nov. 1990.
- Hendricks, Douglas O. LtCol. U.S. Maritime Strategy in A Post-Cold War World? School of Advanced Military Studies. U.S. Army Command and general Staff College. Ft. Leavenworth, KS., AY 89-90.
- Joint Task Force (JTF) Planning Guidance and Procedures. Joint Chiefs of Staff JCS Test Pub 5-00.2. Washington. D.C.. 15 June 1988.

Kokko, Richard W., Maj. Joint Operations Involving Marine Amphibious Forces and Army Airborne Forces. Naval War College, Newport, R.I., 17 June 1988.

Large Unit Operations. U.S. Army Command and General Staff College. FM 100-6. Ft. Leavenworth, KS.. 30 Sep 1987.

Marine Air-Ground Task Force Presentation Team. U.S. Marine Corps. Warfighting Center, Quantico, VA.. 1 Oct 1990.

Marine Corps Capabilities Plan. Dept. of the Navy, U.S. Marine Corps Vol 1. Washington, D.C. (unpublished draft).

Maritime Prepositioning Force (MPF) Operations. U.S. Marine Corps, OH 1-5 (Draft).

Mendei, William W. Col. Campaign Planning. Strategic Studies Institute, U.S. Army War College. Carlisle Barracks, PA.. 4 Jan 1988.

Operations. Headquarters Dept. of the Army, FM 100-5. Washington, D.C., May 1986.

Schroedel, Joseph Maj. The Art and Science of Operational Maneuver. School of Advanced Military Studies, Foundations of Military Theory. U.S. Army Command and General Staff College, Ft. Leavenworth, KS.. AY 88/89.

The Marine Air-Ground Task Force. U.S. Marine Corps OH-2. Marine Corps Development and Education Command. Quantico, VA.: March 1987.

U.S. Military Strategy: The Role of American Armed Forces in a Changing World Order. (Draft) 6 Mar 1991.

U.S. Marine Corps, Campaigning, FMFM 1-1. Washington, D.C.. 25 Jan 1990.

U.S. Marine Corps, Warfighting, FMFM 1. Washington, D.C.. 6 Mar 1989.

Vuono, Carl Gen. CSA itr.. "Shaping the Army and Airland Battle-Future". (Unclassified) March 1991.