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Advanced Base Defense Doctrine, War Plan Orange, and Preparation at Midway:  
Were the Marines Ready?



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## **ABSTRACT**

Many of the books written about Midway focus on the battle itself, specifically the naval battle between the U.S. and Japanese Navy. Most of the emphasis is placed on understanding and critiquing the decision-making of the leaders of the U.S. and Japanese fleets and aircraft carriers. Aside from discussing the contributions of the air forces flying from Midway itself, many overlook the preparedness and contributions of the Marine defenders stationed there. Aside from the occasional shelling by Japanese naval vessels, Midway was only ever attacked a single time on the morning of 4 June 1942 and never faced the invasion force the Japanese sent to take the atoll. The lack of information on the actual defenders on Midway has left unanswered the question of how prepared the Marine forces were to defend Midway from the Japanese. War Plan Orange and U.S. leadership placed significant importance on Midway and directed the Marines to defend it. Advanced Base Defense doctrine of the time had seen significant development in the interwar years and was used when the Marines fashioned the defense of Midway. This paper will examine the development of Midway as a base and the doctrine for the defense of advanced bases in effort to determine if the Marines were properly prepared to defend Midway from the Japanese.

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## Introduction

Many of the books written about Midway focus on the battle itself, specifically the naval battle between the U.S. and Japanese Navy. It was the first resounding defeat of the Japanese navy for the U.S. and Samuel Eliot Morison describes it as “the first really smashing defeat of the Japanese Navy in modern times.”<sup>1</sup> Most of the emphasis is placed on understanding and critiquing the decisions made by the leaders of the U.S. and Japanese fleets and aircraft carriers. Aside from discussing the contributions of the air forces that flew from Midway itself, many overlook the preparedness and contributions of the Marine defenders stationed there.

A contrast is the defenders of Wake Island, who have had many books written about the ordeal they faced nearly six months before the Battle of Midway. There are significant differences between the two, chief among them that the Japanese never invaded Midway. Aside from the occasional shelling by Japanese naval vessels, Midway was only ever attacked a single time by the first wave of aircraft from Admiral Nagumo’s carriers on the morning of 4 June 1942.<sup>2</sup> The lack of information on the actual defenders on Midway has left an interesting question unanswered, and this paper will analyze it. Had the U.S. prepared the fortifications on Midway in line with the doctrine of the time and commensurate with the importance of Midway to U.S. war plans?

At first glance, the answer may appear to be no. Contrary to the importance placed on Midway by War Plan Orange, the actions of the Navy and Marine Corps to build the defenses there did not seem to take on any urgency until the U.S. discovered Japan's specific intent to attack the base in early 1942. Divergent from the advanced base defense doctrine of the time,

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<sup>1</sup> Samuel E. Morison, *History of United States Naval Operations in World War II, Volume 4: Coral Sea, Midway and Submarine Actions* (Boston: Little, Brown and Company, 1949), 159.

<sup>2</sup> Morison, *Coral Sea, Midway and Submarine Actions*, 103.

some of the resources dedicated to the defense were obsolete, leaving the defense of Midway reliant on the ability of the U.S. fleet to defeat the invasion force in action at sea.

This paper will use a variety of primary and secondary sources to show the development of Midway from the time it became a U.S. territory until the Battle of Midway. It will also examine the development of advanced base defense doctrine prior to the Battle of Midway. Primary sources are from the Naval Historical Center archives at the Naval War College (N.W.C.), to include the N.W.C. analysis of the Battle of Midway in 1948 and the Nimitz "Graybook." The archives also contain the early writings of Major Earl H. Ellis (then a Captain) and others from their time at the N.W.C. studying and developing the defense of advanced bases. The secondary sources complement each other and the available primary sources. The early offerings of *Marines at Midway* (1948), by Robert Heintz and *History of United States Naval Operations in World War II: Volume 4, Coral Sea, Midway and Submarine Actions, May 1942-August 1942* (1949), by Samuel Eliot Morison have the benefit of recent memory and comprehensive archival sources, making them a great foundation to build on. *Midway: The Incredible Victory* (1967), by Walter Lord, contributes first-person accounts, which help give perspective to the numbers of men, guns, and aircraft listed in the earlier accounts. After many sources, specifically "Magic" intercepts and "Plan Orange" documents, were declassified in the late 1970s and beyond, authors like Edward S. Miller in *War Plan Orange: The U.S. Strategy to Defeat Japan, 1897-1945* (1991), have been able to incorporate these new archival sources and improve the understanding of U.S. war planning. It is also important to acknowledge that sometimes first-person accounts are wrong or embellished. Our understanding of historical events can occasionally benefit from the perspective offered by the passing of time. All

secondary sources have benefits and drawbacks. However, when woven in with primary sources, they provide a more accurate picture of what happened and why.<sup>3</sup>

## The Early Years

Before being called Midway, this small piece of land in the middle of the Pacific was Brooks Island. In 1867 Gideon Wells, the Secretary of the Navy, ordered the island to “be claimed and surveyed for the United States.”<sup>4</sup> The change in name to Midway from Brooks Island was the work of a Captain of the Pacific Mail Steamship Company, as the company desired to use the island as a coaling station for trips across the Pacific. Midway is not an island but an atoll in the rough shape of a circle approximately six miles across. There are two islands, named Sand Island and Eastern Island. Sand Island is the larger of the two, roughly double Eastern Island's one-mile length. There is a lagoon in the middle of the atoll, which, unfortunately, “could only be reached over a six-foot bar.” In 1869 Congress appropriated \$50,000 to dredge an entrance to and improve the lagoon to allow ships to anchor. Work began in earnest the following year with the U.S.S. *Saginaw* towing out dredges and workers to improve the entrance and anchorage. Unfortunately, before the work was complete, the money ran out, and for the next three decades, Midway sat without any additional work.<sup>5</sup>

In April 1903, work began anew when the Commercial Pacific Cable Company established a station on Sand Island. Shortly after, President Theodore Roosevelt gave control of Midway to the Department of the Navy. Soon Sand Island had a lighthouse and, for a time,

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<sup>3</sup> Robert D. Heinl, *Marines at Midway* (Quantico: Headquarters United States Marine Corps, 1948), Samuel E. Morison, *History of United States Naval Operations in World War II, Volume 4: Coral Sea, Midway and Submarine Actions* (Boston: Little, Brown and Company, 1949), Walter Lord, *Midway: The Incredible Victory* (New York: Harper and Row, 1967), Edward S. Miller, *War Plan Orange: The U.S. Strategy to Defeat Japan, 1897-1945* (Annapolis: Naval Institute Press, 1991).

<sup>4</sup> Robert D. Heinl, *Marines at Midway* (Quantico: Headquarters United States Marine Corps, 1948), 1.

<sup>5</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 71.

twenty Marines to protect the station. S.E. Morison notes how this cable between Honolulu and Guam was a massive help in the preparations for the Battle of Midway. It handled communication over the typical radio transmissions coming out of Midway "so that the enemy would not suspect what was going on."<sup>6</sup> However, aside from landscaping improvements to the island by inhabitants running the cable station, little to no work was accomplished to make Midway into a military base until well into the 1930s.

In 1911, Captain Pete Ellis, USMC, attended the Naval War College (N.W.C.) as a student and remained for an additional year as an instructor, where he crafted the foundation of what came to be called "Advanced Base" doctrine for the Marine Corps. During this time, the N.W.C. was an active participant in developing war plans for the U.S. Navy. War Plan Orange was one of the plans discussed and heavily influenced a paper written by Ellis towards the end of his time at the N.W.C. in 1913.<sup>7</sup> His work, titled "The Security of Advanced Bases and Advanced Base Operations and Data," was focused on how the Marine Corps should organize, train, and equip a force capable of seizing and defending advanced bases. While a significant portion of the paper focused on specific anchorages far closer to Japan than the U.S. was capable of seizing in the early portions of World War II, other portions were far more helpful. He advocated for these forces to be organized as a "collection of small units," essentially allowing commanders to build the force required for individual situations, rather than a set-piece that might be more or less than required for a specific situation.<sup>8</sup> Furthermore, Ellis understood the importance of organizing and equipping the force and suggested:

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<sup>6</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 71.

<sup>7</sup> Earl H. Ellis, *Advanced Base Operations in Micronesia*, (Washington, D.C.: Headquarters United States Marine Corps, 1921), v.

<sup>8</sup> Earl H. Ellis, "The Security of Advanced Bases and Advanced Base Operations," NHC Archives, R.G. 8, Box 79, Folder 11, 5.

That the senior line staff officer at Headquarters and certain other officers on duty at the Advanced Base Rendezvous<sup>9</sup>, (composing a board) make a thorough study of the mission of the Marine Corps (as determined by the General Board of the Navy) both in peace and in war and determine in detail the personnel and armament necessary for its execution.<sup>10</sup>

Ellis freely admitted he had barely laid the general groundwork of the advanced base force, but even his early writings as a captain helped provide the Marine Corps a roadmap to prepare its forces.

### **Midway and War Plan Orange**

At different times in the history of War Plan Orange, Midway found itself both sought after and forgotten as a base for U.S. forces. While the harbor and lagoon did not yet offer room or protection for multiple ships, there was an undersea shelf just outside Midway's reef, which allowed a significant number of ships to lie at anchor. The 1914 version of Plan Orange deemed this the fleets "final resting place" as it advanced towards Guam. This specific use for Midway was short-lived since World War I proved that any ships anchored in the open sea were vulnerable to U-boats and their torpedoes.<sup>11</sup> Additionally, the plan began to coalesce around a route that went more southerly than earlier designed.<sup>12</sup>

While Morison lists nothing of note between 1920 and 1934, the Navy had actively explored the use of Midway as a seaplane base as early as 1920. In October of 1920, the Pacific Air Attachment, under orders from the Commandant of the 14<sup>th</sup> Naval District, embarked with a seaplane on the ship "Eagle 40" to complete an aviation reconnaissance of islands to the west of Hawaii specifically, Midway.<sup>13</sup> While they encountered some mechanical issues completing the

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<sup>9</sup> The "Advanced Base Rendezvous" refers to the Headquarters or central training location of the Advanced Base Force.

<sup>10</sup> Ellis, "The Security of Advanced Bases," 6-7.

<sup>11</sup> Edward S. Miller, *War Plan Orange: The U.S. Strategy to Defeat Japan, 1897-1945* (Annapolis: Naval Institute Press, 1991), 101-102.

<sup>12</sup> Miller, *War Plan Orange*, 50.

<sup>13</sup> See Figure 1

reconnaissance itself, the mission was deemed successful, with one of the main facts established being, "seaplanes and land planes can be successfully operated from Midway Islands."

Furthermore, the attachment recommended "that consideration be given the aviation



Figure 1. "Eagle 40" with an embarked seaplane. NHC Archives, R.G. 8, Box 25, Folder 6.

possibilities afforded at Midway in formulating the War Plans for the Pacific."<sup>14</sup> An additional report in 1924 described an opportunity to place a scouting base in the lagoon after a route was cut through the reef to it.<sup>15</sup> Concerning construction or fortification, Morison was correct.

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<sup>14</sup> Pacific Air Detachment, "Midway Islands – reconnaissance of," NHC Archives, R.G. 8, Box 25, Folder 6.

<sup>15</sup> Miller, *War Plan Orange*, 50.

Events in late 1921 and early 1922 changed how the U.S. planned and prepared for war in the future.

None of the Midway expedition recommendations in 1920 were put into effect because the U.S. was soon party to a treaty that expressly forbade many of these actions. Initial negotiations during the Washington Naval Conference in 1921 focused mainly on limiting shipbuilding amongst the five nations. However, certain factions within Japan were unwilling to support the ratio of 5:5:3 without concessions in other areas. The Japanese only accepted the discussed ratio when the U.S. agreed not to improve base fortifications or build naval bases outside the U.S. and Hawaii.<sup>16</sup> The addition of this clause meant the U.S. was unable to build or improve permanent bases in the Pacific between Hawaii and the Philippines. As the world moved closer to war in the 1930s, it also meant that the U.S. was far behind where it needed to be to support the execution of Plan Orange logistically.

Additionally, by the mid-1920s, war planners had deemed Midway was not worth the trouble. They felt it was provocative towards Japan and expensive to maintain. If the Japanese took the base, the time and energy required to retake the island would only slow the offensive push Plan Orange required. The chance that Japan might use the islands as a jumping-off point for raids on Hawaii was too low to justify the cost. Army planners were also concerned that enemy submarines could deny the U.S. using these atolls for basing purposes. Finally, and most importantly, planners felt that Midway was "impossible to defend without the fleet."<sup>17</sup> While the answer will never be known for sure, the planners were very likely correct on the last point.

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<sup>16</sup> John T. Kuehn, *Agents of Innovation: The General Board and the Design of the Fleet that Defeated the Japanese Navy* (Annapolis: Naval Institute Press, 2008), 74-75.

<sup>17</sup> Miller, *War Plan Orange*, 50.

## Advanced Base Defense Doctrine

Just as planning for war continued, so did the development of tactics during the 1920s and 30s. After the N.W.C., Ellis was the principal staff officer for Major General John A. Lejeune during World War I. When he returned, he continued work on amphibious warfare doctrine for the Marine Corps, writing *Advanced Base Operations in Micronesia* in 1921. The publication reflected the post-World War I potential that Japan might attack the Philippines or other U.S. territories in the Pacific. The document is part war plan and part doctrine. The war plan portion of the document focused on the seizure of bases in the Pacific to secure U.S. lines of communication from Japan. This supported the projection of the U.S. Fleet and Marines to wage war on Japan in their own waters.<sup>18</sup> Ellis began with an overview of the theater of operations, where he discussed climate, geography, native populations, and the enemy. His overall plan had three phases:

- |               |  |
|---------------|--|
| First Phase:  | Reduction of the Marshall Islands, if possible, plus Kusaie Is., or Ponape Is., or both;                 |
| Second Phase: | Reduction of the Caroline Islands west to, and including, the Lamutrek group; (if possible, Yap Island); |
| Third Phase:  | Reduction of remainder of Caroline Islands, and Yap and the Pelew (sic) Islands. <sup>19</sup>           |

It is remarkable to note how his phased operations were very close to what the U.S. carried out during World War II. While Ellis knew about War Plan Orange, the plan was changed many times before the war started, making his plan even more impressive.

In the doctrine portion of the document, Ellis described the specifics that he left out when he wrote his paper at the N.W.C. He laid out the required human resources and equipment for the defense of an advanced base. He covered the guns required for the defense of the base from naval vessels, landing craft, personnel, and aircraft which might attack the base.<sup>20</sup> He described

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<sup>18</sup> Ellis, *Advanced Base Operations in Micronesia*, 29.

<sup>19</sup> Ellis, *Advanced Base Operations in Micronesia*, 39.

<sup>20</sup> Ellis, *Advanced Base Operations in Micronesia*, 82-83.

the forces required for a mobile sea force to interdict enemy forces in the waters around the base itself. Even though the U.S. was still figuring out aircraft use at the document's writing, Ellis made some very reasonable assumptions about what the enemy might do and what type of air forces should be fielded by the Marines to counter them.<sup>21</sup> Throughout the document, it is clear Ellis understood the roadblocks to develop and field this force with the limited funds and human resources in the Marine Corps. His focus was on simplicity, using only equipment already available or systems reasonably expected by the time war broke out.<sup>22</sup>

The only place where one could point out some shortcomings was in the assumptions he made about the defense of advanced bases. He broadly described the defense of advanced bases as similar to defending permanent bases, just to a lesser degree due to their temporary nature. In his view, this was fine because the U.S. expected fleet superiority in the region of the advanced base and, "therefore enemy attacks will not occur with such frequency and in such strength." He further claimed, "We will only have to deal with harassing forces."<sup>23</sup> Ellis based this on his expectation that the Japanese fleet might be "husbanded for the final fleet action," which he presumed to be a Mahanian style decisive battle.<sup>24</sup> He assumed that the forces defending the advanced base enjoyed what Sir Julian S. Corbett labelled "local and temporary" command of the sea.<sup>25</sup> While he was planning for the defense of an advanced base, he expected the footing of the U.S. Navy to be offensive, with the Japanese fleet on the defensive. His attitude reflected the reality of the fleet size in 1921, but things changed in the years before World War II. The planners working on Plan Orange seemed to struggle with this as well. The assumption among them was that Japan planned to begin the war by attacking a U.S. territory like the Philippines,

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<sup>21</sup> Ellis, *Advanced Base Operations in Micronesia*, 67-69.

<sup>22</sup> Ellis, *Advanced Base Operations in Micronesia*, 59.

<sup>23</sup> Ellis, *Advanced Base Operations in Micronesia*, 59.

<sup>24</sup> Ellis, *Advanced Base Operations in Micronesia*, 53.

<sup>25</sup> Julian S. Corbett, *Some Principles of Maritime Strategy* (Annapolis: Naval Institute Press Edition, 1988), 318.

forcing the U.S. to drive across the Pacific and crush their fleet in decisive action. The possibility that the U.S. might face attacks at Hawaii, Midway, Wake, and the Philippines and lose command of the sea nearly everywhere east of Midway atoll never crossed anyone's mind. The introduction of naval airpower made control of the sea even more important since those who control the sea can control the air. This attitude significantly affected those defending the advanced bases of the Pacific. Wake was lost, and Midway required the Pacific fleet to aid in its defense.

Ellis's death in May 1923 was an unfortunate but inevitable result of a constant battle with alcohol and a near manic work ethic. Had Ellis been able to fight off his issues and make continued contributions to the doctrine of advanced bases for the Marine Corps, his planning brilliance makes it likely we would discuss him among names like Corbett and Mahan. Thankfully, there were others to continue his work. Colonel Richard M. Cutts, USMC, was assigned to the N.W.C. in 1931 and continued developing the advanced base force, with a specific focus on the artillery such a force required. In December 1932, Cutts published a paper at the N.W.C. called "Advanced Naval Bases and Advanced Naval Base Units: With Particular Reference to the U.S. Marine Corps." In the paper, he laid out what he believed to be the duties of the Marine Corps, specifically, "War time operation as the naval force charged with the actual capture of the locality or localities necessary to secure as a base for fleet operations, and subsequent defense of the established bases."<sup>26</sup> While assigned to the N.W.C., he worked closely with the Marine Corps Schools, "in the progressive consideration of the Marine Forces necessary to meet the naval requirements in the definite localities appearing in all the possible theatres of naval operations."<sup>27</sup> Much like Ellis, Cutts understood the financial realities the Marine Corps of

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<sup>26</sup> Richard M. Cutts, "Advanced Naval Bases and Advanced Naval Base Units: With Particular Reference to the U.S. Marine Corps," December 1932, NHC Archives, R.G. 8, Box 79, Folder 11, 2.

<sup>27</sup> Cutts, "Advanced Naval Bases," 3.

the 1930s faced in fielding a force of this size in perpetuity. He advocated for creating a small force to represent a "trained nucleus" within the Marine Corps, able to train large amounts of recruits in time of war quickly. He also echoed the suggestions of Ellis from 1913, and recommended that the size of the required force be defined and recognized by the Navy General Board and the Commandant of the Marine Corps.<sup>28</sup> Cutts advocated further delineation of advanced base defense forces from within the Fleet Marine Force that was formalized in the 1916 mobilization and planning documents of the Marine Corps.<sup>29</sup> Soon enough, the Navy began to see the fruits of both his and Ellis's labor.

In the early 1930s, wargaming results at the N.W.C. showed that the ordnance used by the advanced base forces was inadequate for the job. Artillery shortcomings caused the loss of advanced bases to the Orange forces unless the majority of the Blue fleet protected it. The result "was in effect a decisive defeat for Blue unless the Blue Fleet could entirely eliminate the Orange Fleet immediately."<sup>30</sup> This discovery led the N.W.C. to look for better options to equip the advanced base force. Many options capable of meeting the need were found in development or already in use with the Army. In December 1933, the President of the Naval War College, Admiral Luke McNamee, identified the problem in a memorandum to the Chief of Naval Operations (CNO), Admiral William H. Standley. Admiral McNamee also offered a solution, listing the guns suitable for advanced base operations, along with range, side, and deck penetration numbers.<sup>31</sup> Also added was a schematic depicting the offshore range of each weapon and the effect of designed defense in depth.<sup>32</sup> While his name is not in the memorandum, Cutts'

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<sup>28</sup> Cutts, "Advanced Naval Bases," 4.

<sup>29</sup> John T. Kuehn, *America's First General Staff: A Short History of the Rise and Fall of the General Board of the U.S. Navy, 1900-1950* (Annapolis: Naval Institute Press, 2017), 103-104.

<sup>30</sup> Luke McNamee, "Material and equipment for Naval Advanced Base Force," 18 December 1933, NHC Archives, R.G. 8, Box 79, Folder 11, 1.

<sup>31</sup> See Figure 2

<sup>32</sup> See Figure 3

name is seen on both diagrams, making it likely he was the overall author of the appendices to McNamee's memorandum.<sup>33</sup> The return memorandum from Admiral Standley indicated a bit of good news. While the Commandant of the Marine Corps had received the information, the Marines had already begun to consider the question McNamee was answering. Aside from a few model changes for weight, mobility, and suitability, the result was similar to that suggested by Cutts and the N.W.C.<sup>34</sup>

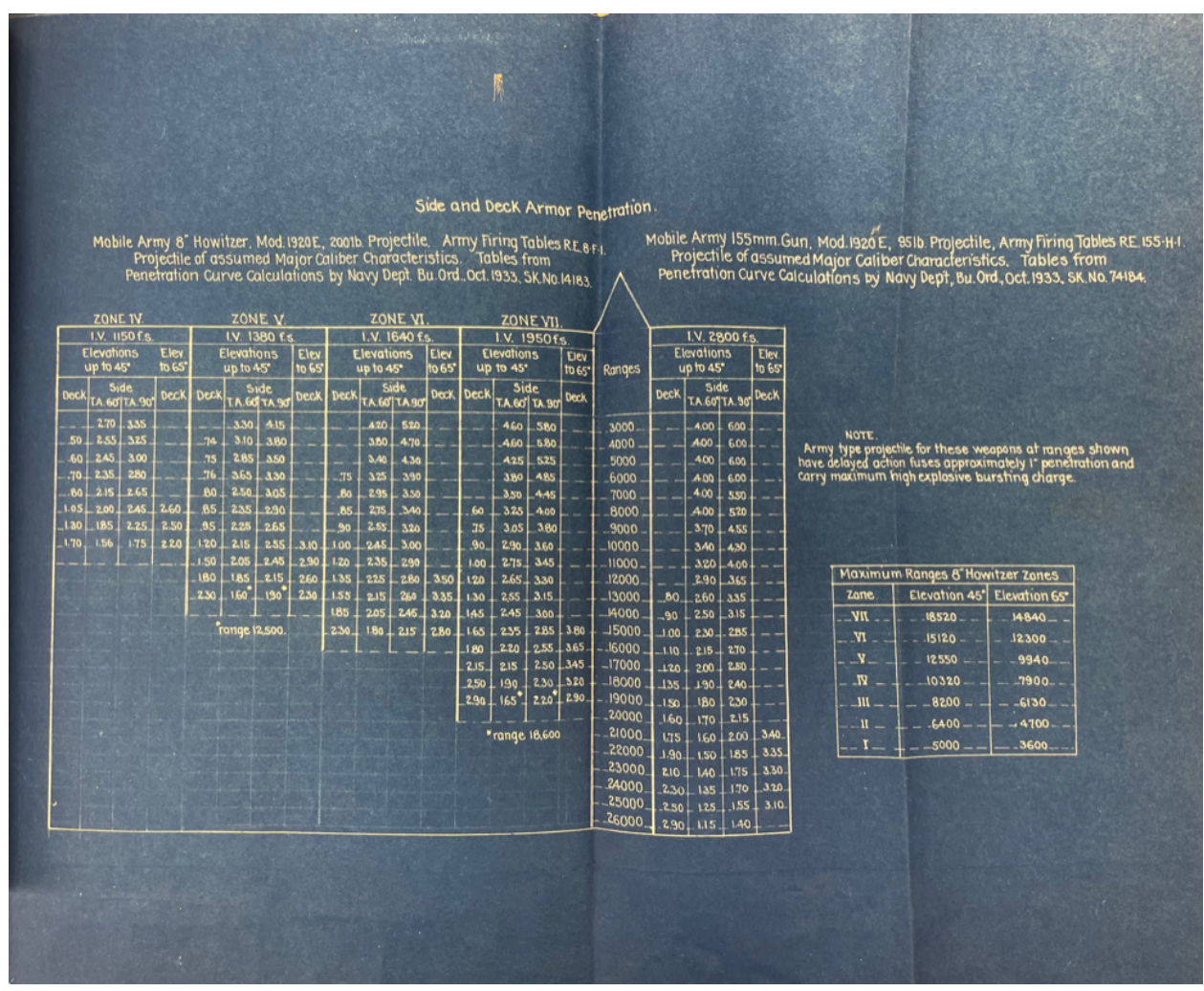


Figure 2. Side and Deck Armor Penetration. NHC Archives, R.G. 8, Box 79, Folder 11.

<sup>33</sup> McNamee, "Material and equipment for Naval Advanced Base Force," 1-3, Appendix 1-3.

<sup>34</sup> William H. Standley, "Material and equipment for Naval Advanced Base Force," 16 March 1934, NHC Archives, R.G. 8, Box 79, Folder 11.

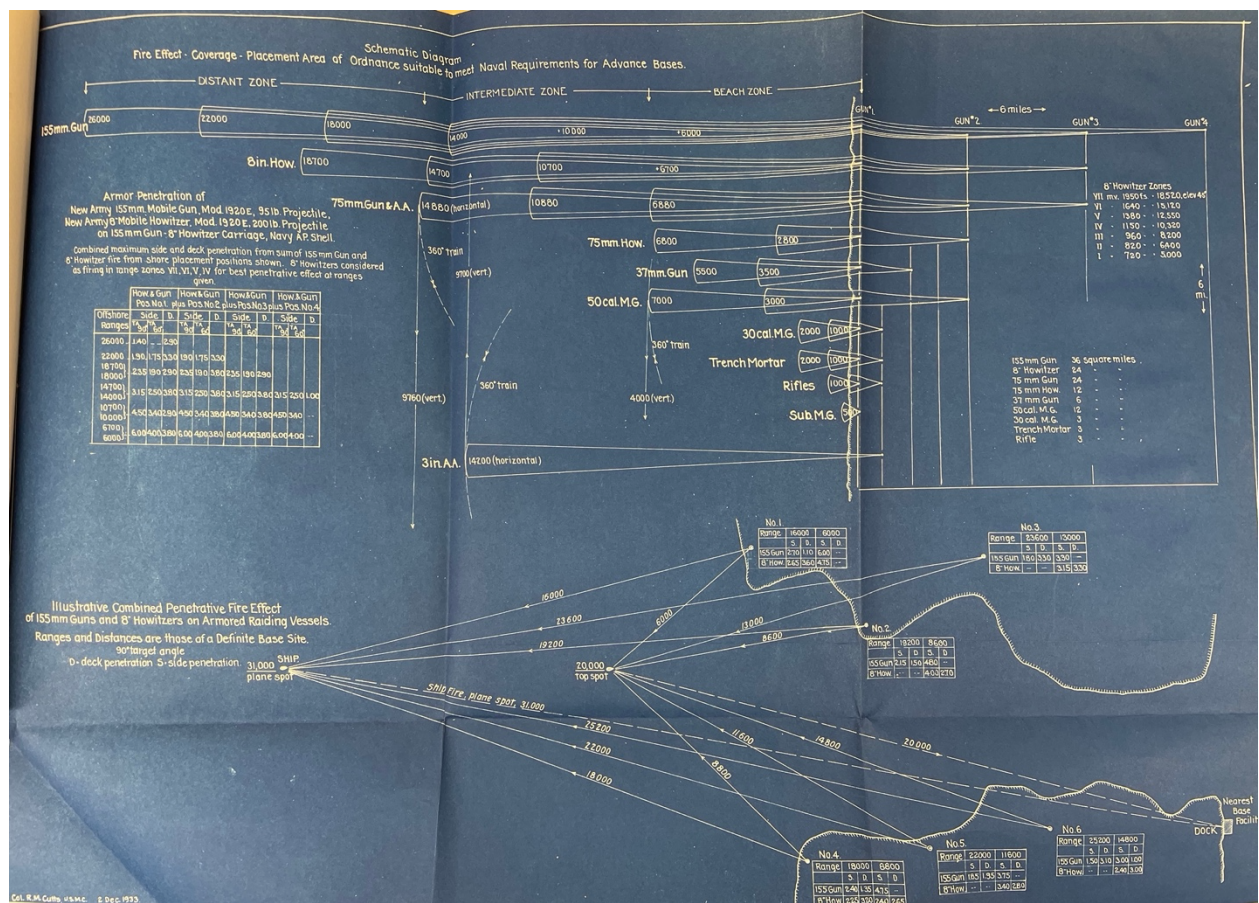


Figure 3. Schematic Diagram, Fire Effect – Coverage – Placement Area of Ordnance suitable to meet Naval Requirements for Advanced Bases, NHC Archives, R.G. 8, Box 79, Folder 11.

Unfortunately, six months later, Cutts took an extended leave of absence from the N.W.C. and die on 24 November 1934. He had just turned 56 years old.<sup>35</sup> Much like Ellis, he did not get to see the fruits of his labor develop in the interwar years and be executed in World War II. Before he left, he developed a paper for the N.W.C. titled "The Advance Base Force." The paper focused on understanding the Advance Base Force and how to use it in times of war. It covered the force's "technical and operative features, as well as the broader aspects of its employment."<sup>36</sup> Within the paper, there were a few items of note. First, Cutts dedicated a part

<sup>35</sup> Arlington National Cemetery website, "Richard Malcolm Cutts," no date, accessed April 8, 2021. <http://www.arlingtoncemetery.net/rmcutts.htm>

<sup>36</sup> Richard M. Cutts, "The Advance Base Force," 1936, NHC Archives, R.G. 8, Box 79 Folder 11, 1.

of the introduction to discussing the importance of understanding the base to be defended in order to construct the best force to take and defend it. Second, he discussed getting the equipment required to defend the base ashore in the quickest way possible. Cutts highlighted the concerns with the current landing craft and the complexities of unloading artillery weighing multiple tons onto a soft, sandy beach. Finally, he again emphasized the importance of keeping a trained cadre to ensure the Marine Corps could rapidly train substantial advanced base forces and units during a mobilization for war.<sup>37</sup> By the mid-1930s, Ellis, Cutts, and others had created a framework for the leadership in the Marine Corps to fill out with an organization and doctrine.

In 1936, the Marine Corps published the *Tentative Manual for the Defense of Advanced Bases*. The manual has just over 220 pages, organized into multiple chapters based on function. Chapter I, "Naval Features," provided background information defining the various terms and an outline for organizing the forces themselves. The definitions of terms such as "Advanced Base" and "Base Defense Forces" are self-explanatory but included due to the new nature of the mission the manual defined. The section discussed the need for advanced bases in very blunt language. It began by pointing out, "except for the base now under development in the Hawaiian Islands and the base in the Panama Canal Zone, the United States is entirely lacking in Fleet bases for any type of distant overseas naval operations." After it acknowledged the problem, the section further discussed a need to have the main fleet base with advanced bases connected to it roughly every 1000 miles.<sup>38</sup> While not explicitly laid out, Pearl Harbor fits the bill of the fleet base, and Midway was the first advanced base moving west into the Pacific. The range to Midway was just barely over 1000 miles, and in truth, it was the first realistic choice to build an advanced base west of Pearl Harbor. The manual also laid out the importance of unity of effort

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<sup>37</sup> Cutts, "The Advance Base Force," 8-11, 35-42.

<sup>38</sup> Marine Corps Schools, *Defense of Advanced Bases*, 6.

in defense of advanced bases, ensuring the shore, naval, and air defense forces contributed to the base's defense.<sup>39</sup> To meet this goal, the manual planned out the suggested organization of the defense forces shown in figure 4.

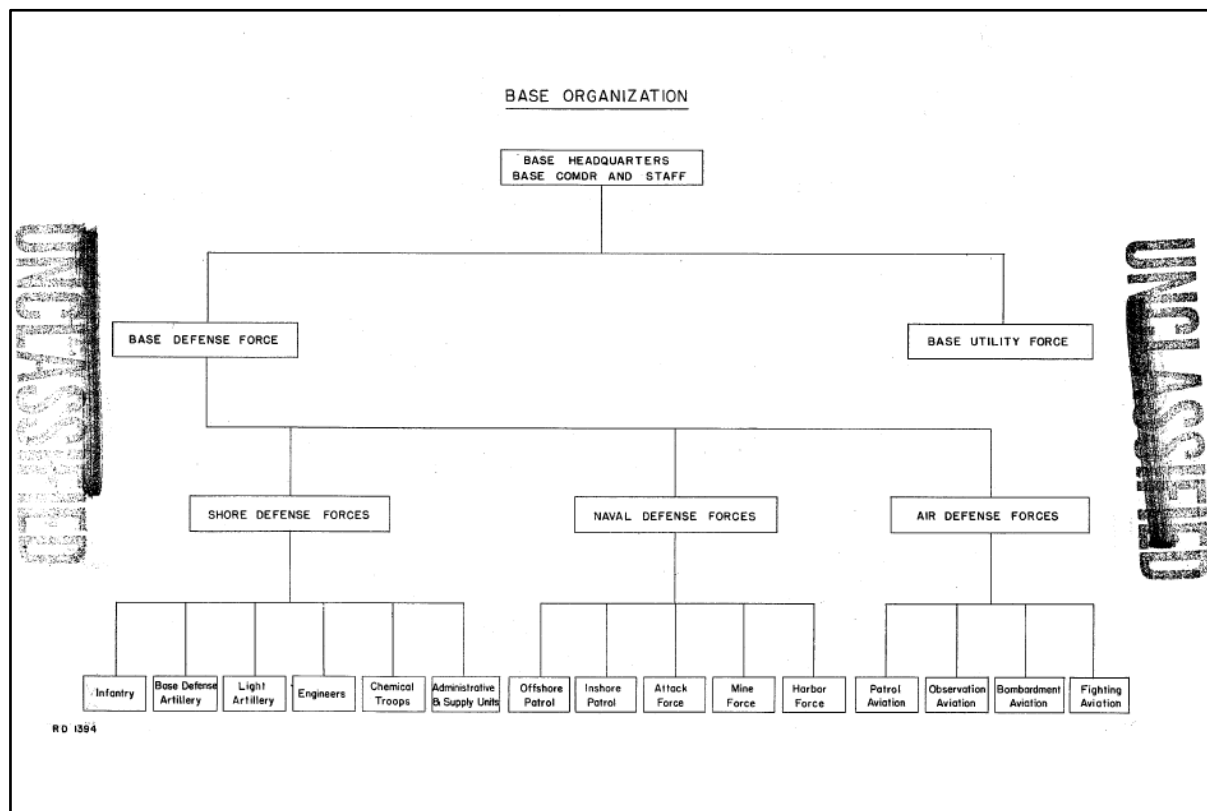


Figure 4. Base Organization<sup>40</sup>

The next chapter described how to select bases, the various places to locate them, and the terrain of the defended area. Bases on islands and peninsulas generate about one-quarter of a page explanation, but the discussion of bases on atolls was over three pages long. Most of this highlighted the disadvantages of a base on an atoll. The arguments against atolls as bases boil down to two main issues. First, they lack defense in depth, an issue to the shore forces and anti-aircraft forces. The small size of the atoll offers little chance to whittle away at enemy forces

<sup>39</sup> Marine Corps Schools, *Defense of Advanced Bases*, 7-8.

<sup>40</sup> Marine Corps Schools, *Defense of Advanced Bases*, 11.

before they are in range to engage. The second issue is similar, owing to the small size and terrain of atolls. Atolls have few places to conceal forces and are vulnerable from 360 degrees, primarily affecting the naval and air forces and driving larger search areas.<sup>41</sup> Given all the disadvantages of advanced bases on an atoll, it seemed Midway was not an excellent choice for an advanced base. However, the manual pointed out that "The selection of an advanced base will depend primarily on its strategic value in the projection of an overseas campaign."<sup>42</sup> Midway's strategic value as a defensive sentry and stepping stone into the western Pacific overrode the disadvantages of basing on an atoll. Additionally, the U.S. could not pass up the opportunity to build an airfield on Eastern Island and expand the entrance into the lagoon, offering submarines a protected refueling base. While strategic value is essential, the chapter also offered a warning about bases, "established beyond the limit of control of the protective forces of the line of communications or beyond the area commanded by the fleet." In this case, the base might become a burden, strategic value or not.<sup>43</sup>

The chapters on the three defense functions gave an overview of the planning factors for each task. The "Shore Defense Forces" chapter covered the infantry, artillery, and tactical vehicle organization. The themes focus on mobility, attaining the proper ratio of artillery for naval, beach, and aircraft defense, and the importance of not focusing too much infantry on the defense of the beaches.<sup>44</sup> The "Naval Defense Forces" chapter highlighted the importance of a high-speed distant scouting force, a slower inshore patrol force, an attack force, and the harbor defense force.<sup>45</sup> It is important to note that none of these forces were the same as those belonging to the fleet in the case of Midway. These forces were all smaller short-range vessels.

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<sup>41</sup> Marine Corps Schools, *Defense of Advanced Bases*, 17-21.

<sup>42</sup> Marine Corps Schools, *Defense of Advanced Bases*, 15.

<sup>43</sup> Marine Corps Schools, *Defense of Advanced Bases*, 15.

<sup>44</sup> Marine Corps Schools, *Defense of Advanced Bases*, 37-39, 42.

<sup>45</sup> Marine Corps Schools, *Defense of Advanced Bases*, 83.

Finally, the chapter on the "Air Defense Forces" highlighted the importance of suitable aircraft types. The air defense forces required adequate patrol, bombing, and attack aircraft.<sup>46</sup> This makeup afforded the force the best opportunity to find and interdict enemy forces at long ranges, allowing them to grind down forces before they even attempted a landing on the beach.

### **Pan American Airways and Renewed Interest**

While the U.S. military's interest in Midway as a base had waned, the growing commercial aviation industry of the mid-1930s brought renewed interest to the development of the islands. Pan American Airways, led by its President Juan Terry Trippe, received permits to build seaplane base stopover facilities on Midway, Wake, and Guam in March of 1935.<sup>47</sup> These bases were part of a more significant effort to connect the west coast of the U.S. to Hong Kong by commercial aircraft. The Navy was all too happy to benefit from the increased American presence on the islands, which they were unable to afford. It seemed helpful in keeping the Japanese from simply taking them over for their use.<sup>48</sup> Pan Am developed the bases and was flying mail on the route by November 1935, with paying passengers joining them in October of 1936.<sup>49</sup>

Around this time, a long-simmering division between two camps of war planners came to a head at the Naval War College in Rhode Island. Their argument over the speed of the campaign shows the difference between what Miller calls "thrusters" and "cautionaries." "Thrusters" felt the strength of the U.S. Fleet was never more potent than at the beginning of a war, and quick action was needed to avoid a long war, something American people might find

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<sup>46</sup> Marine Corps Schools, *Defense of Advanced Bases*, 95-96.

<sup>47</sup> Gregory J.W. Urwin, *Facing Fearful Odds: The Siege of Wake Island* (Lincoln: University of Nebraska Press, 1997), 27.

<sup>48</sup> Glen M. Williford, *Racing the Sunrise: Reinforcing America's Pacific Outposts, 1941-1942* (Annapolis: Naval Institute Press, 2010), 108-109

<sup>49</sup> Urwin, *Facing Fearful Odds*, 31-32

intolerable. "Cautionaries" felt the American public might support a long effort if the cause was just. Additionally, they feared rushing into a reenactment of the Battle of Tsushima in 1905, where the Japanese crushed an exhausted Russian fleet after a trip halfway around the world. The introduction of reliable torpedoes and mines, along with a lack of bases, made it likely the American Fleet would lose strength in a dash across the Pacific. Instead, "cautionaries" advocated for a steppingstone approach across the Pacific, stopping to recover, repair, and re-arm at temporary bases on the way.<sup>50</sup>

In 1933, the defensive-minded planners, led by Brigadier General Stanley D. Embick, felt the U.S. fleet required significant time to build up the forces required to make any push towards Japan. He went as far as to declare the current Plan Orange requirement for an immediate advance of the fleet as "literally an act of madness." An alternative, put forth by Captain R. A. Koch, was a defensive hold lasting nearly three years. This was to allow U.S. industry the time to build up the Navy to an acceptable force ratio with Japan. The navy "would cordon off the eastern Pacific at the Midway-Unalaska line," venturing beyond it only with submarines and occasional raiding forces, conserving their forces until they reached a level where they might be able to prevail in fleet action versus the Japanese Navy. However, this plan needed "four to five years" to achieve the force ratio needed for a win, which was completely unrealistic. The argument forced the "thruster" camp to consider a less aggressive timeline for their effort and planning continued.<sup>51</sup>

In 1935, the Fleet Problem XVI exercise involved Marines defending Midway, aided by a part of the U.S. Fleet and forty-six navy seaplanes.<sup>52</sup> Brigadier General Charles H. Lyman,

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<sup>50</sup> Miller, *War Plan Orange*, 79.

<sup>51</sup> Miller, *War Plan Orange*, 168-169.

<sup>52</sup> See Figure 5.



Figure 5. Seaplanes at anchor off Midway Atoll, 1935. NHC Archives, R.G. 8, Box 63, Folder 2.

the commander of the Fleet Marine Forces, led the Marines and offered the Commander in Chief of the U.S. Pacific Fleet his observations of the atoll's characteristics. He noted how "the encircling reef surrounding Midway has but two openings through which landing upon Midway can be made, and landing on a large scale is only possible through one of these openings." He went on to point out that all openings were well covered by defensive gun emplacements, "making a landing against opposition almost an impossibility."<sup>53</sup> The Commander of the Air Base Forces at Midway, Rear Admiral Johnson, found Midway to be valuable as a seaplane

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<sup>53</sup> Charles H. Lyman, "Participation of West Coast contingent, Fleet Marine Force, in Fleet Problem XVI," NHC Archives, R.G. 8, Box 63, Folder 2.

operating base, "but under present conditions, it is a rather hazardous place from which to operate."<sup>54</sup> Ironically, the same reef layout Lyman found to be helpful to the defense, Johnson found to be an obstacle to aircraft operating from the water in and around the atoll. The aircraft overcame the hazards and put up two patrols of twelve aircraft per day, searching out 250 miles from Midway. The seaplanes even explored the use of outlying islands and shoals to extend the search range but met with little success owing to the lack of logistical support available at the out bases.<sup>55</sup>

Strategically, the importance of Midway as a base struck Lyman. During the critique of Fleet Problem Sixteen, he made his thoughts clear to Admiral Standley, the Chief of Naval Operations, Admiral Reeves, then Commander in Chief U.S. Fleet (CINCUS), and all others in attendance:

Gentlemen, Midway is going to be of tremendous strategic help to you. Its strategic strength is important to us. It might not always be available to us, but it must be occupied and held to us. It is only eleven hundred miles to Honolulu. It is centrally located between the Aleutian, Bonin, and Marshall Islands, and even if we only use it for an advanced operating base for your planes, we must use it. We must not allow this opportunity for an advanced base for our planes to pass to an enemy.<sup>56</sup>

With all the leadership in attendance that day, it is unsurprising that Midway began to rise in importance, with direction to focus on Midway eventually trickling down to the war planners.

Information from the critique of Fleet Problem XVI and the same advances in technology driving Pan Am to plan a route to Asia "spurred air admirals such as King and Commander in Chief of the Pacific Fleet Joseph Reeves to recommend a base" at Midway.<sup>57</sup> Taking note of

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<sup>54</sup> Alfred W. Johnson, "Remarks of Rear Admiral Johnson (COMAIRBASEFOR) at Critique of Fleet Problem Sixteen," within "Enclosure "F" to CONCUS Serial 5179: Critique of Fleet Problem Sixteen Held at San Diego, California, 15 June 1935," NHC Archives, R.G. 8, Box 63, Folder 2, 1.

<sup>55</sup> Johnson, "Critique of Fleet Problem Sixteen," 2-3.

<sup>56</sup> Charles H. Lyman, "Remarks of Brig General Lyman (Commanding General, Fleet Marine Force) at Critique of Fleet Problem Sixteen" within "Enclosure "F" to CONCUS Serial 5179: Critique of Fleet Problem Sixteen Held at San Diego, California, 15 June 1935," NHC Archives, R.G. 8, Box 63 Folder 2, 1-2.

<sup>57</sup> Miller, *War Plan Orange*, 50 and Morrison, *Coral Sea, Midway and Submarine Actions*, 71.

leadership's interest in Midway, planners decided it had "very great defensive value." In 1935, William S. Pye, "recommended that air bases be built on U.S. atolls and incorporated into Plan Orange."<sup>58</sup> Nearly 15 years after the commander of the Pacific Air Detachment had suggested precisely the same thing, the idea had finally gained enough traction. This time the Navy was able to surreptitiously gain funding for routine civil upgrades to the facilities of the islands for use by Pan Am. The Army Corps of Engineers completed survey work in 1936, and the war planning department expected to be able to manipulate the scope of work to meet the needs of the Navy. They were successful and, "development of a defensive air station commenced in 1938."<sup>59</sup> These efforts paid dividends down the road, as Midway benefited from being a precious few months ahead in the rush to fortify Pacific Island bases.

### **The Hepburn Board Report**

Around the same time, planners were rediscovering the opportunity at Pacific outposts like Midway and Wake. The acting Secretary of the Navy, Charles Edison, saw a need for an informed plan to address the defense of the U.S. On 7 June 1938, he put together a board to tackle the issue, led by Rear Admiral Arthur J. Hepburn. The board became known as the Hepburn Board, and on 27 December 1938, submitted their report back to the Secretary. The report addressed a need for additional bases on the coasts, the canal zone, and Hawaii. Most importantly, it advocated for "outlying operating bases in the West Indies, Alaska, and our Pacific Island possessions." The report singled out Midway Atoll for a project of "immediate strategic importance," improving facilities on the atoll to include a submarine anchorage and an

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<sup>58</sup> Miller, *War Plan Orange*, 240

<sup>59</sup> Miller, *War Plan Orange*, 240

airbase.<sup>60</sup> The report identified construction of an airbase on Midway as second in importance only to Pearl Harbor.<sup>61</sup>

Funding for many construction projects was available almost immediately, and work began in earnest in early 1940. Luckily, the previously executed construction to develop the base, led by the war plans division, gave the effort a head start. The Army had completed the channel to the lagoon, dredged out a seaplane operating area and an anchorage for smaller ships by 1940.<sup>62</sup> The new construction was to house a permanent seaplane squadron and have the ability to house another stationed temporarily if necessary. Additionally, construction improved the channel and anchorage, built hangars and shops for aircraft, buildings to house the pilots, sleeping quarters, mess facilities, and many other buildings. Most importantly, engineers installed three asphalt runways on Eastern Island and began work to install twenty-two 2500-gallon underground gasoline storage tanks.<sup>63</sup>

### **Defenders Deploy to Midway**

Simultaneously, construction was underway to protect the new construction and facilities on Midway from attack. While Marines had occasionally been stationed on the atoll for security, none had been there permanently for quite some time. In early 1939 Colonel Harry K. Pickett, USMC, visited Midway, Wake, and Johnston. He submitted a report for each, consisting of a defense plan unique to each base. After receiving his report, the Chief of Naval Operations (CNO), Admiral Harold R. Stark, established a Marine garrison to protect the atoll. In May of

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<sup>60</sup> Headquarters, Department of the Navy, *Building the Navy's Bases in World War II: History of the Bureau of Yards and Docks and the Civil Engineer Corps, 1940-1946, Volume 1* (Washington D.C.: U.S. Government Printing Office, 1947), 4.

<sup>61</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 72.

<sup>62</sup> Headquarters, Department of the Navy, *Building the Navy's Bases in World War II: History of the Bureau of Yards and Docks and the Civil Engineer Corps, 1940-1946, Volume 2* (Washington D.C.: U.S. Government Printing Office, 1947), 155-156.

<sup>63</sup> Department of the Navy, *Building the Navy's Bases in World War II, Volume 2*, 156.

1940, the 3d Defense Battalion of the Fleet Marine Force arrived in Hawaii. Eventually, they established an outpost on Midway itself.<sup>64</sup>

Unfortunately, while the construction previously mentioned was proceeding apace, the facilities required to house the Marines or even a tiny complement were not available. To not overwhelm the facilities but still accomplish planning to install the defenses, a series of advance groups visited the atoll from late May until September of 1940. Eventually, preparations for a complete deployment of the forces were ready. On 29 September 1940, Major Harold C. Roberts arrived on Midway with what was now known as the "Midway Detachment, Fleet Marine Force." This force initially consisted of "nine officers, 168 enlisted, and approximately one-third of the 3d Defense Battalion's material, including one 5-inch battery (two guns)."<sup>65</sup>

While this was a step in the right direction, the detachment still had months of backbreaking work ahead of them. The Marines had to create emplacements for all the weapons, dig shelters for cover and storage of ammunition, and they had to do it mostly by hand. What large equipment was available on the island was being used on other high-priority projects. In early 1941, concern about relations with Japan drove the CNO to order the remainder of the 3d Defense Battalion to Midway. These additions numbered 28 officers and 565 enlisted, along with all their equipment. They arrived at Midway on 14 February 1941 and nearly overwhelmed the island's facilities, impeding work progress. Leadership scrapped a plan to temporarily send some men home to relieve the stress on the island as tensions between the U.S. and Japan continued to increase. One welcome side effect of the increased tensions was additional equipment for the defense battalion in the form of four 7-inch and four 3-inch guns, above what was typically deployed, scheduled to arrive around November of 1941.<sup>66</sup>

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<sup>64</sup> Heintz, *Marines at Midway*, 3-4.

<sup>65</sup> Heintz, *Marines at Midway*, 4-6.

<sup>66</sup> Heintz, *Marines at Midway*, 6-8.

These guns were in addition to the six 5-inch guns and four 3-inch emplacements of three guns for anti-aircraft. The battalion also had placed 30 .50-caliber and the same number of .30-caliber machine guns on the island. After the addition of four searchlights and associated equipment, the two islands practically bristled with guns.<sup>67</sup> Beginning in August 1941, the 6<sup>th</sup> Defense Battalion began relieving the 3d Defense Battalion, some of whom had been in place for almost one year by the time the full force of the 6<sup>th</sup> Defense battalion arrived on 11 September 1941.<sup>68</sup> On 7 December 1941, 843 men of the 6<sup>th</sup> Defense Battalion were on Midway. However, aside from a small advance force, no fighter aircraft occupied the newly built airfield. Plans had these aircraft arriving later in December.<sup>69</sup>

Around the same time, the Navy arrived at WPL-46, which was the Navy support plan to Rainbow Five. Planners developed the Rainbow version of plans to account for the reality of a war fought with allies against multiple opponents, which seemed more and more likely in 1940 and into 1941. In late 1939 planners had shifted the strategy to a Midway-Wake-Eniwetok push, mainly because a push in this direction allowed for shore-based planes to easily make it to the fight and "cover the fleet, support landings, and intercept threats."<sup>70</sup> Rainbow plans Two and Three called for varying levels of defense in the western Pacific to deny Japan access to oil and other resources. These were developed but discarded in reasonably short order as events in Europe made apparent any war in the Pacific was a runner-up. Admiral Stark's "Plan Dog Memorandum" directed exactly that strategy of holding the Japanese in the Pacific while fighting in the Atlantic and Europe took priority.<sup>71</sup> As the U.S. marched towards war with Japan, WPL-46 began to take shape. It was not a vast departure from WPL-44. However, it made clear that

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<sup>67</sup> Williford, *Racing the Sunrise*, 134.

<sup>68</sup> Heintz, *Marines at Midway*, 8.

<sup>69</sup> Williford, *Racing the Sunrise*, 134.

<sup>70</sup> Miller, *War Plan Orange*, 21.

<sup>71</sup> Miller, *War Plan Orange*, 268-270.

the atolls of Wake and Midway were essential to detecting Japanese fleet movements in the Central Pacific and the Marshall Islands, where planners expected the first fleet engagement with the Japanese. The bases were expected to host significant numbers of seaplanes to aid in a constant search for the Japanese. Additionally, Midway served as a critical refueling point for U.S. submarines dispatched to keep an eye on Japanese fleet movements from closer to Japan.<sup>72</sup>

### **War in the Pacific and Reinforcements**

The events of 7 December 1941 had a significant impact on the war plans developed to date. The strike on Pearl Harbor was a dramatic blow to the psyche of the U.S., but potentially more critical was the plight of the Marines on Wake Island. They came under attack from 8 December 1941 (actually the same day as the Pearl Harbor attack, but on the other side of the international date line) until the U.S. forces there surrendered on 23 December 1941 and the Japanese took control of the tiny atoll. Midway saw action that evening as well. At 2135 on 7 December 1941, two Japanese destroyers, the *Akebono* and *Ushio*, began to fire on Midway, and a battle ensued until 2158. The actual damage incurred on the Japanese is not precisely known, but a Pan Am Clipper saw them on fire while flying away from Wake Island, and the Marines claimed several hits. The U.S. forces on Midway suffered four killed and ten wounded in the shelling, but the worst effects were to come.<sup>73</sup> As a result of the declaration of war and attack on Midway, the construction efforts on the islands pivoted to repairing damage from the attack and improving the defensive emplacements. Unfortunately, this work proceeded without the help of the 800 civilians working on the island who were sent home in late December. The garrison forces had to do further development on their own.<sup>74</sup>

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<sup>72</sup> Miller, *War Plan Orange*, 294-296.

<sup>73</sup> Heintz, *Marines at Midway*, 12-15.

<sup>74</sup> Department of the Navy, *Building the Navy's Bases in World War II, Volume 2*, 156.

The start of the war brought a flood of men and material to Midway. The goal was to ensure the U.S. did not lose another critical base in the Pacific. First to arrive, to much fanfare, were the previously expected 17 SBU2-3 Vindicator dive bombers of VMSB-231. These aircraft were supposed to arrive just after 7 December 1941 on the U.S.S. *Lexington*. However, after the attacks on Pearl Harbor, *Lexington* was sent on other immediate operations. Next to arrive were Batteries A and C of the 4<sup>th</sup> Defense Battalion, consisting of 5-inch guns, with roughly 100 officers and enlisted to reinforce the defense battalion manning. Along with them arrived the previously promised complement of extra 7-inch and 3-inch batteries.<sup>75</sup>

Next, the fighters of VMF-221, consisting of fourteen F2A-3 Brewster Buffalos, arrived. These aircraft had flown off the U.S.S. *Saratoga* and had initially been earmarked for the defense of Wake but were unable to get there.<sup>76</sup> It is essential to note the tactical abilities of these aircraft. Calling them carrier castoffs was generous. Earlier in the year, when the SBU2-3 pilots had attempted dive-bombing, some of the fabric on the aircraft's wings began to peel back, and maintainers repaired them with tape.<sup>77</sup> Last but not least, arrived Battery B of the 4<sup>th</sup> Defense Battalion, consisting of 5-inch guns and twelve anti-aircraft machine guns. These forces had been en route to Wake, and the U.S.S. *Tangier*, a seaplane tender, delivered them.

### **A Visit from Nimitz and Final Preparations**

On 2 May 1942, Admiral Chester W. Nimitz, the commander-in-chief of the United States Pacific Fleet (CINCPAC), arrived at Midway in a PBY-5A, foreshadowing the importance placed on the atoll. He walked all over the islands and examined the defenses. Admiral Nimitz asked the commanding officer of the 6<sup>th</sup> Defense Battalion, Lieutenant Colonel (Lt Col) Harold

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<sup>75</sup> Heintz, *Marines at Midway*, 16-17.

<sup>76</sup> Heintz, *Marines at Midway*, 17.

<sup>77</sup> Walter Lord, *Midway: The Incredible Victory* (New York: Harper and Row, 1967), 50.

D. Shannon, if there was anything needed to prepare against an amphibious assault. Lt Col Shannon listed the items he required and put Nimitz at ease when he confidently told him he was able to hold the island against any such assault if provided the equipment requested.<sup>78</sup> At no point during the visit did Nimitz mention the impending Japanese invasion headed their direction. However, Marines on Midway assumed they might see action soon after a visit from the boss. After returning to Pearl Harbor, Nimitz sent a letter to Shannon and informed him of the Japanese plans. Initially, the U.S. had expected the attack on Midway around 28 May. This was revised to the actual dates of 3-5 June after receiving additional signals intelligence.<sup>79</sup> The Marines doubled their efforts, and soon additional reinforcements began to arrive.

On 25 May, the first of the additional guns arrived. The light cruiser U.S.S. *St Louis* delivered eight 37mm anti-aircraft guns and two companies from the 2<sup>nd</sup> Raider Battalion, commanded by Captain Donald H. Hastic, USMC. The very next day saw the arrival of the aircraft tender U.S.S. *Kittyhawk*, carrying a light tank platoon, sixteen SBD-2's, and seven F4F-3's Wildcats.<sup>80</sup> These planes were newer than those received previously, though the pilots who arrived with these aircraft brought some problems. Fully 17 of the 21 pilots who arrived had recently finished flight school. According to Lord, "some hadn't even had four hours flight time since the end of their training."<sup>81</sup>

While accounts vary on the number of aircraft arriving and available by 4 June, Morison's account seems most likely to be accurate. His notes indicate he checked the numbers with Marine Corps Headquarters and discounted any aircraft permanently inoperative or in

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<sup>78</sup> Heinl, *Marines at Midway*, 22.

<sup>79</sup> Heinl, *Marines at Midway*, 23.

<sup>80</sup> Heinl, *Marines at Midway*, 23-24.

<sup>81</sup> Lord, *Midway: The Incredible Victory*, 51.

cannibalization status. His count puts 37-PBY's, 20-F2A-3's, 7-F4F-3's, 11 SB2U-3's, 16 SBD's, 4-B-26's, and 19 B-17's on Midway as of 4 June 1942.<sup>82</sup>

### **The Aftermath**

The outcome of the battle itself is well known, but it is essential to focus on the specific damage and losses inflicted on the Midway forces to gauge preparedness. The Japanese attacked Midway itself a single time, beginning at 0630 on 4 June. The anti-aircraft batteries did well by all accounts, though the defenses were overwhelmed, and many Japanese aircraft got through. Damage to the base was significant, "the hospital, a group of fuel-oil tanks, a partly completed torpedo shop in the submarine basin, and other buildings were completely destroyed, and serious damage was done to the administration building, the laundry, and a seaplane hangar."<sup>83</sup> Personnel losses consisted of 45 killed and 43 wounded, bringing the total casualties since the war began on Midway to 49 killed and 53 wounded.<sup>84</sup> Aircraft losses were near catastrophic, with 32 aircraft lost in total and many of the returning aircraft badly damaged. Specifically, of the original 27 fighters available for action on 4 June, only two were operational the next day.<sup>85</sup> The loss of fighters becomes even more critical when examining the invasion force and invasion plan of the Japanese. With no fighter aircraft left to defend Midway or U.S. dive bombers and torpedo planes, the airfield and those aircraft become easy pickings for enemy aircraft. Once gone, the Japanese Navy would be afforded 360-degree access to bombard the atoll's two islands. The Japanese intended to bombard the island for three days before they attempted landing, with 2,500 combat troops taking part.<sup>86</sup>

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<sup>82</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 92-93.

<sup>83</sup> Department of the Navy, *Building the Navy's Bases in World War II, Volume 2*, 156.

<sup>84</sup> Heinl, *Marines at Midway*, 41-42.

<sup>85</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 92-93.

<sup>86</sup> Heinl, *Marines at Midway*, 21.

In his after-action report, Admiral Nimitz admitted some shortfalls in providing Midway additional defensive forces. He singled out the number of planes on Midway as "never large enough to give a comfortable margin for losses." He bolstered this statement by pointing out, "after the first morning attacks at and off Midway, the dive bombers, fighters and torpedo planes stationed there were nearly wiped out."<sup>87</sup> Nimitz focused on the issue of getting reinforcements to Midway, which was problematic in the Pacific. While it may be acceptable to have a "Mobile Air Force" on the mainland of the U.S., where the forces can move up and down the west coast as required, this could not be accomplished from Oahu. The distances were too great, and the time required to move forces was too long. In summation, "the lesson is simply that we must provide more and more planes permanently based at those advanced stations which are subject to enemy attack."<sup>88</sup> Interestingly, his thoughts echo nearly word for word those from the *Tentative Manual for Defense of Advanced Bases* from 1936. When discussing the makeup of the air defense forces, it points out that "once the enemy has committed himself to the attack, there will be little opportunity for reinforcing the air component of the defender." To account for this, it suggests, "necessary tactical units must be assigned initially, and provided with adequate auxiliary units, repair facilities and a reserve of airplanes, personnel, and supplies sufficient for self-sustained operations."<sup>89</sup> It seems like the answer to his problem was given five years before, but there was another issue that prevented simply putting more aircraft on the airfield.

Slightly further removed from the events themselves, the Naval War College analyzed the battle in 1948. While Nimitz discussed an inadequate number of aircraft on the island, the N.W.C. analysis points out the island had seen the number of aircraft based there increase, "about two and one-half times between 22 May and 1 June." This increase created multiple

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<sup>87</sup> Nimitz, *Battle of Midway*, 3.

<sup>88</sup> Nimitz, *Battle of Midway*, 16.

<sup>89</sup> Marine Corps Schools, *Defense of Advanced Bases*, 96-97.

issues. First, there was no equal increase in the maintenance and service personnel, to the point where it "required combat crews to assist in re-arming and servicing (sic) their own aircraft after the completion of each flight." In addition, congestion of both aircraft and personnel on Midway became a severe problem. The aircraft congestion became so bad that the commander had to send six B-17's and three PBY-6A's back to Pearl Harbor on 2 June because there was insufficient space. Personnel had so little space that they were "sleeping in dugouts alongside the landing strips."<sup>90</sup> The additional aircraft and personnel desired by Nimitz required significant infrastructure improvements. However, the tiny islands might not even support additional construction. It also required time they did not have. The amount of construction accomplished by June 1942 was the limit of what was possible.

If there was not enough room to put more aircraft on the airfield, another option was to replace old aircraft with newer, more capable aircraft. Nimitz felt that the F4F-4, the carrier version of the F4F-3 Wildcat flown from land, was "markedly inferior to the Japanese Zero."<sup>91</sup> If Nimitz found F4F-4 Wildcat's inferior to the Japanese Zero, the F2A-3's stood even less of a chance of survival versus a Japanese Zero. The N.W.C. analysis also points out that the F2A-3's, having been recently replaced on carriers with newer aircraft and given to the Marine Corps, "were not the newest American types." It further acknowledged that this has often been a complaint of the Marine Corps. "This policy of equipping the Marine Corps Air Groups with old types of planes, giving the carrier Air Groups priority in assignment of new types, was a contributing factor to the excessive losses sustained in the Midway action by Marine Air Group 22." If this was the case, why weren't newer aircraft substituted for the many obsolete ones at Midway?

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<sup>90</sup> U.S. Naval War College (N.W.C.), "The Battle of Midway Including the Aleutian Phase: 3 June to 14 June 1942," 1948, NHC Archives, R.G. 23, Box 1, Folders 8-9. 48.

<sup>91</sup> Nimitz, Battle of Midway, 18.

Correspondence between Nimitz and Admiral Ernest J. King, the commander-in-chief of the United States Fleet (CINCUS), in the months between the Pearl Harbor attack and the Battle of Midway shows the main problem. In the aftermath of the Pearl Harbor attack, Marine Air Wing 1 (MAW-1) was raced across the U.S. and to Oahu as quickly as possible. Their aircraft consisted of 37 F4F-3's, 23 SBU2-3's, 19 SBD-1's and 11 SBD-4's. MAW-1 was in San Diego on 10 December, with an expected transfer date to Oahu of 29 December.<sup>92</sup> These aircraft might have been a great addition to Midway, especially if they replaced older, obsolete aircraft. In early January, Nimitz cabled Admiral King requesting additional fighter aircraft for Midway due to the shortage of fighter aircraft available from his assigned forces.<sup>93</sup> There appears to be no immediate answer from King, but no additional forces were forthcoming for Nimitz. Later in January, King directed Nimitz to leave the MAW-1 aircraft in Hawaii unless approved for removal by him. He intended to replace carrier aircraft losses with them until the Navy had the resources.<sup>94</sup> The reality of early 1942 was that the war in the Pacific was not the priority. The Navy and Marine Corps had to deal with limited resources to fight back against the Japanese forces and defend the bases they still held. It took some time for the industrial might of the U.S. to start churning out newer fighters at a rate allowing replacement of the older aircraft on Midway.

### **Conclusions and Implications for Today**

The research question asked if the forces at Midway prepared to defend Midway following the advanced base defense doctrine of the time and commensurate with the importance War Plan Orange and Navy leadership placed on the atoll? It would be easy to look at the

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<sup>92</sup> Steele, James M., "OPNAV TO CINCPAC INFO PACFLT," 14 December 1941, 0237GCT, NHC Archives, R.G. 24, Box 58, Folder 5, 51.

<sup>93</sup> Steele, "CINCPAC TO COMINCH," 7 January 1942, 0245GCT, 144.

<sup>94</sup> Steele, "COMINCH TO CINCPAC, COMAIRSCOFOR," 25 January 1942, 1630GCT, 196.

shortfalls faced by the defenders of Midway and point out that leadership did not provide the tools they required to do the job. However, this ignores the fact that the U.S. military, specifically the Navy, of early 1942 was a long way from the nearly unlimited supply of ships and planes under Admiral Marc Mitscher and his task force in mid to late 1944. To answer the question, we need to look at the preparation of the defenses on Midway in relation to advanced base defense doctrine.

The *Tentative Manual for Defense of Advanced Bases* points out that Midway's geography as an atoll presents problems for a defense. However, Midway was strategically vital for reasons of both offense and defense. There were no other nearby options that presented the capabilities offered on Midway, both a lagoon for use as a submarine refueling base and enough land for a runway of usable length. Thus, Midway was the best option available, and one essential to the U.S. Nimitz acknowledged the shortcomings in defending Midway after his visit there in May 1942. His correspondence with King indicates Midway could withstand only a moderate attack by itself.<sup>95</sup> The war planners of the 1920s were worried that a base like Midway could only be defended with assistance of the fleet. In the case of June 1942, they were 100% correct. Midway was subject to a similar fate as Wake without Fleet support, and the naval forces arrayed against Midway were significantly larger than those faced at Wake. Thankfully, U.S. leaders' knowledge of Japanese intentions allowed them to prepare the defense forces more thoroughly than Wake Island. The Navy had surprise on its side for all phases of the engagement.

Structurally speaking, the organization of forces on Midway fell in with the principle of unity of command. Captain Cyril T. Simard, U.S.N., was the commander of the forces defending Midway, with the shore, air, and naval defense forces organized under him.<sup>96</sup> Lieutenant Clinton

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<sup>95</sup> Steele, "2 May," 437.

<sup>96</sup> N.W.C., "The Battle of Midway," vi.

McKellar Jr., U.S.N, commanded the naval defense forces. He oversaw 8 P.T. boats and four small patrol boats at Midway.<sup>97</sup> Considering the bulk of the Pacific Fleet was to arrive in the vicinity of Midway, the type and number of boats appear to fit the requirement laid out in the *Tentative Manual for Defense of Advanced Bases*. The shore defense forces, which saw significant increases in both artillery equipment and human resources before the battle, also can be judged appropriate given the size of Midway. While the defense forces consisted of a single Marine defense battalion, the 6<sup>th</sup> Marine Defense Battalion under the command of Colonel Harold D. Shannon, it had seen significant reinforcement before the early June battle. They had received five batteries from the 3<sup>rd</sup> Defense Battalion, consisting of three 3-inch anti-aircraft batteries and two batteries of 37mm and 40mm. They had also received two batteries each of 3-inch and 7-inch seacoast artillery.<sup>98</sup> It is interesting here to note how the Marines were able to adapt the command structure of the 6<sup>th</sup> Defense Battalion to accept all these additional batteries. Pete Ellis certainly might have appreciated the plug-and-play functionality of the defense batteries and their ability to scale the size of a defense force commensurate with the perceived threat, just as he wrote about in 1912. The addition of two companies of the 2<sup>nd</sup> Raider Battalion and two other companies of Marine reinforcements brought the total Marine defense strength to 80 officers and 2,098 enlisted as of 26 May 1942.<sup>99</sup> This total does not include the Marines on Midway to support the operations of MAG-22, only those designated explicitly for shore defense. This number is more than double the 1000 men Brigadier General Lyman had estimated as the requirement to defend the islands after he toured them in 1935.<sup>100</sup> These forces would have faced the 2,500 Japanese combat troops that were planned as the Midway invasion

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<sup>97</sup> Morrison, *Coral Sea, Midway and Submarine Actions*, 93.

<sup>98</sup> Heinl, *Marines at Midway*, 55-56.

<sup>99</sup> Steele, "Estimate of the Situation: Attack on Hawaiian and Alaskan Bases," 26 May 1942, II-8 (519).

<sup>100</sup> Lyman, "Participation of West Coast Contingent," 3.

force. Considering all these men and guns were located on two small islands, the shore defense of Midway was in excellent hands.

The obsolescence of a considerable portion of the aircraft comprising the air defense force seems to be the only shortcoming in the defense forces of Midway. The aircraft available to Lieutenant Colonel Ira E. Kimes, the commanding officer of MAG-22, represented a mix of patrol, bombing, and attack aircraft. This makeup satisfied the direction on the makeup of the air defense forces in the *Tentative Manual for Defense of Advanced Bases*.<sup>101</sup> However, they were old, especially the F2F-3 Buffalo fighter aircraft that were the bulk of those available on Midway. This paper discussed the issue of availability previously, and in fact, there were only 21 Marine fighter aircraft (F4F-3's from MAW-1) available in Hawaii that could have replaced these older aircraft.<sup>102</sup> While King had already directed Nimitz to leave these aircraft as potential carrier replacements, there was another reason why they remained in Hawaii to consider. The U.S. had not seen much success in the war to this point, and it seems likely both King and Nimitz had to contemplate the U.S. might lose Midway. If they had rushed these newer aircraft to Midway and then lost them, it could have placed Pearl Harbor in dire need of additional aircraft. The mainland may not have been able to supply additional aircraft given the distances involved. Even with the importance and priority of Midway to the U.S., it was still second behind the bases in Hawaii. In the end, competing priorities and equipment shortfalls impacted the aircraft available to Midway. However, the overall defenses there were the best Nimitz and King could provide and were in line with the doctrine of the time.

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<sup>101</sup> Heinl, *Marines at Midway*, 56 and Marine Corps Schools, *Defense of Advanced Bases*, 95-96.

<sup>102</sup> Steele, "Estimate of the Situation: Attack on Hawaiian and Alaskan Bases," 26 May 1942, II-7 (518).

Even with the technological leaps in military machinery since World War II, the Marine Corps of today faces many of the same issues as it develops the doctrine Expeditionary Advanced Base Operations (EABO). The Marine Corps recently released the *Tentative Manual for Expeditionary Advanced Base Operations* (2021) (TM EABO). This document cites Ellis's *Advanced Base Operations in Micronesia* (1921) and both the Marine Corps' *Tentative Manual for Landing Operations* (1934) and *Landing Operations Doctrine* (1938) as documents used to build TM EABO. However, there is no mention of the *Tentative Manual for the Defense of Advanced Bases* (1936).<sup>103</sup> While EABO doctrine is still under development, two areas stood out for discussion, based on lessons learned from Midway, air defense and the impact of distance on operations.

While the basics of air defense have not changed in many respects, current-day forces face a threat in ballistic missiles that World War II forces in the Pacific defending advanced bases did not. The unclassified TM EABO does not have a specific answer for missile defense and instead relies mainly on passive defenses, such as dispersion, mobility, and maintaining a low signature to ensure the survivability of forces. However, TM EABO expects U.S. forces to operate within an enemy weapon engagement zone (W.E.Z.) when conducting operations.<sup>104</sup> Balancing the requirement to be close enough to the enemy to impact their operations through offensive action yet remaining far enough away to remain survivable will be highly challenging, especially as operations move from islands to the mainland. Even if the TM EABO directed more active defenses for ballistic missiles, the Marine Corps does not have an organic ballistic missile defense capability. The expeditionary forces would be completely reliant on the Navy to provide a ballistic missile defense (BMD) capable ship. The current budget plans for 48 of these

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<sup>103</sup> Headquarters, United States Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations* (Washington D.C.: Headquarters, United States Marine Corps, 2021), iii.

<sup>104</sup> Headquarters, United States Marine Corps, *Expeditionary Advanced Base Operations*, 1-4, 1-5.

ships by the end of 2021.<sup>105</sup> The only other alternative would be to embark some portion of a U.S. Army Patriot Battalion, which seems unlikely based on worldwide force defense requirements, shipping space availability, and the desire to remain mobile.

The distance between bases in the Pacific was a problem that Nimitz lamented in his after-action report on Midway and remains a problem today. Specifically, while today's fighter aircraft are much faster and more capable than those of World War II, they do not enjoy a range much beyond what they were capable of then. Fighters require either a ride on a ship or tanker support to travel the long distances between islands. Probably more important is the likely requirement for tanker support to enable strike missions. The problem here is twofold. First, there may not be enough tankers for the Air Force to support Marine operations. Second, based on the plan to operate within the enemy's W.E.Z., tankers may not be survivable in the environment where the tanking is required. BMD and tankers are just two of the issues facing the Marine Corps in their development of EABO. While examining the Marine forces defending Midway alone will not answer these questions, it should help avoid issues the U.S. and Marine Corps have faced and overcome before.

### **Areas for Further Research**

As a result of COVID-19 many of the archival resources I would have liked to use for this paper were not available. Chief among them is the entirety of Heintz's research for his monograph, *Marines at Midway*. His notes indicate it resides in the Marine Corps Archives. The National Archives in College Park, MD, took control of these resources a few years ago. Specifically, within the research is the report of Colonel Harry K. Pickett, USMC, who traveled

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<sup>105</sup> Congressional Research Service, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, RL33745 (2021), 5.

to Wake, Midway, and Johnston to survey the atolls explicitly to design their defenses. Urwin used Colonel Pickett's report in his book on the defenders of Wake Island, and his report on Midway might prove very valuable as a measuring stick for how the Marines laid out the defenses there. An original copy of the Hepburn Board Report might also shed more light on the planning and buildup of the atoll.

Another area worthy of research would be to examine aircraft production and delivery location of Marine aircraft. After the Battle of Midway, the U.S. replaced many aging aircraft on Midway with newer models. It might be interesting to know if it was even possible from a production standpoint to provide the newer aircraft faster. It could also be worthwhile to examine the aircraft delivered to other advanced bases after 7 December 1941. Wake was supposed to receive the fourteen F2A-3 Brewster Buffalos dropped off on Midway 25 December 1941. Unfortunately, they could not fly out due to the ongoing Japanese attack. When the staff at Pearl Harbor worked to reinforce other advanced bases, did Midway go to the bottom of the list due to already having aircraft, even though they were obsolete? Did planners choose not to shuffle newer aircraft to Midway due to the complicated logistics required? It may not have affected the Battle of Midway, but it is a question worth investigating.

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