



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

## THESIS

**CRIMSON TIDE: COMPARING CHINESE NAVAL  
EXPANSION WITH EXISTING NAVAL POWERS**

by

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September 2016

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EXISTING NAVAL POWERS**

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Submitted in partial fulfillment of the  
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## ABSTRACT

As China continues its comprehensive military modernization program, the 2015 *Annual Report to Congress on Military and Security Developments Involving the PRC*, published by the Office of the Secretary of Defense, has expressed concerns that “China’s military modernization has the potential to reduce core U.S. military technological advantages.” In order to put this concern into a broader context, this thesis asks: how does China’s navy compare to navies of existing powers? With China’s naval expansion in mind, this thesis compares the People’s Liberation Army (Navy) (PLAN) to other modern naval powers to determine if China’s force structure resembles a regional navy that is built primarily for power projection, sea denial, or sea line of communications (SLOC) defense.

Comparative case studies are used to contextualize China’s naval modernization by identifying characteristics of archetypal navies built for sea denial, power projection, and SLOC defense. The Royal Swedish Navy is analyzed as a navy that specializes in sea denial, the French Navy is analyzed as a navy that specializes in power projection, and the Japanese Maritime Self Defense Force is analyzed as a navy that specializes in SLOC defense.

This thesis finds that China is primarily pursuing a maritime strategy centered on SLOC defense, but is also capable of employing a sea denial strategy in its near seas.

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## LIST OF ACRONYMS AND ABBREVIATIONS

|       |                                                                                            |
|-------|--------------------------------------------------------------------------------------------|
| A2/AD | Anti-Access Area Denial                                                                    |
| AAW   | Anti-Air Warfare                                                                           |
| AIIB  | Asian Infrastructure Investment Banks                                                      |
| AIP   | Air Independent Propulsion                                                                 |
| ASBM  | Anti-Ship Ballistic Missile                                                                |
| ASCM  | Anti-Ship Cruise Missile                                                                   |
| ASROC | Anti-Submarine Rocket                                                                      |
| ASuW  | Anti-Surface Warfare                                                                       |
| ASW   | Anti-Submarine Warfare                                                                     |
| BMD   | Ballistic Missile Defense                                                                  |
| C2    | Command and Control                                                                        |
| C4ISR | Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance |
| CICA  | Confidence on Interaction and Confidence Building Measures in Asia                         |
| CMC   | Central Military Commission                                                                |
| CMS   | Chinese Maritime Surveillance                                                              |
| CMSI  | China Maritime Studies Institute                                                           |
| CS    | Continental Shelf                                                                          |
| DDG   | Guided Missile Destroyer                                                                   |
| EEZ   | Exclusive Economic Zone                                                                    |
| FFG   | Guided Missile Frigate                                                                     |
| HADR  | Humanitarian Assistance and Disaster Relief                                                |
| HOA   | Horn of Africa                                                                             |
| INS   | Inertial Navigation System                                                                 |
| ISR   | Intelligence, Surveillance, and Reconnaissance                                             |
| JMSDF | Japanese Maritime Self-Defense Force                                                       |
| JOAC  | U.S. Joint Operational Access Concept                                                      |
| LHD   | Landing Helicopter Dock Amphibious Assault Ship                                            |
| MHV   | Mine Hunting Vehicle                                                                       |

|        |                                                  |
|--------|--------------------------------------------------|
| MOOTW  | Military Operations Other Than War               |
| MPRA   | Marine Patrol and Reconnaissance Aircraft        |
| MSG    | Military Strategic Guidelines                    |
| NCO    | Non-Commissioned Officer                         |
| NDPO   | National Defense Program Outline                 |
| OTH    | Over The Horizon                                 |
| PC     | Patrol Craft                                     |
| PLAN   | People's Liberation Army (Navy)                  |
| PM     | Prime Minister                                   |
| RSwN   | Royal Swedish Navy                               |
| SAG    | Surface Action Group                             |
| SAM    | Surface to Air Missile                           |
| SAR    | Search and Rescue                                |
| SCS    | South China Sea                                  |
| SLOC   | Sea Lines of Communication                       |
| SSM    | Surface to Surface Missile                       |
| STOBAR | Short Take-Off but Arrested Recovery             |
| STOVL  | Short Take-Off Vertical Landing                  |
| UNCLOS | United Nations Convention for the Law of the Sea |

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# **I. INTRODUCTION: VIEWING CHINA’S NAVAL MODERNIZATION THROUGH DIFFERENT STRATEGIC LENSES**

## **A. INTRODUCTION AND MAJOR RESEARCH QUESTIONS**

As China continues its comprehensive military modernization program, the Pentagon has expressed concerns that “China’s military modernization has the potential to reduce core U.S. military technological advantages.”<sup>1</sup> In order to put this concern into broader context, this thesis asks what purpose does the People’s Liberation Army (Navy) (PLAN) serve in China’s broader maritime strategy? Is China developing a navy for a regional strategy of sea denial, power projection or SLOC defense? How does the modernized PLAN compare with archetypal navies built with a strategy sea denial, power projection, or SLOC defense in mind?

China’s rapid naval modernization is impressive when compared to the capabilities of the PLAN from the 1940s to the early 1990s, but that does not necessarily mean that China will provide a regional challenge to the U.S. Navy. China’s primary naval mission has, at least until recently, centered on preparing for conflict in the Taiwan Strait, but heightened territorial disputes in the South China Sea (SCS) and expanding mission sets from the Central Military Commission—to include Sea Lines of Communication (SLOC) protection, counter piracy, and humanitarian assistance and disaster relief (HA/DR)—have validated the PLAN’s requests for additional funding and asset procurement. Former PRC president Hu Jintao publicly advocated the continued modernization of the PLAN to meet the growing maritime mission demands in 2011, and he appointed the PLAN commander to the Central Military Commission (CMC) for only the second time in PRC history the same year.<sup>2</sup>

With China’s naval expansion in mind, this thesis compares the PLAN to other modern naval powers to determine if China’s force structure resembles a regional navy

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<sup>1</sup> “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2015,” Department of Defense, April 7, 2015, [http://www.defense.gov/Portals/1/Documents/pubs/2015\\_China\\_Military\\_Power\\_Report.pdf](http://www.defense.gov/Portals/1/Documents/pubs/2015_China_Military_Power_Report.pdf).

<sup>2</sup> Bernard Cole, *The Great Wall at Sea: China’s Navy in the Twenty-first Century* (Annapolis, MD: Naval Institute Press, 2010), xii.

that focuses on power projection, sea denial, or SLOC protection. More broadly, this thesis discusses the different mission sets associated with command of the sea, control of the sea, and sea denial. Additionally, this thesis evaluates specific weapon, ship, submarine, and aircraft procurements with an eye toward the different Chinese mission sets in order to assess their possible contribution with a particular grand strategy. Power projection is the basis of the U.S. Navy's command of the sea; but for China, power projection goals may be limited to preventing Taiwanese independence and international involvement in territorial disputes. Finally, this thesis uses China's current capabilities and procurements to compare and contrast with other regional navies that specialize in power projection, sea denial, or SLOC protection.

## **B. IMPORTANCE**

Realist and power transition theories give credence to the concerns some have about Chinese naval expansion. Realists believe that power is a zero sum game and the makeup of the global system predicts its stability; thus, any relative gains the Chinese make against the United States has the potential to shape the stability of the international system, even if the challenge comes at a regional level.<sup>3</sup> Power transition theories asserts that a rising challenger frequently goes to war against the established major power if the challenger is dissatisfied with the current political system.<sup>4</sup> Military power gives the state the means to enforce their economic and political will. As China continues to modernize and expand its navy, while making relative gains on the U.S. Navy, it could eventually be in a position to challenge U.S. naval supremacy in the East Asian region. This thesis examines China's strategic naval options based on the capabilities of its current naval force and infer intentions from characteristics of its modernization.

According to a section in the 2012 *Secretary of Defense Strategic Guidance* report concerning China, "The growth of China's military power must be accompanied by

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<sup>3</sup> Kenneth Neal Waltz, *Theory of International Politics* (New York: McGraw-Hill, 1979), 93, 97.

<sup>4</sup> Yves-Heng Lim, "How (Dis)Satisfied Is China? A Power Transition Theory Perspective," *Journal of Contemporary China*, 24, no. 92 (2015): 282.

greater clarity of its strategic intentions in order to avoid causing friction in the region.”<sup>5</sup> Historically, the consequences of friction between the United States and China have varied widely. From proxy wars in Korea and Vietnam to the angry rhetoric of one state condemning the actions of another, the history of the past seven decades hit nearly every point on the spectrum short of an open and direct war between China and the United States. Over time, the relationship between China and the United States has grown to become more peaceful and more mutually interdependent on the economic level; however, there are political and strategic consequences associated with China’s rise that have the potential to escalate tensions within the relationship. By analyzing China’s capabilities and the strategic options created by them, this thesis identifies current and potential sources of friction between the United States and China—and other regional powers like Japan—that arise from the type of modernization and force structure the PLAN is pursuing.

Chinese leadership desires to have more political and economic sway on the global level and is willing to build new international institutions if the old institutions do not recognize their growing power. Moreover, China’s sustained economic growth and involvement in regional economic institutions has increased their regional and global legitimacy. China recently created the Asian Infrastructure Investment Bank (AIIB), which plausibly may act in accord with the spirit of the Bretton Woods System, but gives China a veto over bank actions, similar to those the United States has with respect to actions by the IMF and World Bank. The AIIB was accepted by President Obama, who said, “We are all for it,” after stipulating that the system would have to follow best practices that enabled the free market to work.<sup>6</sup> Similarly, as China expands and modernizes its naval forces, the PLAN may enable China to take a stronger leadership role in regional security operations. A November 2015 report to Congress on China’s Naval Modernization argued that one primary aim of China’s naval modernization is

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<sup>5</sup> Office of the Secretary of Defense, *Sustaining Global Leadership: Priorities for 21st Century Defense*, Defense Strategic Guidance Document (January 5, 2012), 2. [http://archive.defense.gov/news/Defense\\_Strategic\\_Guidance.pdf](http://archive.defense.gov/news/Defense_Strategic_Guidance.pdf).

<sup>6</sup> Ian Talley, “Obama: We’re All for the Asian Infrastructure Investment Bank,” *Wall Street Journal*, April 28, 2015. <http://blogs.wsj.com/economics/2015/04/28/obama-were-all-for-the-asian-infrastructure-investment-bank/>.

“asserting China’s status as a leading regional power and major world power.”<sup>7</sup> The AIIB did not seek to overthrow the Brenton Woods system—but allowed China to increase its status as a regional leader and major global economic power.

Similarly, naval expansion may give China the opportunity to build upon its growing role as an economic leader and assume a greater leadership role in coordinating regional security concerns like SLOC protection or settling territorial disputes, while acting in concert with the ongoing efforts of the U.S. Navy to protect global trade—which benefits everyone. After analyzing China’s force structure and comparing it to other regional navies, this thesis makes inferences about whether the PLAN is being structured to integrate into local maritime efforts, assume a leadership role in the East Asian maritime domain, or encourage an environment similar to the status quo—where China benefits from the security that the U.S. Navy and its partners provide, while occasionally disputing their methods of how to provide it.

Economic strength is one major variable in China’s rising power, but its military strength gives China a greater ability to impose its views that differ from those of the United States within the framework the current system. The AIIB built upon existing norms of the IMF and World Bank, but if the Chinese were to propose a global or regional institution that was contrary to those norms and values, it might be met with stiffer resistance. One such example is China’s interpretation of the United Nations Convention for the Law of the Sea (UNCLOS). As a signatory member of UNCLOS, China placed five qualifying statements when signing—two of the more controversial qualifiers include declaring “sovereign rights and jurisdiction” over its Exclusive Economic Zone (EEZ) and continental shelf (CS) and requiring foreign warships to receive permission from the government of the PRC to transit Chinese territorial seas.<sup>8</sup> An expanding and modernizing naval force that includes the expansion of Anti-Access Area Denial (A2/AD) weapons along the coast and a growing blue water force could

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<sup>7</sup> Ronald O’Rourke. *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*. (CRS Report no. RL33153). Washington, DC: Congressional Research Service, 2015, i. [https://news.usni.org/wp-content/uploads/2015/12/RL33153\\_6.pdf](https://news.usni.org/wp-content/uploads/2015/12/RL33153_6.pdf).

<sup>8</sup> Cole, *Great Wall at Sea*, 22. UNCLOS states that “sovereign rights and jurisdiction” are limited to its territorial seas (12nm).

eventually enable China to perform a range of missions that bolster its ability to defend its territorial claims (whether they are compliant with UNCLOS or not). Moreover, capability is only one part of the equation. Opportunity and intent are crucial in determining Chinese naval strategy, but are much more difficult to discern. Generally, China has greatly benefited from the current global political and economic system and would have a lot to lose by challenging it outright, however, it is China's intention to become the dominant actor in East Asia.

As China continues to gain power relative to the U.S. Navy, regional norms in maritime security should evolve. This thesis considers whether the PLAN is currently built in a way best suited for sea denial, power projection, or SLOC protection, which could also provide some prescriptive evidence about how relevant regional norms could evolve. For example, a pure sea denial strategy could indicate that China intends to focus more on homeland defense than regional security cooperation; whereas, a SLOC defense strategy implies that the PLAN will deploy to key chokepoints and SLOCs that may be outside of the region and will experience increased maritime interactions with other states and security players that operate near key SLOCs. If a state has a sea denial strategy, it should be more likely to accept the regional security status quo as long as the status quo is not threatening to homeland defense. In a SLOC defense strategy, there is room to take a greater role in interacting within the broader regional security apparatus—where the large contributors to security have more influence over how the security apparatus is run. Identifying China's maritime strategy may provide clearer insight to its long term regional and global ambitions.

Why does the type of naval force structure matter? According to 2015 report to Congress on China's naval modernization, "Observers of Chinese and U.S. military forces view China's improving naval capabilities as posing a potential challenge in the Western Pacific to the U.S. Navy's ability to achieve and maintain control of blue-water ocean areas in wartime—the first such challenge the U.S. Navy has faced since the end of the Cold War."<sup>9</sup> The type of naval force structure China is building is a crucial

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<sup>9</sup> O'Rourke, *China Naval Modernization*, i.

component to U.S. defense planning and can be used to more specifically analyze the type of threat that China poses more specifically. Thus, a sea denial force has significantly different threat limitations than a force designed for sea control.

If China is building a navy that is meant for SLOC control, that has significant implications for the maritime security apparatus in North East Asia and the SLOCs that feed into it. Expanded Chinese cooperation in SLOC defense can be viewed in a positive light because of the increased load sharing between the U.S. Navy, Japanese Maritime Self-Defense Force (JMSDF), and the PLAN. Furthermore, cooperation between the U.S. Navy and the PLAN in areas of mutual interest—like SLOC protection—has the potential to bolster the political relationship between the United States and China. Alternatively, China could decide to act on its own in SLOC protection of Chinese trade. By determining if the PLAN is built primarily as a power projection, SLOC defense, or sea denial force, this thesis infers the likelihood of cooperation and integration with other regional naval powers in the current maritime security apparatus in East Asia, or determine if it appears probable that China will operate independently of the current system and challenge it.

This thesis analyzes the nature of China's expanding capabilities to draw some inference to its intentions for a long term naval strategy. Robert Jervis and George Quester argue, "The true state of the military balance can be determined only by war; states' intentions may be impossible to determine, even after the fact and with the relevant records open for inspection."<sup>10</sup> Moreover, intentions can quickly change depending on the international and domestic environment that state faces. Capabilities are much more difficult to change, and it takes time to make substantial changes in a state's war making capabilities. Jervis states, "capabilities of course can be misperceived," but having a deep knowledge of capabilities make the strategic limitations of a state more distinguishable.<sup>11</sup> Although it is seemingly impossible to perfectly and precisely impute China's long-term intentions for the PLAN, it is possible to evaluate current PLAN

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<sup>10</sup> Jervis Robert and George H. Quester, "War and Misperception." *Journal of Interdisciplinary History* 18, no. 4 (April 1988): 681.

<sup>11</sup> Jervis, "War and Misperception," 676.

capabilities and how China's modernization compares to other naval powers. From that, some inference regarding Chinese intentions is reasonable. This thesis evaluates China's naval expansion in the context of abstract and empirical cases of forces optimized for power projection, SLOC defense, or sea denial. I compare France as an example of a regional power projection navy, Sweden as an example of a sea denial navy, and Japan as an example of a navy focused on SLOC protection. Once a strategy is determined, it makes deciphering Chinese regional political intent more manageable because it will identify the operational restrictions placed on Chinese policy by determining the capability of the PLAN in comparison to other regional naval powers. This thesis does not predict what China will do with its navy, rather, it aims to show what China is capable of doing with its navy, how its capabilities have changed in recent decades, and the range of strategic alternatives these changes have made possible.

### **C. LITERATURE REVIEW**

This thesis assesses PLAN expansion by comparison to other regional navies to determine the naval grand strategy the Chinese are attempting to achieve. Scholarship on China's naval modernization tends to analyze the PLAN in comparison to its capabilities at the start of modernization or in comparison to the U.S. Navy. Both comparisons do provide insight into how far the PLAN has come—as well as how far it has to go if it wants to be a dominant global navy—but can miss the mark in drawing an “apples to apples” comparison that identifies a long term naval strategy. This thesis contributes to existing academic literature on Chinese naval modernization by identifying archetypal navies for the sea denial, power projection, and SLOC defense strategies, and it will use the archetypes to contextualize China's naval growth with respect to a specific strategy that is already being implanted by a modern navy. Additionally, much of the scholarship on China's naval modernization focuses on sea denial and sea control in regards to the first and second island chains or the PLAN's prospects for developing a global navy.

This thesis introduces the argument that China already has the sea denial capabilities it needs—to prevent external intervention in a Taiwan scenario—and is

moving toward a regional SLOC defense strategy that provides a solid foundation should China's future ambitions grow to include a gradually expanding global force.

Scholarship on modern naval grand strategy is largely grounded on the works of Alfred Thayer Mahan and Julian Corbett. Three general types of grand strategy emerge within the theories of Mahan and Corbett: command of the sea, sea control, and sea denial. After discussing the objectives of command of the sea, sea control, and sea denial, competing arguments will be presented in the debate over which grand strategy China is trying to achieve with its navy.

For Mahan, command of the sea was the primary factor to determining success in wartime. Naval War College professor and retired U.S. Navy Captain Robert Rubel points out that although Mahan never wrote the words “command of the sea” specifically, he did emphasize the importance of “that overbearing power on the sea which drives the enemy’s flag from it, or allows it only to appear as a fugitive, and which, by controlling the great commons, closes the highways by which commerce moves to and from the enemy’s shores.”<sup>12</sup> Command of the sea can be used as a means to project power and as a means to dictate the use of the “great commons.” For decades, the U.S. Navy has used its command of the seas to protect and encourage international trade—indeed, it is arguably a foundation of the Bretton Woods agreement (and the rule-based, mostly free, globalized trade system that emerged after the breakdown of the agreement in the 1970s). Command of the sea serves four main purposes, “At sea it assures that our own goods and services are safe and that an enemy’s are not. From the sea, it guarantees safe delivery of goods and services ashore, and prevents delivery ashore by an enemy navy.”<sup>13</sup> For Mahan, command of the sea held a crucial economic importance, as it still does today. Mahan argued that achieving command of the sea would fall to the victor of a battle between the principle naval forces of the powers trying to obtain it. Fleet concentration was the key to

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<sup>12</sup> Rubel, *Command of the Sea*, 22.

<sup>13</sup> Wayne P. Hughes, *Fleet Tactics and Coastal Combat* (Annapolis, MD: Naval Institute Press, 2000), 9.

success for Mahan, because a state whose naval forces could operate without fear of the enemy's fleet will necessarily have obtained command of the sea.<sup>14</sup>

Julian Corbett advocated for fleet dispersal—instead of concentration—to obtain sea control.<sup>15</sup> While command of the sea focused on concentrated forces of capital ships with general superiority over all other navies, sea control is limited to a specific space and time, and can be achieved by a large force of smaller naval combatants. Moreover, command of the sea has been “traditionally about the relative strength of fleets, whereas control was and is about the condition of a water space.”<sup>16</sup> Corbett also believed that securing command of the sea was purely a war time objective, and just because one navy lost command of the sea, did not mean it was automatically passed on to another navy.<sup>17</sup> Thus, in peace time, sea control could be exerted over a certain space for an amount of time, but command of the sea was not the primary objective.

The characteristics of a sea denial strategy resemble those of sea control. Sea denial is a step below sea control and focuses on preventing a foreign navy for accessing a space for a limited time. In sea control the navy can command a limited area for a limited time, but sea denial only calls for preventing an adversary from using a limited amount of water space to achieve its objectives.<sup>18</sup> Sea denial is an attractive option for smaller navies to use in the littorals against larger navies that would have a clear advantage in the open ocean.

This thesis focuses on sea denial, power projection, and SLOC defense strategies. Although power projection and SLOC defense are not among the three main types of naval strategy discussed by Mahan and Corbett, they are hybrid strategies that have elements of sea control and command of the seas. Power projection is a strategic capability gained from sea control. Since the U.S. Navy commands the seas benignly, states that wish to develop power projection capabilities can do so while free riding on

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<sup>14</sup> Rubel, *Command of the Sea*, 22.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid., 23.

<sup>18</sup> Cole, *Great Wall at Sea*, 170.

the freedom of the seas that the U.S. Navy broadly provides. The same is true of SLOC defense. SLOC defense is a specific mission strategy that requires capabilities that could be used for gaining command of the seas, sea control, or sea denial—but SLOC defense does require the platforms, weapons, and equipment in huge quantities as would be necessary for a command of the seas or sea control strategy. The current maritime status, in which the U.S. Navy enforces freedom of the seas, allows states to pursue more cost efficient and specific naval strategies (like sea denial and SLOC defense) or take advantage of the uncontested seas to amass a power projection force that can be used without having to secure broader sea control first. Thus, this thesis addresses the likelihood of the PLAN pursuing a sea control, power projection, or SLOC defense strategy.

One prominent argument regarding PLAN capabilities is that the PLAN is still only able to use a sea denial strategy effectively. Retired U.S. Navy Captain Bernard Cole has surveyed PLAN development from its conception in 1947 as a backwards gunboat navy, to its current status as a modernizing force. Cole argues that China combines elements of sea control and sea denial into its naval strategy, but is only capable of sea denial. China's surface force has numerous vessels designed with defense and denial of the littorals in mind, including 9 corvettes, 175 missile boats, 27 mine warfare vessels, and 75 submarine chasers.<sup>19</sup> China's expanding blue water assets—including 28 destroyers and 49 frigates—provide more credible threats in a sea denial scenario, especially when used with the green water forces and the PLAN's submarine fleet. Additionally, the Chinese Second Artillery Force, which was originally created to employ nuclear missions against land targets has expanded its conventional missile capabilities since 1994.<sup>20</sup> Moreover, currently two-thirds of the Second Artillery Force structure is currently allocated for near-seas missions.<sup>21</sup> Although the primary

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<sup>19</sup> Timothy A. Walton and Bryan McGrath, "China's Surface Fleet Trajectory: Implications for the U.S. Navy," *China Maritime Study* no. 11, ed. Peter Dutton, Andrew S. Erickson, and Ryan Martinson (February 2014): 120. <https://www.usnwc.edu/cnws/cmsi/publications>.

<sup>20</sup> Ron Christman, "China's Second Artillery Force: Capabilities and Missions in the Near Seas," *China Maritime Study*, no. 11, ed. Peter Dutton, Andrew S. Erickson, and Ryan Martinson (February 2014), 31.

<sup>21</sup> *Ibid.*

conventional mission of the Second Artillery Force centers on conflict with Taiwan, the mobility and volume of its conventional weapons provide a strong anti-access area denial capability (A2/AD) within the first island chain, and pose a moderate threat into the second island chain.<sup>22</sup>

China's shift in focus to near sea A2/AD capabilities and bolstering its littoral fast attack craft—like the homegrown development of the *Houbei*—matches the specific mission objectives that the PLAN has identified. The five primary specific missions the PLAN has are “preparing for operations against Taiwan, defending Chinese claims in the East and South China seas, maintaining a strategic deterrent force against the United States (and possible India, Russia, and Japan), protecting vital SLOCs—some lying a great distance from China, and serving as a diplomatic force.”<sup>23</sup> Potential operations against Taiwan and belligerents in territorial disputes require China to—at a minimum—be able to deny outside interference from intervening in the case of military action. Cole argues that the PLAN is not strong enough to control the seas of East Asia because of the U.S. maritime presence, together with that of the Japanese Maritime Self Defense Force, and the formidable Republic of Korea Navy. As a consequence, sea denial is the strategy China must pursue first before proceeding to sea control.<sup>24</sup> Similarly, the Office of Naval Intelligence (ONI) also assesses that the PLAN force structure is based on a sea denial strategy and that by 2016–17 China may have a strong enough sea denial apparatus to start working toward a sea control force structure; but it is not there yet.<sup>25</sup>

Shi Xiaoqin argues that any analysis of seapower that aims to predict future behavior should “take material and ideational factors into equal account and to integrate domestic and international factors.”<sup>26</sup> Shi asserts that domestic material factors—like

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<sup>22</sup> Christman, “Chinas Second Artillery Force,” 44–45.

<sup>23</sup> Cole, *Great Wall at Sea*, 183.

<sup>24</sup> *Ibid.*, 183–184

<sup>25</sup> Walton, “Chinese Surface Fleet Trajectory,” 128.

<sup>26</sup> Shi Xiaoqin is a lieutenant colonel from the PLA Academy for Military Science in Beijing, China. Shi Xiaoqin, “Boundaries and Directions of China's Seapower,” *Twenty-first Century Seapower: Cooperation and Conflict At Sea*. ed. Peter Dutton, Robert S. Ross, and Øystein Tunsjø (London: Routledge, 2012), 80.

production of new ships and weapon systems—only tell part of the story, and he argues that China has shown great self-restraint in building up their naval forces.<sup>27</sup> Many of China’s historical security threats have come from the ocean—most dramatically demonstrated in China’s humiliating defeat in the first Opium War—and China has an increasing stake in maritime security for economic reasons. Despite the increasing importance of maritime issues to China, “it is not going to spend an inappropriate percentage of its entire defense budget on its navy or make the army a secondary branch of the armed forces, which means the likelihood that the PLAN will become a peer competitor of the U.S. Navy is very low.”<sup>28</sup> Shi also looks at how remnants of U.S. Cold War strategy—which is sensitive to the danger of rising seapowers—have caused the United States to overreact in their response to China’s naval modernization.<sup>29</sup> Furthermore, he argues that the United States’ habit of identifying China as a threat exacerbates the security dilemma from a Chinese perspective because the United States has made its counter-balancing strategy well known.<sup>30</sup> Shi takes a balanced approach at identifying China’s needs in the maritime realm, assessing how their naval forces match their needs, and determining how foreign influences have impacted China’s maritime strategy. This thesis builds upon Shi’s approach by considering procurements, assets, deployment patterns, and maritime interests in determining if China’s naval apparatus is built for sea denial, SLOC protection, or power projection.

Ren Xiaofeng builds upon Shi’s work by performing a deeper analysis of the challenges that are driving Chinese maritime security policy and establishing whether there is a coherent maritime security policy at the national level. Ren asserts, “China’s maritime security strategy must address multiple challenges, including reunification and the risk of secessionist activities, constraints and infringement on its natal operations in its maritime area, and, as its economy becomes increasingly globalized, risks to marine

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<sup>27</sup> Shi, “Direction of China’s Seapower,” 80.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid., 71.

<sup>30</sup> Ibid., 72.

shipping, offshore production and the marine environment.”<sup>31</sup> A fundamental requirement for success for any military strategy is that it must match the national policy. Policy development—and the factors that influence it—are a crucial component to the strategic development of forces and will be a component of analysis of the PLAN within the thesis. Toshi Yoshihara and James R. Holmes provide additional insights into competing Chinese strategic theories and their impacts on policymaking. They further discuss the impacts of mobile sea denial forces and the ability to obtain limited sea control through the use of sea denial forces. Yoshihara and Holmes also assess how China is developing tactics, building an undersea deterrent, and using soft power at sea, while determining if China is pursuing the “two tridents” of Mahanian naval power through forward naval basing and the construction of a decisive battle fleet.<sup>32</sup>

One final argument is that China is already capable of sea denial and sea control within a limited area. Retired U.S. Navy Commander John Patch from the China Maritime Studies Institute (CMSI) at the U.S. Naval War College argues that the PLAN has expanded its near seas missions and capabilities from beyond sea denial to sea control.<sup>33</sup> One example that Patch gives of China shifting to a sea control mindset, is the offensive capabilities that the *Houbei* has obtained. The Office of Naval Intelligence (ONI) assessed the *Houbei* as a defensive patrol craft in 2009, but Patch argues that the development of offensive ASCM and data link capabilities have allowed the *Houbei* to be deployed for brief times with strike groups in sea control scenarios focused on ASCM saturation—signaling a shift in strategy.<sup>34</sup> Similarly, in 2009, RAND concluded that the PLAN was investing in technologies to shift from a sea denial strategy to a sea control strategy for the near seas.<sup>35</sup> James Holmes of the U.S. Naval War College also argued

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<sup>31</sup> Ren Xiaofeng, “China’s Maritime Security Policy Making,” *Twenty-first Century Seapower: Cooperation and Conflict At Sea*. Ed. Dutton, Peter., Robert S Ross, and Øystein Tunsjø (London; New York: Routledge, 2012) 201.

<sup>32</sup> Toshi Yoshihara and James R. Holmes, *Red Star Over the Pacific: China’s Rise and the Challenge to U.S. Maritime Strategy* (Annapolis, MD: Naval Institute Press, 2010), 10.

<sup>33</sup> John Patch, “Chinese Houbei Fast Attack Craft: Beyond Sea Denial,” *China Maritime Study* no. 11, ed. Peter Dutton, Andrew S. Erickson, and Ryan Martinson (February 2014), 3. <https://www.usnwc.edu/cnws/cmsi/publications>.

<sup>34</sup> Patch, “Fast Attack Craft,” 5–6.

<sup>35</sup> Ibid.

that China is shifting to a sea control strategy where “The South China Sea represents the most likely maritime theater for Beijing to deploy a force, including combined-arm attacks designed to oversaturate and overpower U.S. task group defenses, to realize its geopolitical and strategic aims.”<sup>36</sup> Timothy Walton and Bryan McGrath from the CMSI assert that China has a naval force that is primarily suited for sea denial, but has sea control characteristics that—over time—will grow to surpass the sea denial force structure exhibited today.<sup>37</sup> Even those who have traditionally emphasized the sea denial components believe that the tide is beginning to shift. Although Cole argued that China employs a sea denial strategy, he believed that the PLAN would be capable of sea control within the first island chain by 2020.

Both China and the United States have official documents that discuss the nature of Chinese military modernization. China’s military strategy—including naval strategy—is vaguely outlined in a series of China Defense white papers. Although some useful information can be gathered from China’s white papers (like trends in what China believes is important to national security and gradual shifts in stated policy), the white papers are written with foreign audiences in mind and do not reveal any reliable information on China’s long term military strategy. Moreover, China’s ambiguous white papers can be interpreted in numerous ways—with China viewing its defense policy as benign and reasonable, but other states (like the United States) viewing it as potentially destabilizing.

The United States releases various documents that seek to explain Chinese naval modernization in the context of the U.S. grand strategy and how the United States intends to operate within the East Asian region in response to China’s evolving maritime strategy. The National Security Strategy (NSS; published by the president’s National Security Council), National Military Strategy (NMS; published by the Chairman of the Joint Chiefs of Staff), and the Quadrennial Defense Review (QDR; published by the Secretary of Defense, but soon to be replaced by two new strategic documents) all provide regular evaluations of China’s military modernization and the U.S. interpretation

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<sup>36</sup> Patch, “Fast Attack Craft,” 9–10.

<sup>37</sup> Walton, “Chinese Surface Force Trajectory,” 127.

of what it means for long term strategy in the region (both for China and the United States). The NSS, NMS, and QDR provide insight to how another regional power perceive the nature of China's modernization and the implications modernization has for regional security. Annual reports to Congress on the status of China's military modernization compile a wide array of information—including Office of Naval Intelligence reports on naval modernization—to aid in deciphering the long term intentions of China's military strategy. Moreover, if China is using its white papers to send a message to foreign audiences about its intentions—however ambiguous that message may be—high level U.S. strategic documents can aid China in determining whether or not its message is being interpreted as it intended. The Chinese white papers and high level strategic documents that the United States releases are politically driven documents that provide insight on how each state views the evolution of key interests that effect both states, but neither provide any verifiable information on China's long term strategy.

#### **D. HYPOTHESES**

This thesis discusses whether China is modernizing its navy with a sea denial, power projection, or SLOC defense in mind. The main goal of a sea denial strategy is to deny entry into a specific water space by making incursions too costly for the adversary, but to do so with a relatively cheap force. If China were to build a sea denial force it would have several key characteristics. First, a sea denial strategy is one of the cheaper strategies to pursue. Navies that employ sea denial strategies aim to build an apparatus that can inflict high costs to the enemy at a low financial cost to the state. If China's naval budget has remained relatively static or has increased at a rate significantly slower than the rest of China's armed forces, it could be one indicator that China is modernizing toward a sea denial strategy. Additionally, sea denial forces focus on large numbers of small naval platforms that stay close to shore and have advanced weapon systems—even if that platforms are old, the weapons systems continue to upgrade. Large numbers of smaller craft can overwhelm larger naval vessels using swarm tactics. Diesel submarines add another layer of security in a sea denial strategy because it provides another platform that can cause substantial damage to an enemy fleet and operate silently and effectively in

the littorals. Mine warfare is another relatively inexpensive way to inflict heavy costs to the enemy without a substantial naval fleet, thus, mines and minesweepers are critical platforms in a sea denial force. In addition to naval forces, a state with a sea denial strategy will use land based artillery as an added layer of defense against intrusion from the sea. Therefore, sea denial forces tend to comprise of patrol craft, corvettes, minesweepers, land based artillery, and submarines.

If China were to pursue a power projection strategy, it would have several key characteristics. First, power projection forces are centered on an aircraft carrier or large amphibious assault ship capable of maintaining its own area air defense and carrying out strike attacks or troop insertion into territory away from the state's home shores. In addition to strike-capable aircraft carriers and amphibious assault ships, there must be a blue water naval force capable of providing fleet ASW, ASuW, and AAW defense for the aircraft carrier or amphibious assault ship. Amphibious assault ships with the capability to deliver ground troops and their equipment ashore is another requirement in a power projection strategy. Power projection forces are expensive to maintain and require extensive funding to build up the blue water force, carrier force, amphibious lift capability, and strike fighter force. If China is pursuing a power projection strategy, I would expect it to have an expanding blue water force (including auxiliaries to support sustained operations at sea), amphibious ships built for troop insertion and strategic lift, and large aircraft carriers capable of strike missions. Moreover, a power projection strategy is inherently used in situations away from a state's home territory. Power projection is pursued by states that have a willingness to intervene in the foreign affairs of other states.

If China is modernizing toward a SLOC defense strategy it is slightly more difficult to determine, but has several key characteristics. First, there must be a maritime dependence on SLOCs for economic success to make a SLOC defense force worth pursuing. Since the key SLOCs that China depends on for its economic viability are far from its home waters, it would require a blue water force and auxiliaries to support sustained naval operations away from China's near seas. Additionally, an expanding submarine force can be expected, as they are utilized near choke points in key SLOCs to

prevent SLOC closure or interference by foreign naval blockade. A SLOC defense force does not require as large of a budget as a power projection force, but is much more expensive than a sea denial force since a variety of large platforms and support ships are required for operating far from home. Routine deployments to key SLOCs should be common as well.

Briefly, this thesis finds that China is primarily pursuing a maritime strategy centered on SLOC defense, but is also capable of using its navy for sea denial in its near seas. After the Taiwan Strait crisis of 1995–1996, China’s short term maritime goal was to develop a sea denial force that could prevent U.S. Navy intervention in a future Taiwan Strait scenario. The PLAN is capable of sea denial after substantial development of its Anti-Access Area Denial technology, and has shifted to a maritime strategy outside of its littorals.

China’s meteoric economic ascent has made securing SLOCs a critical component of maintaining economic growth, and economic growth is a crucial source of legitimacy for the CCP. The Chinese depend on SLOCs both for energy imports to support its growing industries and to deliver goods for its export driven economy. Although China’s naval modernization currently points to a SLOC defense purpose, many of the naval platforms it has invested in—like its amphibious ships, oilers, blue water ships, submarines, and aircraft carriers—have the potential to be used in limited power projection scenarios. Moreover, SLOC defense assets can provide a foundation for a larger power projection force should China’s ambitions grow in the future. To date, China does not appear to have global naval ambitions that would support development of the PLAN in a way that is analogous to the modern U.S. Navy. Rather, Chinese maritime strategy aims at becoming the dominant regional maritime power and leader of the regional security infrastructure—much of which is based on maritime security. To achieve their strategy, China is modernizing its naval forces to protect the economic chokepoints the region depends on without having to depend on the U.S. Navy.

## **E. ROADMAP**

Comparative case studies will be used for conducting research for the thesis. The thesis aims to evaluate China's naval capabilities and available strategic options based their force structure and procurements. There are three major strategic missions for naval forces, which are command of the sea, sea control—or power projection—and sea denial. Command of the sea is only plausible for a global navy, and since there is no near peer competitor to the only global navy—the United States—the force structure for achieving command of the sea will not be assessed. Three strategic missions will be analyzed: power projection, SLOC defense, and sea denial. Although it is not one of the three broad categories of naval strategy, SLOC defense is a hybrid of power projection and sea denial because there are elements of each that can be used to protect trade. In some instances, important trade choke points are located thousands of miles from a states coastline. Moreover, the Suez Canal, Strait of Hormuz, and Strait of Malacca all hold tremendous economic significance for China and its neighbors.

This thesis is broken up into two main chapters. Chapter II will provide a comparative analysis of three different regional navies which are archetypes for specific strategic missions. The Royal Swedish Navy will be analyzed as a navy that specializes in sea denial, the French Navy will be analyzed as a navy that specializes in power projection, and Japanese Maritime Self Defense Force will be analyzed as a navy that specializes in SLOC defense. Each regional navy will be analyzed based several factors including its policy goals, strategy, threats, force structure, C2 and ISR capabilities, and the nature of its recent naval deployments and exercises. Each of the factors assessed will aid in providing a common set of characteristics for an archetypal navy aimed at enforcing a sea denial, power projection, or SLOC defense mission set, and the factors will be used to contextualize Chinese naval modernization toward a specific goal—or goals.

Chapter III will discuss China's naval modernization through the same factors that were used to determine the characteristics of the archetypal navies in Chapter II. Careful attention will be paid to nuances pertaining China's regional security situation and the unique security concerns it faces that the archetypal navies might not have to

contend with. Additionally, the difficulties in determining China's long term strategy will be addressed and recent shifts in maritime policy will be highlighted.

Chapter IV, the conclusion chapter, will make direct comparisons between China's naval modernization and the archetypal navies assessed in Chapter II. Moreover, Chapter IV will identify unique characteristics to China's naval modernization that make it difficult to fit into one archetypal category. Lastly, inferences to China's long term maritime strategy were be made based on their current trajectory and the evolving regional security structure.

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## **II. ARCHETYPAL NAVIES: SEA DENIAL, POWER PROJECTION, AND SLOC DEFENSE**

Mankind did not take to the sea for any one single cause but for a variety of reasons that are linked to the four attributes of the sea itself, namely, as a resource, and as a means of transportation, information and dominion.

—Geoffrey Till<sup>38</sup>

### **A. BUILDING A NAVY WITH A NARROW PURPOSE**

Before determining the strategic purpose behind the navy that China is actively modernizing and building, it is crucial to identify a standard to which the PLAN will be compared. Thus, archetypal navies for three main strategic mission sets will be analyzed based on their goals, threats, and force structure of three international comparative cases. There are three major strategic goals for naval forces: command of the sea, sea control, and sea denial. Naval War College professor and retired U.S. Navy Captain Robert Rubel identified command of the sea a strategic condition which gave the strongest navy “significant freedom of action,” while being capable of constraining the action of others.<sup>39</sup> Furthermore, Alfred Thayer Mahan emphasized the importance command of the seas when describing it as “that overbearing power on the sea which drives the enemy’s flag from it, or allows it only to appear as a fugitive, and which, by controlling the great commons, closes the highways by which to and from the enemy’s shores.”<sup>40</sup> Rubel further argues, “Whereas command of the sea denotes a specific kind of general superiority, ‘control’ is delimited in space and time...Command has been traditionally about the relative strength of fleets, whereas control was and is about the condition of the water space.”<sup>41</sup>

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<sup>38</sup> Geoffrey Till, *Seapower: A Guide for the Twenty-First Century* (London; Portland, OR: Frank Cass, 2004), 23.

<sup>39</sup> Robert C. Rubel, “Command of the Sea: An Old Concept Resurfaces in a New Form,” *Naval War College Review* 65, no. 4 (Autumn, 2012); 22.

<sup>40</sup> Ibid.

<sup>41</sup> Ibid., 22–23.

Three strategic missions will be analyzed and used to contextual China's naval modernization: sea denial, power projection, and SLOC defense. Each selected strategic mission compliments one of the three main strategic goals of command of the sea, sea control, or sea denial. The strategic goal and mission of sea denial are one in the same. The strategic goal of sea control will be analyzed through the lens of the power projection and SLOC defense missions. Command of the sea is only plausible for a global navy, and is extremely difficult to obtain. The U.S. Navy is the only naval force that can claim a general superiority in naval power and no other navy currently comes close to the size and capability of the U.S. Navy. Consequently, the United States will not be used as an archetypal force demonstrating command of the sea to contextualize China's naval modernization because the PLAN is not reasonably close to obtaining a naval force of comparable power to the U.S. Navy.

It is difficult to characterize specific capabilities of a force built to obtain sea control because sea control is a general condition that is gained to carry out a more specific mission. David Gompert defines sea control as "the ability to use the sea in defiance of rivals," and controlling the seas identifies a strategic condition which navies can operate within.<sup>42</sup> Rather, it is more effective to analyze a navy's capabilities to conduct power projection or SLOC defense missions because each of those mission sets come as a direct use of the strategic condition that sea control brings about. Moreover, sea control is a means to the end of employing specific capabilities to achieve narrower missions—like power projection or SLOC defense.

Naval Postgraduate School professor and retired U.S. Navy Captain Wayne Hughes asserts, "Sea control aims at protecting the sea lines of communication, but it usually focuses on the destruction of enemy forces that threaten them. Power projection aims at employing sea control, predominantly by strikes ashore or amphibious landings."<sup>43</sup> Controlling the sea serves two main purposes: ensuring free movement and use of the sea for the controlling country and preventing free movement and use of the

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<sup>42</sup> David C. Gompert, *Sea Power and American Interests in the Western Pacific*, RAND (2013); 2.

<sup>43</sup> Wayne P. Hughes, *Fleet Tactics and Coastal Combat* (Annapolis, MD: Naval Institute Press, 2000); 248.

sea for the adversary.<sup>44</sup> Power projection is a capability gained by obtaining sea control, which is more broadly defined as exerting total control over a finite space for a finite period of time. Furthermore, a power project strategy is usually used as a means to project forces ashore away from the homeland. Hughes succinctly summarizes Corbett's justification for a great seagoing fleet when he argues, "The seat of purpose is on land."<sup>45</sup> Power projection enables a state to parlay sea control into land attack.

Although it is not one of the three broad categories of naval strategy, SLOC defense is a hybrid of power projection and sea denial because there are elements of each that can be used to protect trade. Protecting commerce and ensuring the uninterrupted flow of goods on the sea is an increasingly critical part of the global economy and is predicated on SLOC protection vis-a-vis sea control. In some instances, important trade choke points are located thousands of miles from a state's coastline, which requires a blue water navy to provide protection through convoys or sustained presence in areas of known piracy and commerce disruption. Furthermore, the Suez Canal, Strait of Hormuz, and Strait of Malacca all hold tremendous economic significance in North East Asia, and maintaining limited power projection capabilities may be acquired to protect assets abroad more so than to deliver forces ashore.

Unlike sea control, it is not difficult to characterize specific capabilities used to employ a sea denial strategy. Sea denial is defined as "the ability or action at least temporarily to deny others access to waters considered important."<sup>46</sup> Additionally, sea denial involves denying the enemy access to a finite space for a finite period of time. Rubel further defines a denial strategy when he states, "It can send out units to try to do enough damage to the stronger force (which is presumably attempting to project power or blockade) to cause that force to abandon the operation or at least delay it, giving the weaker power some strategic breathing space."<sup>47</sup> Unlike sea control, the military

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<sup>44</sup> Wayne P. Hughes, *Fleet Tactics and Coastal Combat* (Annapolis, MD: Naval Institute Press, 2000); 9.

<sup>45</sup> *Ibid.*, 26.

<sup>46</sup> Gompert, *Sea Power*, 2.

<sup>47</sup> Robert C. Rubel, "Talking About Sea Control," *Naval War College Review* 63, no. 4 (Autumn, 2010): 41.

employing a denial strategy may not have complete freedom to act within the area it is denying; rather, it only prevents the adversary from freely acting within the given area.

The three navies that will be used to contextualize China's naval modernization exemplify their archetypal force structure within the sea denial, power projection, or SLOC defense strategies. The Royal Swedish Navy will be analyzed as an example of a force structure based on a sea denial strategy, the French Navy will be analyzed as a non-hegemonic regional power projection force, and the Japanese Maritime Self Defense Force will be analyzed as a SLOC defense force. Each section in this chapter will assess strategy, goals, threats, force structure, C2 and ISR capabilities, and the nature of previous deployments and exercises of each navy as a means to identify the characteristics of navies built for the sea denial, power projection, and SLOC protection missions. Furthermore, the intent of this chapter is to identify specific naval capabilities of each archetypal force and the strategic limitations that result from their capabilities in order to better understand the nature of China's naval modernization and determine the strategic missions the PLAN is capable of performing.

## **1. Royal Swedish Navy: Sea Denial**

Between the 1520s and 1530, Sweden brought its first autonomously acquired naval forces to Stockholm, and it established its first naval base and modern coastal defense forces to defend Sweden from invasion.<sup>48</sup> Nearly five-hundred years later, Sweden still organizes its military with the primary goal of preventing invasion. *Jane's World Navies* asserts, "The Royal Swedish Navy (RSwN) has traditionally been highly regarded for its capabilities in shore defense and littoral warfare in the protected waters of the Bay of Botnia and the Baltic Sea."<sup>49</sup> The RSwN is a small and specialized organization that provides a clear example of a force designed specifically for sea denial.

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<sup>48</sup> Niklas Granholm, "A Small Navy in a Changing World: The Case of the Royal Swedish Navy," *Small Navies: Strategy and Policy for Small Navies in War and Peace*, ed. Michael Mulqueen, Deborah Sanders, Ian Speller, and Small Navies Conference. (Farnham, Surrey, UK; Burlington, VT : Ashgate, [2014]): 170.

<sup>49</sup> "Swedish Navy Overview," *Jane's World Navies*, accessed March 14, 2016, <https://janes.ihs.com.libproxy.nps.edu/CustomPages/Janes/DisplayPage.aspx?ItemId=1322771>.

**a. Strategic Outlook of the Royal Swedish Navy**

Swedish defense goals and policy have remained relatively consistent for the last century, and the waxing and waning of power in Russia and the Soviet Union has driven the majority of Sweden's defense decisions. Despite remaining neutral throughout the Cold War, Sweden clearly based its defense strategy on the Soviet threat and not NATO.<sup>50</sup> The former Soviet Union and modern Russia state could both boast overwhelming military superiority over Sweden in both conventional and nuclear forces. At the end of the Cold War, the USSR had nearly four million more active duty military members than Sweden, and the Soviets had 312 more submarines, 227 more principle surface combatants, 350 more coastal combatants, 300 more mine warfare ships, and 77 more amphibious assault ships than the RSwN—it was truly a David and Goliath situation that relegated Sweden to adapting the only strategy it could as a small neutral state.<sup>51</sup> Niklas Granholm asserts, “The perceived existential threats to Sweden from the Soviet Union led over time to a defense force structure almost exclusively focused on an anti-invasion strategy.”<sup>52</sup> A prolonged trend of only allotting one-sixth of military defense spending to the RSwN has limited its strategic goals and capabilities.<sup>53</sup> The fall of the Soviet Union marked the beginning of a series of gradual policy shifts for the RSwN that would pendulum away from a purely self-defense force posture aimed at coastal and littoral missions, to a navy that could be used in limited blue water operations—but that pendulum would eventually return back to a nearly exclusive coastal defense posture.

**(1) Sweden's Threat Picture and Defense Policy Goals Post WWII**

At the onset of the Cold War, Sweden described its defense policy as a “third way” between capitalism and communism by declaring a policy of “non-alignment in

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<sup>50</sup> Granholm, “A Small Navy,” 171.

<sup>51</sup> “The Alliances and Europe,” *The Military Balance*, 90, no.1 (1990): 93, doi: 10.1080/04597229008460019; “The Soviet Union,” *The Military Balance*, 90, no. 1, 36–37, doi: 10.1080/04597229008460018.

<sup>52</sup> Granholm, “A Small Navy,” 170.

<sup>53</sup> *Ibid.* 171.

peacetime with the aim to neutrality in wartime.”<sup>54</sup> Sweden and Finland’s neutrality—when combined with NATO membership for Denmark and Norway, and Estonia, Latvia, and Lithuania being absorbed by the USSR—created “The Nordic Balance” that would remain in place until the end of the Cold War.<sup>55</sup> Although Sweden was a “vocal critic of the superpowers,” it seemed clear that Sweden would not join the Soviet Union if war broke out in the Baltics.<sup>56</sup> Sweden’s independent status forced it to make large preparations for the advent of a Soviet attack, and The Defense Bill of 1958 prioritized budgeting the Army and Air Force over the RSwN—which received only half of the funding that the Army or the Air Force was allotted.<sup>57</sup> Furthermore, Sweden maintained a large number of conscript forces—specifically trained for anti-invasion efforts—through the end of the Cold War.

In 1960, Naval Plan 60 was developed to provide long term strategic goals for the RSwN. The RSwN was to be structured by a “light navy concept” that emphasized “fast attack-craft with torpedoes and guided missiles, submarines and defensive mines,” while capital ships—like cruisers and destroyers—would be gradually phased out.<sup>58</sup> The light navy would be complimented by fortified artillery batteries and mobile artillery batteries with light and heavy weaponry ashore.<sup>59</sup> Although Sweden’s use of shore batteries in conjunction with naval assets may seem like an Anti-Access Area Denial (A2AD) strategy, the limited range and capabilities of both the naval and shore based forces only allowed Sweden to employ the “Area Denial” component of A2AD—as will be discussed in greater depth later in this section. The result of Naval Plan 60 was a navy that was capable of coastal defense, littoral sea denial, Anti-Submarine Warfare (ASW), and SLOC defense.

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<sup>54</sup> Douglas Brommesson, “Normative Europeanization: The Case of Swedish Foreign Policy Reorientation,” *Cooperation and Conflict*, 45(2) (2010): 230.

<sup>55</sup> Granholm, “A Small Navy,” 170–171.

<sup>56</sup> Brommesson, “Normative Europeanization,” 229–230; Granholm, “A Small Navy,” 171.

<sup>57</sup> Granholm, “A Small Navy,” 171.

<sup>58</sup> Ibid.

<sup>59</sup> Ibid., 172.

The Defense Bill of 1972 radically de-scoped the defense policy goals associated with the RSwn. The government disregarded the assets requested for ASW and SLOC defense and ordered the RSwn to focus nearly all of its resources toward “sea-denial in an anti-invasion scenario in the Baltic Sea.”<sup>60</sup> The resulting goals and force posture of the Defense Bill of 1972 remained consistent until a nuclear armed Soviet Whiskey-class submarine ran aground near *Karlskrona* naval base in Southern Sweden. Consequently, ASW became a primary mission of the RSwn for the remainder of the Cold War—and it was recognized as a critical piece of the sea denial strategy.<sup>61</sup>

The end of the Cold War, and collapse of communism, was hailed by Swedish representatives as a “triumph of true European values—human rights, democracy, market economy, rule of law, and right of ownership—over the authoritarian values of Eastern Europe.”<sup>62</sup> The Defense Bill of 2009 drastically reduced the capability and size of the RSwn. The anti-invasion sea denial mission was relegated to a small Amphibious Corps, while the RSwn was assigned new strategic goals to be prepared to engage in “peace-support and crisis-management operations” abroad with other EU members.<sup>63</sup> Furthermore, in 1991, Swedish Minister of Foreign Affairs Margaretha af Ugglas stated that “the support of freedom, democracy, and market economy will affect all parts of our foreign policy”—a huge shift in defense goals from the 1970s and 1980s that supported state sovereignty and non-intervention.<sup>64</sup> It appeared that Sweden was shifting from isolationist and neutral defense and foreign policy goals to an mildly interventionist strategy. This development is particularly relevant because Sweden downsized its force and reduced its emphasis on a sea denial force since it no longer had a perceived threat that required a sea denial strategy. The drawdown of troops in the 1990s and earlier 2000s would later require the Swedish government to focus on the most critical components of its anti-invasion strategy while it rebuilt its sea denial force in response to

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<sup>60</sup> Granholm, “A Small Navy,” 172.

<sup>61</sup> Ibid., 172–173.

<sup>62</sup> Brommesson, “Normative Europeanization,” 234.

<sup>63</sup> Granholm, “A Small Navy,” 174.

<sup>64</sup> Brommesson, “Normative Europeanization,” 236.

a resurgent belligerent Russia—highlighting and reaffirming elements of the sea denial strategy constructed with Naval Plan 60 and prioritizing the most important platforms, technology, and capabilities needed for sea denial. Sweden’s historical doctrine in Naval Plan 60 and its prioritized spending in the 2016–2020 Defense Bill provide clear indicators and priorities of a state that desires a sea denial strategy—and can be used to analyze China’s naval modernization.

(2) Anti-Access/Area Denial or Just Area Denial?

In assessing Sweden’s force structure—especially its Cold War force structure—it is pertinent to discuss whether or not the RSwN was capable of Anti-Access Area Denial (A2AD). A NATO Defense College Conference Report describes A2AD as containing two components. The “Anti-Access” strategy “refers to the strategy that limits entry and posturing, using whatever means are need to complicate and challenge access by the opponents forces.”<sup>65</sup> The “Area Denial” strategy “works at the tactical and operational level, minimizing freedom of maneuver and in-theater movements.”<sup>66</sup> More generally, A2AD prevents an adversary from acting in a limited space for a limited time. While A2AD and sea denial may seem to be interchangeable in a strategic sense, they are not. Sea denial is the naval component of “Area Denial,” and is usually used as a defensive posture. The *U.S. Joint Operational Access Concept (JOAC)* further specifies “Area Denial” by stating that “Area Denial capabilities target forces in all domains, including land forces.”<sup>67</sup> Moreover, the *JOAC* asserts, “Anti-access actions tend to target forces approaching by air and sea predominantly, but also can target the cyber, space, and other forces that support them.”<sup>68</sup> The Anti-Access component includes preventing entry at the theater or regional level, and it requires longer range offensive and ISR capabilities, as

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<sup>65</sup> Guillaume Lasconjarias and Alessandro Marrone, “How to Respond to Anti-Access/Area Denial (A2AD)? Toward a NATO Counter-A2/AD Strategy,” NATO Defense College Conference Report, no. 01/16, February 2015, 8.

<sup>66</sup> Ibid.

<sup>67</sup> *Joint Operational Access Concept*, Department of Defense, Washington, DC, January 17, 2012. [http://www.defense.gov/Portals/1/Documents/pubs/JOAC\\_Jan%202012\\_Signed.pdf](http://www.defense.gov/Portals/1/Documents/pubs/JOAC_Jan%202012_Signed.pdf); 6.

<sup>68</sup> Ibid.

well as facilities at land and sea to employ those capabilities.<sup>69</sup> Some weapons or platforms have strict limitations and capabilities that clearly fall into the Anti-Access or Area Denial categories, but it can also be difficult to differentiate between an Anti-Access asset and Area Denial asset because “the same submarine that performs an area-denial mission in coastal waters can be an Anti-Access capability when employed on distant patrol.”<sup>70</sup> Moreover, some Anti-Access weapons can be used for Area Denial purposes, but it is less likely that Area Denial weapons can also be used for Anti-Access missions.

Sweden’s force structure was built around the “Area Denial” concept, but not the “Anti-Access” concept. The primary purpose of the RSwN during the Cold War was to prevent Soviet invasion through a sea denial, and its operational capabilities were limited to a defensive posture. Sweden’s longest range SSM employed by the navy—the RBS-17—had the limited range of 8,000m (roughly 4nm), while the army’s longest range SSM—the RBS-97—only has a range of 40,000m (roughly 25nm).<sup>71</sup> While the shore batteries and sea based SSMs could deter invasion, they certainly would experience unsurmountable challenges in denying access to the region—even at the narrow chokepoints near the Skagerrak and Kattegat straits.

### (3) Recent Shift in Strategic Goals and Threat Perception

Russia’s 2014 annexation of the Crimea reignited fears of invasion within the Swedish government. Swedish Defense Minister Holtqvist identified Russia’s reckless resurgence and illegal annexation of the Crimea as the “greatest challenge to European security order since it was established twenty-five years ago.”<sup>72</sup> Additionally, in 2014, Sweden claimed that a Russian submarine encroached upon Swedish waters near Stockholm, which solidified the Swedish government’s argument to return to a sea denial

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<sup>69</sup> Lasconjarias, “How to Respond to A2AD,” 5–6.

<sup>70</sup> Joint Operational Access Concept, 6.

<sup>71</sup> “Swedish Navy Overview,” Jane’s World Navies.

<sup>72</sup> Holtqvist, “Defense Industry Conference.”

and anti-invasion force posture.<sup>73</sup> Sweden's latest defense policy has called for two billion dollars in new defense spending to help fortify Gotland Island and expand the capability of the RSwN's surface and subsurface forces. Sweden has positive diplomatic relations with the United States, the EU, and its Nordic neighbors, but it has not parleyed the diplomatic relations into any substantial military alliances—only “deepened cooperation.”<sup>74</sup>

The large scale downsizing of the RSwN after the end of the Cold War was predicated on the belief that the collapse of the USSR and democratization of many of the former Soviet states—most importantly Russia—would remove the existential threat that previously existed for states on the Baltic Sea. However, in 2015 the Swedish Defense Ministry has pivoted back to its Cold War goals of national defense. In June of 2015, Swedish Defense Minister Peter Hultqvist stated,

We are facing a more provocative, unpredictable and destabilizing Russia that has lowered the threshold to use military force. Russia's illegal annexation of Crimea and support of separatists in eastern Ukraine is a violation of international law. It is the greatest challenge to the European security order since it was established 25 years ago. Russian activities in the Baltic Region and in the High North has also increased. They have increased their military exercises and intelligence activities. They are engaging in hybrid warfare, which effects all levels of society: military, police and civilian.<sup>75</sup>

The shift in Russian Foreign Policy from willing integration into the Western democratic ranks, to a seemingly greater desire to regain some of the power and prestige it lost following the Cold War, has caused Sweden's strategic goals to shift back to “Total Defense” of the homeland—and away from periphery missions in support of general European defense missions. The 2016–2020 Swedish Defense Policy asserts,

In line with the Defense Commissions conclusions, Swedish defense policy requires a new focus. Thus, a renewed regional focus will be a

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<sup>73</sup> “Swedish Navy Overview,” *Jane's World Navies*.

<sup>74</sup> Hultqvist, “Defense Industry Conference.”

<sup>75</sup> Peter Hultqvist, “Speech at the U.S.-Sweden Defense Industry Conference,” Government Offices of Sweden, June, 3, 2015, <http://www.government.se/speeches/2015/06/speech-at-the-u.s.-sweden-defence-industry-conference/>.

priority, with the emphasis on national defense and planning for wartime scenarios. This renewed regional and national focus will also require an updated Total Defense Concept able to cope with present day challenges and threats. Ultimately, the Swedish Defense should be able, with its available resources, to face an armed attack.<sup>76</sup>

The Russian threat is driving Swedish defense policy, military modernization, and military force structure—just as the USSR did during the Cold War. Sweden is in a different geopolitical position than it was during the Cold War, and its military partnerships with the EU, NATO, and Nordic states make neutrality nearly impossible, but gives Sweden more resources to draw from in case of conflict with Russia. Although there were cultural ties to the Crimea and Ukraine shares an extensive portion of its border with Russia—which made annexation much easier than in the Swedish context—the Swedish government is taking no chances and making it clear that Russia is, once again, seen as an existential threat. Consequently, Sweden is shaping its force structure to meet the challenge of conventional warfare, as it did during the Cold War, and is preparing for the possibility of hybrid warfare, as seen in Ukraine.<sup>77</sup> Moreover, Sweden’s shift in defense goals is accompanied with a 11% increase in defense spending during the 2016–2020 timeframe, and new RSwN acquisitions refocused on the sea denial and anti-invasion strategy.

#### ***b. Royal Swedish Navy Force Structure and Concept of Operations***

The size and capability of the RSwN has made considerable changes since the end of WWII. The RSwN was at its peak in overall manning, equipment, and capability toward the end of the Cold War, and it hit a trough in manning, equipment, and capability after the passing of the 2009 Defense Bill. The resurgence of the Russian threat has led to increased military spending and renewed focus on homeland defense through the “Total Defense Concept.”<sup>78</sup> Sweden begun the process rebuilding and expanding its capacity and capability after the 2016 to 2020 Swedish Defense Policy was released. The “Total

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<sup>76</sup> “Sweden Defense Policy 2016 to 2020,” Government Offices of Sweden, last accessed March 14, 2016, [http://www.government.se/globalassets/government/dokument/forsvarsdepartementet/sweden\\_defence\\_policy\\_2016\\_to\\_2020,3](http://www.government.se/globalassets/government/dokument/forsvarsdepartementet/sweden_defence_policy_2016_to_2020,3).

<sup>77</sup> Ibid.

<sup>78</sup> Ibid.

Defense Concept” and modest naval expansion has broadened the capabilities of the RSwn, but it still remains limited in comparison to its Cold War posture.

The RSwn is tasked with defending approximately 2000 nautical miles of coastline on the Baltic Sea, Bay of Bothnia, and the Skagerrak and Kattegat straits.<sup>79</sup> The Skagerrak and Kattegat straits provided a choke point for exiting Soviet naval forces at Kaliningrad, and the straits remain strategic access points for Russia today. Gotland Island is only 214 miles from Kaliningrad, which acts as a major strategic consideration in the development of Sweden’s sea denial strategy. The compact confines of the Baltic Sea remove the need for Sweden to invest in long range defensive weapons. Consequently, Sweden’s sea denial naval force—and shore based artillery—have limited operation ranges. Additionally, Sweden’s close proximity of the Skagerrak and Kattegat straits further diminishes the need for Sweden to invest in a blue water navy because it can provide naval protection using smaller coastal craft. Sweden’s geography—in conjunction with its threat perception—has had a significant influence on the development of its sea denial force.

#### (1) Cold War Force Structure

In 1990, the RSwn was at the height of its size and capability to employ a sea denial strategy. The basic approach developed in the 1958 Defense Bill remained mostly intact through the end of the Cold War—with the resurgence of ASW capabilities in the early 1980s after the ASW mission was de-scoped for a decade. The RSwn was designed for a sea denial strategy based on the employment of “fast attack craft with torpedoes and guided missiles, submarines, and defensive sea mines.”<sup>80</sup> There were two tactical components of Sweden’s sea denial force: the RSwn and the Coastal Defense Force. Both shared the goal of sea denial, but the Coast Defense Force owned weapon systems on sea and land, whereas the RSwn only had naval assets. In 1990, the RSwn consisted

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<sup>79</sup> “Sweden” CIA World Fact Book, <https://www.cia.gov/library/publications/the-world-factbook/geos/sw.html>.

<sup>80</sup> Granholm, “A Small Navy,” 171.

of around 12,000 sailors; slightly over half of the sailors were conscripts.<sup>81</sup> Additionally, the 1990 force had twelve diesel boats in their submarine force, but only one—a modernized *Nacken* class submarine—was outfitted with Air Independent Propulsion (AIP) technology that allowed it to remain submerged for three to four times longer than a conventional diesel submarine.<sup>82</sup> Each submarine was capable of carrying the TP-617 heavyweight torpedo and the TP-42 lightweight torpedo, and all of the submarines were capable of deploying sea mines.<sup>83</sup>

The RSwN surface forces consisted of forty-two patrol and coastal combatants, thirty-one mine warfare combatants, twelve small amphibious craft, and twelve support vessels. Of the forty-two patrol and coastal combatants, thirty-one retained Surface to Surface Missiles (SSM) and torpedoes.<sup>84</sup> Half of the patrol boats could carry up to eight RBS-15 SSMs, ASW mortars, and two or four torpedoes—depending on if it was outfitted for heavy weight or light weight torpedoes. The other half of the patrol boats carried six RBS-12 SSMs and ASW mortars.<sup>85</sup> The RBS-15 Mk2 SSM utilized by the Swedish fleet has a maximum range of 108 nautical miles and uses a guidance system that employs both an inertial navigation system (INS)—at launch—and a semi-active homing seeker in the terminal phase of its flight.<sup>86</sup> The RBS-15 is the most capable medium range threat Sweden has in its inventory, and variations have been modified to be based on shore. The Type 43 lightweight torpedo is wire guided with limited range and can only cause serious damage to smaller naval combatants and submarines.<sup>87</sup> The remaining Swedish patrol craft were lightly armed and only used in the immediate vicinity of the shoreline, whereas the patrol craft armed with SSMs and torpedoes could operate in extended portions of the Baltic Sea, Bay of Bothnia, and the Skagerrak and

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<sup>81</sup> “The Alliances and Europe,” *The Military Balance*, 90, no. 1 (1990): 93. doi: 10.1080/04597229008460019.

<sup>82</sup> *Ibid.*

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

<sup>85</sup> *Ibid.*

<sup>86</sup> “RBS-15” *Jane’s World Navies*, <https://janes.ihs.com/Janes/DisplayFile/JNWS0157>.

<sup>87</sup> “Swedish Navy Overview,” *Jane’s World Navies*.

Kattegat straits. The minesweeping component of the RSwN consisted of three minelayers and twenty-eight mine countermeasures ships—which are deployed to retrieve, deactivate, or safely detonate mines.<sup>88</sup>

The RSwN surface and subsurface forces are complimented with a modest naval air presence. Sweden owned one C-212 combat aircraft that specialized in ASW, and three helicopter squadrons with a total of fourteen aircraft outfitted to conduct ASW missions.<sup>89</sup>

The RSwN was reinforced by a sizable Coastal Defense force which consisted of 2,650 personnel, five artillery brigades, coastal patrol boats, and a minelayer squadron. The artillery brigades were broken up into sixty units that had anti-aircraft and coastal defense guns of both mobile and static variety, as well as SSMs—to include the RBS-17 *Hellfire*, RBS-08A, and the RB-52.<sup>90</sup> Naval assets included eighteen patrol craft, 144 small amphibious landing craft, nine coastal minelayers, and 16 inshore minelayers.

The RSwN had limited Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) capabilities during the Cold War. The Swedish fleet lacked the principle surface combatants to act as a hub for C2; rather, engagements were coordinated from the shore and executed tactically close to shore and other patrol craft—negating the need for a complex C2 suite in its patrol craft. The RSwN's ISR capabilities were constrained to its submarine force and naval air forces. Sweden's close proximity to Kaliningrad removed the need for advanced long range detection equipment, and Sweden lacked satellites to gain ISR on troop movements. Rather, Sweden relied almost entirely on frequent submarine patrols within the Baltic Sea as its primary means of naval ISR.

The assets of the RSwN and Coastal Defense force are designed with only a sea denial strategy in mind. The threat of submarines, SSMs, and mines spread across a large number of small platforms made the cost of invasion significantly high, and make it

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<sup>88</sup> “The Alliances and Europe,” *The Military Balance*, 90, no. 1 (1990): 93. doi: 10.1080/04597229008460019.

<sup>89</sup> *Ibid.*

<sup>90</sup> *Ibid.*

difficult to quickly neutralize the sea denial force less likely because of its dispersed structure. The combination of mobile platforms at sea and permanent and mobile weapon systems on land gave the relatively small RSwN a significant amount of defensive power within the limited confines of their coastal waters and slightly into the Baltic Sea, Bay of Bothnia, and the Skagerrak and Kattegat straits. A lack of blue water surface combatants and a diesel submarine fleet limited the range and time that the RSwN could operate away from Swedish shores, and this operational restriction inherent within the RSwN's Cold War force structure further solidified the sea denial strategy as the most pragmatic for Sweden.

## (2) Modernization and Downsizing Post-Cold War

After the end of the Cold War, Sweden made drastic changes to its naval force structure. With the perception that Russia was no longer a threat, the massive sea denial force was abandoned for a smaller, technologically advanced, and versatile force that could make limited deployments outside the immediate vicinity of the Baltics—something that was never done during the Cold War. The most dramatic change occurred as a result of the 2009 Defense Bill, which cut around 80% of the total naval force.<sup>91</sup> The resulting force structure is comprised of seven corvettes, seven mine hunters, four submarines, and four support ships. The Coastal Defense Force has been renamed the “Amphibious Battalion,” which only consists of 150 small combat boats and amphibious landing craft, one mortar platoon, and eight RBS-17 *Hellfire* SSM launchers.<sup>92</sup> Furthermore, conscription has ended and the new force is entirely volunteer based. The drastic cuts effected every part of the naval force structure, but the shift from investment in large numbers of small attack craft with SSMs and torpedoes to the slightly larger—and blue water capable—*Visby*-class corvettes signaled a deviation from sea denial to modest cooperative engagements overseas. Unlike the *Goteborg* or *Stockholm*-class corvettes, the *Visby*-class corvettes were built with hull-strengthening modifications that allow it operate outside of Sweden's near seas. Multiple *Visby*-class corvettes have

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<sup>91</sup> Granholm, “A Small Navy.” 174.

<sup>92</sup> Ibid.; “Europe,” *The Military Balance*, 116, no. 1 (2016): 144. doi: 10.1080/04597222.2016.1127564.

deployed to the Gulf of Aiden to aid in counter-piracy operations as a part of the EU Force's *Operation Atlanta*.<sup>93</sup> Moreover, the *Visby*-class of ships was made of lightweight carbon-fiber that was "designed to have minimal radar, acoustic, magnetic, hydrodynamic, electronic, visual, and infrared signatures," and allows it to operate even closer to shore than previous corvettes—while providing an additional ISR resource due to its difficulty to detect and extended range.<sup>94</sup> Although it is more seaworthy and stealthy than its predecessors, the *Visby*-class is armed with the same RSM15 SSMs and Type 43 torpedoes.

Without an existential threat, Sweden deprioritized its military spending, and the remaining force has been used to support EU and UN missions as a sign of solidarity. The RSwN contributed to counter piracy operations near the horn of Africa as a part of EU Naval Force in 2009, 2010, 2013, and 2015.<sup>95</sup> Although it is more than a symbolic force, Sweden's current naval force structure no longer has as credible a sea denial threat as it did at the end of the Cold War.

### (3) Returning to a Cold War Mindset?

Russia's annexation in the Crimea marked a turning point in Swedish Defense Policy. It was the event that enabled concerned military leaders to convince their political counterparts that a change in defense policy was necessary to account for increased Russian aggression in Europe and presence in the Baltics. Defense Minister Hultqvist listed concerns other than Crimea for Sweden to consider. The significant increase of strategic bomber patrols over the Baltics since 2011—the most since the Cold War—and a "steady increases in Russian military exercises and intelligence operations in the Baltic Sea region," over the last two years, which have grown in complexity and include all

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<sup>93</sup> "Swedish Navy Overview," Jane's World Navies.

<sup>94</sup> Ibid.

<sup>95</sup> Ibid.

military services, have caused fears to arise over Sweden's lack of preparedness for the possibility of invasion.<sup>96</sup>

The 2016 to 2020 Defense Policy calls for an 11% increase in defense spending, including two billion dollars in new spending in the RSwn.<sup>97</sup> The recently announced "Total Defense Concept" and approved procurements indicate that Sweden is returning to a sea denial strategy. The submarine fleet of four technologically advanced *Gotland*-class submarines will be expanded with two additional A26 submarines by 2022. The 2016–2020 Defense Policy report additionally called for increased investment in SSMs, minesweeping vessels, patrol boat life expansion, air defense capabilities, active cyber warfare capabilities, motorized battalions, and re-manning the Gotland island bases.<sup>98</sup> While the spending authorized will not return Sweden to its Cold War size, the increased technological abilities of the *Visby*-class corvettes and *Gotland*-class submarines will account for some of the loss—although the *Visby* is using the same SSMs that were on patrol craft in 1990, upgrades in torpedoes have been made and fielded on the *Visby* and *Gotland* platforms.<sup>99</sup>

Sweden is switching back to a sea denial strategy, but it is currently significantly less capable to perform the mission. The hallmarks of a sea denial force involve developing a strategy which makes attack considerably costly for the enemy through the use of a small and agile naval force that is dispersed and difficult to quickly defeat. Sea denial forces are difficult to defend due to an oversaturation of threats that come through waves of small attack crafts, shore based SSMs, submarines, and sea mines. Sweden's recent reinvestment in each of the key components of a sea denial navy proves that the

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<sup>96</sup> Peter Holtqvist, "Speech by Minister for Defense of Sweden Peter Hultqvist at Seminar Regional and Global Impact: The Changing Situation in Northern Europe and the Baltic Sea Area," Government Offices of Sweden, last updated September 25, 2015. <http://www.government.se/speeches/2015/09/speech-by-minister-for-defence-of-sweden-peter-hultqvist-at-seminar/>.

<sup>97</sup> "Sweden Defense Policy 2016 to 2020"; Gerard O'Dwyer "Sweden Invests in Naval Capacity, Baltic Sea Ops," *Defense News*, accessed March 15, 2016. <http://www.defensenews.com/story/defense/2015/03/20/sweden-invests-in-naval-capacity-and-baltic-sea/25093841/>.

<sup>98</sup> "Sweden Defense Policy 2016 to 2020."

<sup>99</sup> "Europe," *The Military Balance* (2016); 144.

pendulum has begun to swing back in the direction that the RSwN was built for during the Cold War.

#### (4) Concept of Operations: Deployments and Exercises

The RSwN routinely participates in regional military exercises in conjunction with NATO and EU Forces. The general theme behind many of these exercises is the same: repelling a foreign invasion into one of the states on the Baltic Sea through multilateral cooperation. This was the mission in the “Northern Coasts” exercise in 2013, “Open Spirit” in 2014, and the “Bold Alligator” exercise in 2014. Each of the exercises focuses on different elements of an anti-invasion scenario. “North Coasts” utilizes small coastal craft to defend shallow coastal waters, “Open Spirit” is a minesweeping exercise that routinely destroys leftover mines from WWII, and “Bold Alligator” focuses on amphibious operations that can be used to deter invasion.<sup>100</sup> Sweden’s presence in each of these exercises is relatively limited because numerous countries participate—including fourteen states in the “Northern Coasts” exercise alone—which caused the RSwN played a reduced role in the multinational effort.<sup>101</sup>

In addition to its multilateral exercises, the RSwN has deployed its *Visby*-class corvettes to help with counter-piracy efforts in the Gulf of Aden. Four *Visby*-class ships have deployed as a part of “Operation Atlanta” over three deployments since 2009—each deployment last three to four months.<sup>102</sup> Each of these deployments saw the RSwN integrate into a larger EU Forces force structure for the deployment.

The regular multinational exercises that the RSwN participates in reinforces the argument that any conflict in the Baltic Sea will most likely draw multinational defense efforts, but the exercises—and recent deployments—do not have explanatory powers when constructing CONOPS for an anti-invasion defense of Sweden only using Swedish

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<sup>100</sup> “Swedish Navy Overview,” Jane’s World Navies.

<sup>101</sup> “Northern Coasts 2013,” Swedish Armed Forces, Accessed May 13, 2016. <http://www.forsvarsmakten.se/en/about/exercises-and-events/completed-exercises-and-events/noco2013-eng/>.

<sup>102</sup> Swedish Navy Overview,” Jane’s World Navies.

forces. Rather, regular annual exercises called SWENEX, hone in on the training of each branch of the Swedish military for the unilateral defense of Sweden.

A notional defense scenario for the RSwN would start by using its submarines and ASW aircraft to provide early warning and intelligence of enemy movements while hunting enemy submarines well outside of the territorial seas of Sweden and closer to the embarking location of the enemy forces. The next line of defense is provided by the stealthy *Visby*-class corvettes distributed throughout the Baltic Sea or Bay of Botnia based on the movement of enemy forces. The *Visby* corvettes would use hit and run tactics utilizing its RBS15 SSMs and torpedoes to inflict damage, while using their speed and stealth to avoid detection. Within the littorals of Sweden, the RSwN's lightly armed patrol craft would mass and perform swarm tactics with artillery support from mobile garrisons on the shore. Additionally, minelayers would mine key approaches to strategic bases or cities to prevent or slow enemy progress. Each portion of the defense in depth that the RSwN constructions uses platforms that are small, fast, inexpensive, and difficult to detect—which makes the cost of losses on the Swedish relatively low, while maintaining the capability to score major losses to the enemy. In the case of using swarm tactics against an enemy carrier, the small missile boats retain the capability to sink or disable the expensive center of gravity of an invading force—like a carrier or large amphibious assault ship—while the financial and strategic loss of the individual corvettes or patrol craft remain low. Mining the approaches to key invasion objects has a similar effect of making the potential cost and risk high for the enemy, but low for the defending Swedish force.

***c. Comparative Significance of the Royal Swedish Navy***

The RSwN's Cold War force structure is a clear example of a navy built for sea denial. Sea denial—and “Area Denial”—capabilities do not necessarily mean that an A2AD strategy is being employed. In Sweden's case, A2AD was never a part its strategy because it never possessed the long range weapons required to prevent access to the region. The RSwN sea denial force was built around submarines, fast attack craft with SSMs and torpedoes, and defensive sea mines with the primary mission of preventing

Soviet invasion. The recent return to an anti-invasion and sea denial based mindset—as exemplified in the 2010 to 2020 Swedish Defense Bill—has resulted in investments into cornerstone technology of a sea denial strategy, like submarines, minesweepers, and SSMs. Thus, the Swedish naval model used during the Cold War provides the ideal archetype for developing a force based on the narrow strategic goal of sea denial. It is important to recognize that Sweden’s geographic constraints played a role in reducing the need for blue water surface combatants that might be necessary in a sea denial scenario for a state that has longer coastlines, more open access opportunities, and is not limited to the defense of a smaller bay or enclosed sea. Moreover, the close proximity to the other states on the Baltic Sea played a role in limiting the range of the RSwn’s weaponry and reducing the need for long range ISR capabilities. Despite the unique elements of Sweden’s defense situation, it still provides the best archetypal example of a naval force built specifically for a sea denial strategy.

## **2. French Navy (Marine Nationale): Power Projection**

By the middle of the 20th century, France’s economy, military, population, and territory were ravaged from the effects of two World Wars. Although France was on the winning side of both wars, the victories seemed to be Pyrrhic for the French. After years of being perceived as an undervalued power in Post-WWII Europe, France decided to pursue a defense force that could project power independent of NATO. Part of this decision was due to the growing Soviet conventional and nuclear threat—France believed it was not a big enough part of the decision making process in NATO. France’s colonial legacy provided additional reasons to build a power projection force. The 1950s and 1960s brought colonial defeats in Algeria and Indochina, as well as national embarrassment when the Suez crisis with British was settled through coercive diplomacy wielded by the United States. Each major defeat for France made it clear that it no longer possessed the military power that it did a half century earlier. The Suez crisis acted as a catalyst for a new direction in French strategic thinking and had major implications for France’s military force structure. France still has territories in South America, the South Pacific, near Southeast Africa, near Australia, and near North America. A power projection force was viewed as a necessity to keep the remaining territories in check after

losing Vietnam—and more importantly, Algeria. Although the majority of French political, economic, and militaristic concerns are confined to Europe, France continues to view itself as a state with limited global ambitions and global assets, which requires a global military presence to protect. *Jane's World Navies* states “The French Navy (Marine Nationale) is a well-equipped force and capable of projecting power around the globe.”<sup>103</sup> The goals and threats articulated by French leadership starting in the 1972 white paper, and continued through numerous strategic documents up the 2013 white paper, have resulted in a persistent call for the capability to project force globally—as will be discussed in greater length in the following section.

**a. Strategic Outlook of the French Navy**

Like Sweden, France has faced the ebb and flow of the Soviet—or Russian—threat since the end of WWII. Unlike Sweden, France no longer considers Russia as the central threat in its defense planning. The shift from a bipolar international system to a unipolar system—which France argues has shifted increasingly to a multipolar system—has led to major changes in France's threat perception. Even with the collapse of the Soviet Union, France's strategic naval goals have remained relatively consistent since its first white paper on defense was released in 1972. The evolution of France's defense policy is firmly rooted in the desire to maintain a strong autonomous force that is capable of defending France at home and intervening in global conflicts to protect French interests. Although France has maintained its status as part of the NATO alliance, it has had varying degrees of involvement with NATO. Furthermore, the more involvement France has with NATO, the smaller the naval force it is comfortable maintaining. France has built up power projection capabilities since the beginning of the Cold War, although power projection was not a defining role of French policy until the Cold War ended.

**(1) Strategic Outlook During the Cold War**

In the wake of WWII, France became one of the original members of NATO after signing the Treaty of Brussels in 1948. At the forming of the alliance, France sought to

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<sup>103</sup> “French Naval Overview,” *Jane's World Navies*, accessed March 16, 2016.  
<https://janes.ihs.com.libproxy.nps.edu/CustomPages/Janes/DisplayPage.aspx?ItemId=1322684>.

form a tripartite council with the Great Britain and United States, but it was rejected by the United States.<sup>104</sup> Additionally, France felt embarrassed by the American led international response to the Suez Canal Crisis. President Eisenhower banded together with the Soviet Union and United Nations in condemning the French, British, and Israelis for invading Egypt, and demanded that all troops withdraw—the British, Israelis, and French all complied. The Suez Crisis reinvigorated France's desire to be a great power and not relegated to a second rate and unequal partner to the United States.<sup>105</sup> France began to separate itself from the NATO military structure by banning American nuclear weapons from France in 1958—while continuing its own atomic program, which detonated its first homegrown atomic bomb in 1959.<sup>106</sup> France's military detachment to the NATO force structure culminated in 1966 when French President Charles de Gaulle announced his decision to completely pull out of NATO's integrated military command structure.<sup>107</sup> The departure from NATO is significant because it signaled France's commitment to pursue an independent nuclear and conventional deterrents despite facing the looming Soviet Threat. Furthermore, rather than investing in a smaller force that would integrate nearly exclusively into the larger NATO force structure, France developed a more capable force that could project power independent of allied support; thus, laying the groundwork to become an archetypal independent power projection force.

France's primary threat during the Cold War were the conventional and nuclear forces of the Soviet Union—as was the case for the entire set of Western alliances. During the 1960s, the recent history of invading forces coming from East and capturing large swaths of French territory weighed heavy in the decision to maintain formidable conventional and nuclear forces that were autonomous to NATO.<sup>108</sup> France's security

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<sup>104</sup> Pedro Fatjó Gómez and Guillem Colom Piella, "The Waning Power. An Analysis of Contemporary French Defense Policy," *Journal of the Spanish Institute for Strategic Studies*, no. 6 2015, November 3, 2015: 417.

<sup>105</sup> Michel Fortmann, David Haglund, Stéfanie von Hlatky, "Introduction: France's 'Return' to NATO: Implications for Transatlantic Relations," *European Security*, Vol. 19:1, 2010; 1.

<sup>106</sup> Gómez, "The Waning Power," 417.

<sup>107</sup> Fortmann, "France's 'Return' to NATO," 1.

<sup>108</sup> Ibid.

goals at the time of its departure from NATO's command structure were vaguely identified as remaining a great power with the ability to maintain an independent foreign policy—this stance was maintained until clear goals were articulated in the 1972 white paper. In 1972, France clarified the role and goals of its military when it stated the following priorities: “security of the French territory and its population, the participation in the security of Europe, security and defense of the Mediterranean front, and the compliance of the commitments with the countries in French-speaking Africa.”<sup>109</sup> Moreover, to achieve its goals, France required “a conventional force capable of delaying an atomic escalation, and a national nuclear force as last guarantor of the integrity of the country.”<sup>110</sup>

The French Navy had to prepare to counter the significant Soviet naval threat that possessed aircraft carriers, submarines, and a sizable blue water fleet that dwarfed the French Navy. At the height of the Cold War in 1980, the USSR had a naval force that surpassed the French Navy by over two hundred more submarines, one aircraft carrier, two-hundred and fifty principle surface combatants and three-hundred and fifty minesweepers.<sup>111</sup> The French responded to the Soviet threat by building a conventional force capable of delaying “atomic escalation” and an independent nuclear deterrent as a last resort to protect the French people.<sup>112</sup> The French navy would provide submarines capable of launching nuclear missiles as part of France's nuclear deterrence, and France's conventional naval forces were configured to project power—with a strategic focus on regional power projection and response to invasion from the east.

Adopting a regional power projection strategy meant that France was acquiring the capabilities to projection power globally, even if it was not the focus during the Cold War. The cornerstone platforms for power projection, aircraft carriers and large amphibious assault ships, can be used to project power anywhere—regionally or globally.

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<sup>109</sup> Gómez, “The Waning Power,” 419.

<sup>110</sup> Ibid.

<sup>111</sup> “The United States and the Soviet Union,” *The Military Balance*, 80, no.1, (1980), doi: 10.1080/04597228008459900. <sup>11</sup> “The Alliances and Europe,” *The Military Balance*, 80, no. 1 (1980), doi: 10.1080/04597228008459901, 25–26.

<sup>112</sup> Gómez, “The Waning Power,” 419.

Although France intended to use its power projection assets in a regional context during the Cold War, the collapse of the Soviet Union left France with a power projection force that was no longer constrained to be used primarily as a regional deterrent. Furthermore, France intended to keep a large conventional navy and would shift its strategy to use its navy to protect its interests globally.

In sum, France's Cold War strategic defense goals were to maintain strong autonomous nuclear and conventional forces. France maintained its alliance with NATO, but it reserved the right to choose what operations it would partake in while maintaining command of its troops. France's aim to remain a great power has led to the development of independent nuclear and power projection capabilities. The main goals of the French navy were to protect French territory, protect the Mediterranean, and protect Europe. The French navy's power projection capabilities were mostly intended to counter Soviet forces away from the French homeland in order to avoid the invasion scenarios the French faced in WWI and WWII.

## (2) Post-Cold War Shift in Strategy

The end of the Cold War led to a significant shift in France's naval strategy. Since the fall of the USSR, threats to France have become vaguer and more dispersed. France is no longer putting the vast majority of its resources toward one threat; rather, there are six situations that the 2013 French white paper identifies scenarios its military is built for, which include: A regional conflict that does not affect France but France is involved through a multinational organization and commits to use power projection forces, a regional conflict that does involve France where conventional forces and nuclear deterrence would be used, aggression against French overseas territories, limited military response to Sub-Saharan African conflicts, crisis management, and the resurgence of a threat to Western Europe.<sup>113</sup> France identifies balance of power dynamics in East Asia and the Middle East, the spread of transnational crime and terrorism due to failed states, and ambiguous Russian military intentions as specific threats that France intends to

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<sup>113</sup> Gómez, "The Waning Power," 422.

prepare for.<sup>114</sup> The 2013 white paper also identifies cyber-attacks, climate change, and Western decline in the global economic system as threats to Western primacy.<sup>115</sup>

The French made the use of selective intervention in conflicts that effect France's broader interests a key new tenant of their foreign policy. Gomez and Piella assert, "The intervention would be carried out within a multinational framework, as a projection of power with advanced weaponry and special operational forces, or as a projection of forces, with ground units."<sup>116</sup> Consequently, the French navy's primary goal would be to facilitate French power projection abroad. Moreover, France's nuclear deterrence capabilities were viewed as critical components of maintaining strategic independence, and the French Navy's role in providing deterrence assets through SSBNs would not change. Other key goals for the French Navy include protection of French territory overseas, crisis management and imposition of peace, and response to threats against Western Europe.<sup>117</sup> Defending French territory overseas especially lends itself to maintaining a power projection force since France still has eleven overseas territories that span the globe including: French Guiana in South America, French Polynesia in the South Pacific, the Réunion Island near Southeast Africa, and other various islands in the south Pacific Ocean and Caribbean. The attack on the British Falkland Islands off the coast of Argentina only further solidified France's concern over the potential for a distant conflict on its island territories and reconfirmed the need to maintain power projection capabilities.

### (3) Modern Strategic Outlook

The lack of a clear primary threat after the end of the Cold War has led to strategic ambiguity in setting strategic goals, force planning, and defense budgeting. France has seen a gradual decline in its defense budget since the end of the Cold War.

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<sup>114</sup> François Hollande, "2013 French White Paper on Defense and National Security." July 2013. <http://www.rpfrance-otan.org/White-Paper-on-defence-and>, 35–37.

<sup>115</sup> Ibid., 42–44.

<sup>116</sup> Gómez, "The Waning Power," 421.

<sup>117</sup> Ibid., 422.

Increases in defense spending only occurred in reaction to terrorist attacks at home.<sup>118</sup> Europe is in a uniquely peaceful and stable position that has made justifying a substantial military component difficult. Consequently, since 1990, the French Navy has been surpassed by Japan and China—and remains behind the United States, Russia, and UK—in total tonnage of naval forces.<sup>119</sup> France remains in a position where budget cuts loom as major threat to the viability of maintaining a global power projection force. The French Navy has responded globally by sending its carrier and amphibious assault ships to assist NATO action in Syria and Afghanistan, but its shrinking force has dwindled to a size that makes sustaining global power projection naval force nearly impossible.

France's policy to maintain an independent conventional power projection force has been hindered by budgetary constraints. There is currently a forty-five billion dollar gap in past budgetary plans and current budgetary constraints.<sup>120</sup> As a result, French can no longer afford to procure a second aircraft carrier or a fourth Mistral-class amphibious assault ship. The recent Charlie Hebdo and Paris terrorist attacks led to increased funding for the military budget of around three billion dollars a year. Despite former French Navy Chief of Staff Jean-Louis Battet's clear declaration that "As for power or force projection, it has become, from now on, the main function of the traditional forces which have to be ready to act in co-operation with other Services, most of the time in a multinational context, and, if need be, a long way from the homeland," lack of funding has driven the French Navy to a point where current Navy Chief of Staff Bernard Rogel assessed the fleet size as "sufficient but just barely."<sup>121</sup> The modern French Navy has reached a point where it is able to complete its power projection mission, but is at the threshold of losing that capability.

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<sup>118</sup> "Europe," *The Military Balance*; 62.

<sup>119</sup> Brian Benjamin Crisher and Mark Souva, "Power at Sea: A Naval Power Dataset, 1865–2011," *International Interactions*, 40, no.4 (2014), doi: 10.1080/03050629.2014.918039: 616.

<sup>120</sup> Fouchaux, "French Hard Power."

<sup>121</sup> Jean-Louis Battet, "The French Navy in the 21st Century," *NATO's Nations and Partners for Peace*, no. 3 (2001) <http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/274655595?accountid=12702>; Fouchaux, "French Hard Power."

Despite growing budgetary constraints, France has not reduced the scope of its military goals. A 2013 white paper identified protection, deterrence, and intervention as France's primary military goals.<sup>122</sup> The French Navy is charged to maintain the nuclear deterrence ability while "They will also have the capacity to undertake high-intensity or major-crisis operations thanks to their high-level, multi-purpose combat capabilities with powerful and accurate firing systems, easily integrated in multi-national operations, and with the ability to assume command of such operations."<sup>123</sup> The key to conventional French naval strategy is based around their aircraft carrier and "force projection and command vessels"—three Mistral-class amphibious assault ships.<sup>124</sup> All four vessels of these power projection platforms have been built since 2000 and represent the most state-of-the-art technology France has designed to project power abroad. France's reintegration into NATO's command structure in 2009 was viewed by French leadership as a means to ensure that the French had a role in any international military involvement led by NATO. Moreover, the French Navy has increasingly been utilized as a power projection force in NATO operations globally, including Operation Chammal against ISIS in Syria and Iraq in 2015 and Operation Enduring Freedom against Al-Qaeda in Afghanistan numerous times since 2001. Consequently, France's increasing role as a NATO power projection asset is being used to justify future investment into power projection capabilities.

***b. French Navy Force Structure and Concept of Operations***

The French Navy's force structure has two main components: the nuclear force and the conventional force. France views each component as a critical piece of their autonomous defense policy, which can be exercised through global intervention if needed. Although the French force structure has varied in size, its main pieces have remained the same. France is unique in its desire to maintain a strong military force with capabilities to act independently of the NATO command structure, although it has recently reintegrated in to NATO's military structure.

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<sup>122</sup> Holland, "2013 French White Paper," 125.

<sup>123</sup> Ibid., 91.

<sup>124</sup> Ibid.

## (1) Cold War Structure

During the Cold War, France's main strategic goals for the navy were deterrence, atomic de-escalation, and defense of France and Western Europe. Many France's naval assets during the Cold War imply a power projection strategy, but in a time where sea control was contested, France's Naval Force structure was more about obtaining sea control than about power projection. NATO and the Soviets were in constant competition for control of the sea—which is required prior to being able to project power.

At the end of Cold War, France's Navy had grown to include two *Clemenceau*-class aircraft carriers—each capable of embarking forty fighter aircraft.<sup>125</sup> Additionally, France had five amphibious ships capable of delivering 350–500 troops and their equipment ashore, with another five amphibious ships capable of delivering 150 troops and their equipment ashore.<sup>126</sup> The French blue water forces included two cruisers, five destroyers, and thirty-five frigates.<sup>127</sup> France also maintained twenty-three minesweepers. The conventional naval force was complimented with six SSBNs and fourteen attack submarines.<sup>128</sup>

The notional employment of naval force during the Cold War was meant to be used as far away from the French homeland as possible. Although previous invasions of France had been over land through Germany and Belgium, the French intended to use its navy to draw Soviet forces away from such an action by providing a credible amphibious power projection threat in the Mediterranean. The French submarines would be used to clear the area of attack prior to amphibious operations, the principle surface combatants would provide air defense for the aircraft carriers, the aircraft carriers and amphibious assault ships would strike soviet forces ashore, and the minelayers would be used as a last effort to deter or slow invasion from the sea by mining the approaches to strategic ports and beachheads. Even at its peak, the French Navy would not have been able to take the Soviet forces in conflict. Rather, the conventional French naval forces were meant to act

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<sup>125</sup> "The Alliances and Europe," *The Military Balance*; 64.

<sup>126</sup> Ibid.

<sup>127</sup> "The Alliances and Europe," *The Military Balance*; 64.

<sup>128</sup> Ibid.

as an additional conventional deterrent independent from NATO and to slow the Soviet rate of advance until a decision could be made on the use of France's nuclear forces.

It is crucial to recognize that the force structure and policy goals are tightly linked. Although the platforms France possessed during the Cold War could be used for offensive purposes, they were intended for defensive purposes in the Cold War context.<sup>129</sup> The French did not intend to go on a colonial offensive around the world, or start a war with the Soviets. France intended used its large power projection force to draw the Soviets away from the French homeland if it feared that an invasion was about to occur, and the employment of its navy acted as a escalatory step toward the use of France's independent nuclear forces. Like today, France reserved the autonomous capability to use its navy in foreign intervention scenarios during the Cold War, but it was connected to its atomic de-escalation, containment, and colonial policy goals. Furthermore, the French Navy was a part of the larger NATO structure that aimed at obtaining sea control. It is difficult to discern whether a force is being built for offensive or defensive reasons since naval platforms can usually be used for both, but France's Cold War policy goals show that the primary purpose of the French fleet was not power projection—although it was capable of projecting power if sea control was ever gained.

## (2) Post-Cold War Downsizing

In order to be able to project power, a navy must have sea control first. France has enjoyed America's unchallenged power since the end of the Cold War because it provides the maritime security apparatus which has allowed for the United States and its allies to freely project power since the end of the Cold War. The lack of a significant challenger to sea control has allowed U.S. allies to downsize their navies while maintaining the freedom to maneuver globally under the security apparatus provided by U.S. Navy. In France's case, it has maintained the ability to project power globally with a force that would have only afforded limited regional power projection during the Cold War. Despite cutting the size of its naval manning and equipment in half, France has repeatedly used its navy to project power abroad in support of NATO operations.

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<sup>129</sup> Gomez, "The Waning Power," 420.

The *Charles de Gaulle* aircraft carrier is the center of France's force projection capability and can complement up to forty *Super Etendard* or *Rafale* fighter aircraft.<sup>130</sup> Additionally, France has three *Mistral*-class amphibious assault ships (LHDs)—which it calls helicopter carriers—that can support 16 helicopters and a marine detachment of 450 troops each.<sup>131</sup> The *Mistral*-class LHDs can also deliver equipment ashore through a well deck that can be configured to hold 2 LCACs, 4 LCMs, 13 MBTs, or 50 AFVs.<sup>132</sup> The *Charles de Gaulle* and the *Mistral*-class LHDs serve as the C2 hubs during strike group operations. Additionally, the *Charles de Gaulle* can embark E2-C *Hawkeye* aircraft that acts as an C4ISR asset because of its extended radar ranges, communication relaying abilities, airborne early warning for missiles up to 100nm away, and the capability to relay over the horizon contact tracks back to the fleet through Link-16.<sup>133</sup> The *Hawkeye* significantly boosts the strike groups C4ISR capabilities, but the French Navy only has three of the planes in service—limiting their ability to deploy multiple strike groups.

France's blue water navy also comprises of eleven destroyers and eleven frigates which all possess the capability to launch Surface to Air Missiles (SAMs) and SSMs, and they can embark helicopters. Many of the blue water ships are equipped with the outdated SM-1MR Block VI SAMs (ancient missiles that can even be found on the Iranian *Kaman*-class Fast Attack Craft) and are only capable of self-defense—limiting the scope of the French blue water fleet's ability to defend a carrier. Only the new *Aquitaine*-class frigates possess the formidable *Aster 15* and *Aster 30* SAMs that are capable of point and area defense for the carrier.<sup>134</sup> Additionally, the French Navy uses outdated Exocet MM40 Block 3 SSMs on all of its blue water ships. The MM40 has a 99 nautical mile range with an active radar seeker, but is nowhere near as formidable as newer SSMs—like the DF-21 or the SSN-27.<sup>135</sup> The French navy recognized its SSM shortcomings, but canceled its next generation SSM program in favor of the acquiring more MM40s

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<sup>130</sup> "Europe," *The Military Balance*; 96.

<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

<sup>133</sup> "E-2 Hawkeye," *Jane's World Navies*, <https://janes.ihs.com/Janes/DisplayFile/JAWA1381>.

<sup>134</sup> "French Naval Overview," *Jane's World Navies*.

<sup>135</sup> "French Naval Overview," *Jane's World Navies*.

because of budget constraints. France has largely relied on its multi-national partners to help provide area defense and surface defense due to its aging inventory of SAMs and SSMs.

The French Navy maintains a sizeable minesweeping force of eighteen vessels—which is viewed as a critical component of power projection in case the fairways to the beach have been mined.<sup>136</sup> The strategic submarine fleet has decreased slightly from six to four SSBNs since 1990, but the SSN fleet of attack submarines has shrunk from fourteen to six boats.<sup>137</sup> After the collapse of the Soviet Union—and subsequent decline of the Russian fleet—France could maintain its power projection capabilities without investing in fast attack submarines because the enemy submarine threat had shrunk dramatically. The tradeoff is that the French submarine fleet accounted for a large portion of the navy’s ISR capabilities, which have not been replenished after the retiring of the most of the French submarine fleet. France is now more reliant on its NATO allies to provide ISR capabilities during operations. The French Navy also gains ISR from two shore based *Atlantique 2* maritime patrol and reconnaissance aircraft (MPRA), but they have a 600nm range that restricts their use for regional operations. Additionally, the French Navy has eight *Falcon 50* shore based MPRA that have an extended 2,700nm round trip range, which can provide ISR outside of the immediate region.<sup>138</sup>

The purpose of a power projection naval force is to parley sea power to land attack. As Hughes argued, “the seat of power is on land.” France has constructed a force that is able to strike from the sea through the use of aircraft carriers; clear paths to the shore with destroyers, frigates, and minesweepers; and deliver troops and their equipment ashore with amphibious assault ships.

### (3) Concept of Operations

During the 2015 “Operation Chammal,” the French Navy deployed the *Charles de Gaulle* aircraft carrier to aid in the fight against ISIS in Iraq and Syria. The *Charles de*

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<sup>136</sup> “Europe,” *The Military Balance*; 96.

<sup>137</sup> Ibid.

<sup>138</sup> “French Naval Overview,” *Jane’s World Navies*.

*Gaulle* was complimented by a fighter wing and an *E-2C Hawkeye*. The *Horizon*-class destroyer *Chevalier Paul* and the *Lafayette*-class frigate *Jean Bart* accompanied the carrier and provided area air defense and surface defense. Additionally, two *Atlantique 2* MPRA were deployed to provide ISR and one submarine accompanied the strike group. The size of the French fleet was relatively small compared to an U.S. carrier strike group, but the French were acting in concert with the United States and other NATO allies during the deployment. *Operation Chammal* gives a good insight into the notional strike group force that the French Navy would deploy engaging in power projection missions. If it was acting alone it could be expected that more frigates or destroyers would accompany the strike group, and more land based ISR aircraft—like the *Falcon 50s*—would also be utilized. Thus, a notional power projection strike group for the French would include an aircraft carrier or LHD, three to four destroyers or frigates, a submarine, at least two land based MPRA for ISR, and at least one *E-2C Hawkeye* for C4ISR.

**c. Comparative Significance of the French Navy**

The size of the power projection force varies based on the size of the threat. The lack of substantial state-to-state conflict in Europe since the fall of the USSR has resulted in a shrinking French naval force structure. France has a strong desire to maintain its legacy as a great power with global power projection capabilities, but it is slowly losing the funding to be able to maintain a naval force that can meet the goals of the government. The forty-five billion dollar gap between original procurements and what the government can currently afford has resulted in a significant challenge to the French Navy's ability to sustain power projection missions year round. Current French Navy Chief of Staff Rogel's assessment that France's navy is just barely sufficient to sustain the power projection mission gives significant insight to what minimal force structure must be maintained to be considered capable of power projection. France has invested in maintaining a carrier, amphibious assault ships, sea based fighter craft, minesweepers, and a blue water navy. The assets that French Navy has prioritized serve as an example of what a state seeking to build a power projection force would invest in first to establish the minimum force required to project power abroad. Thus, in trying to determine if a

regional power has power projection aspirations, it can be compared to France since the French Naval force structure provides the minimum capabilities required to complete the task.

### **3. Japanese Maritime Self Defense Force: Sea Lines of Communication Defense**

The Japanese Maritime Self Defense Force (JMSDF) operates within an unusual set of limitations based on legal constraints embedded in Article 9 of Japan's constitution. Multiple constitutional "reinterpretations" have led to the gradual normalization of the JMSDF in certain aspects, but the JMSDF is constantly adapting to the changing limitations and mission sets that it is assigned. Despite its pacifist constitution, the JMSDF is the fourth largest navy in the world based on gross tonnage—only behind the United States, Russia, and China.<sup>139</sup> The growing size and capability of the JMSDF is directly linked to its dependence on sea going trade. *Jane's World Navies* argues, "As a maritime island nation, Japan is dependent on its sea lines of communication (SLOC) for trade...The JMSDF is empowered with the country's most fundamental mission-to defend Japan from maritime invasion and secure the safety of maritime traffic around Japan."<sup>140</sup> With 90% of its oil shipped from the Middle East and 60% of Japan's food imported, SLOC defense is a central mission of the JMSDF.<sup>141</sup>

#### **a. Strategic Outlook of the JMSDF**

Japan's strategic goals for the JMSDF have wildly varied on the international political environment and the status of Japan's military relationship with the United States. The predictable nature of the Cold War was replaced by a less predictable regional environment starting in the early 1990s. Japanese defense goals have evolved to meet the growing regional threats, while making new partnerships to ensure the safe flow of trade to the island nation. Japan's prioritization of SLOC defense began in the Cold War and is

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<sup>139</sup> Crisher "Power at Sea," 616.

<sup>140</sup> "Japanese Navy Overview," *Jane's World Navies*, accessed November 25, 2015. <https://janes.ihs.com.libproxy.nps.edu/CustomPages/Janes/DisplayPage.aspx?ShowProductLink=true&ItemId=1322704>.

<sup>141</sup> Ibid.

still the main priority of the JMSDF. Retired U.S. Naval Captain Bernard Cole asserts, “seaborne shipping carries 99.7 percent of the nation’s overall trade, and as stated by one Japanese analyst, ‘the maritime highway along the Eurasian rim literally constitutes the lifeline of the Japanese economy.’”<sup>142</sup> Japanese security policy has been limited to a defensive posture since the ratification of its constitution in 1947, but protection of trade was quickly clarified as a matter of national security as defense of Japanese livelihood and it was incorporated as the primary mission of the JMSDF.

#### (1) Strategic Outlook During the Cold War

In 1947, Japan enacted a new constitution written by staff members of the Supreme Commander for the Allied Powers. Article 9 of the constitution “prohibits Japan from maintaining ‘war potential’ and renounces Japan’s ‘right of belligerency.’”<sup>143</sup> Japan found itself in the unusual situation of being unable to raise and maintain an army, navy, or air force shortly after it had possessed the regions strongest military. Japan’s right to build a “Self Defense Force” was soon clarified as a means to compliment the broader security support Japan would receive from the United States until Japan could afford to increase its own contributions to supplying its defense.<sup>144</sup> Prime Minister (PM) Shigeru Yoshida came up with the doctrine that would dominate Japanese security policy for nearly half a century and still resonates today. Yoshida favored an alliance with the United States where Japan would have a “nonaggressive, low-cost postwar Japan security policy,” which would make them an “attractive trading partner.”<sup>145</sup> Yoshida’s plan faced criticism for being too pacifist by nationalists and not pacifist enough by the socialists, but it provided a pragmatic middle ground. Reliance on the United States for security became entrenched in 1960 when PM Kishi renegotiated the Treaty of Mutual Cooperation and Security and guaranteed significant U.S. base presence indefinitely—until the treaty was renegotiated or abandoned. The new consensus that Japan would be a

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<sup>142</sup> Bernard D. Cole, *Asian Maritime Strategies: Navigating Troubled Waters* (Annapolis, Maryland: Naval Institute Press, [2013]): 71.

<sup>143</sup> Samuels, Richard J. *Securing Japan: Tokyo’s Grand Strategy and the Future of East Asia* (Ithaca: Cornell University Press, 2007), 33.

<sup>144</sup> *Ibid.*, 41.

<sup>145</sup> *Ibid.*, 29, 41.

“non-nuclear, lightly armed, economic superpower” was widely accepted as a compromise among politicians.<sup>146</sup>

In 1949, the U.S. National Security Council determined that a Soviet proxy war in Japan was a likely enough possibility to justify maintaining a sizeable U.S. troop presence in Japan.<sup>147</sup> Furthermore, Japan would provide a strategic location and “unsinkable aircraft carrier” for the United States to use in response to regional security in Asia. The 1960 Treaty of Mutual Cooperation and Security solidified the U.S.-Japan alliance and the Soviet bloc would remain the primary threat to Japan through the end of the Cold War. The biggest threat the Soviets posed for Japan was destruction of shipping and invasion. The U.S. military presence on bases around Japan made invasion highly unlikely, but attacks on shipping was a realistic and probable threat if a hot war broke out in the region. Yoshihara and Holmes assert, “Japan’s Cold War maritime strategy was very limited in scope, predicated as it was on a few core competencies. In particular, the Soviet submarine menace in the Pacific compelled Japanese planners to focus almost exclusively on antisubmarine warfare (ASW) and to adhere rigidly to sea lane defense.”<sup>148</sup> Japan’s limited security goals and threats led it to form small specializations in the ASW and SLOC defense.

The 1973 oil crisis “conclusively demonstrated Japan’s dependence on the SLOCs.”<sup>149</sup> Although the 1973 oil crisis was caused by restricting supply, future conflicts—like the Iran-Iraq tanker war—would lend credence to arguments for building a SLOC defense fleet. Moreover, Expanded Soviet activity in East Asia led the United States to push Japan to be a more active member of the alliance.<sup>150</sup> Consequently, the JMSDF area of operation limits were extended based on a 1978 agreement with the U.S. Pacific Fleet, and in 1982 both national governments formalized the JMSDF’s

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<sup>146</sup> Ibid., 35.

<sup>147</sup> Samuels, *Securing Japan*, 40.

<sup>148</sup> Yoshihara, “Japan’s Emerging Maritime Strategy,” 30.

<sup>149</sup> Cole, *Asian Maritime Strategies*, 65.

<sup>150</sup> Hyun Wook Kim, “Security Culture and the Post-Cold War Japanese Security Policy,” *The Korean Journal of Defense Analysis*, 23, no. 1 (2011): 93.

operational commitments to defend SLOCs up to 1,000 nautical miles from Japan.<sup>151</sup> The new 1,000 nautical mile radius validated the need for a capable blue water fleet, and the JMSDF provided continued investment into building advanced destroyers. Toshi Yoshihara and James R. Holmes argue,

Japan's Cold War maritime strategy was very limited in scope, predicated as it was on a few core competencies. In particular, the Soviet submarine menace in the Pacific compelled Japanese planners to focus almost exclusively on antisubmarine warfare (ASW) and to adhere rigidly to sealane defense. By the 1980s the MSDF's niche capability in ASW filled a serious gap in the U.S. Navy's warfighting capacity while dovetailing fully with the American strategy of containing Soviet naval power.<sup>152</sup>

Japan's narrow security goals of SLOC defense and limited ASW contributions to the U.S. alliance efforts made the Cold War policy relatively simple. It was not until the conclusion of the Cold War that the East Asian region became a rapidly changing security environment with new players and sources of instability, which would lead Japan to formulate a new maritime strategy by 1995.<sup>153</sup>

## (2) Initial Post-Cold War Strategy Changes (Gulf War to 2000)

The end of the Cold War was a “Big Bang” for the global security architecture, and it led to new security challenges in East Asia.<sup>154</sup> North Korea made significant strides in its pursuit of nuclear weapons as an alternative security path, which became known to Japan after The United States discovered the extent of North Korea's nuclear plans in 1993. The subsequent test of a North Korean missile through Japanese air space in 1998, presented North Korea as the central threat in Japanese defense policy—and “provided a ‘reasonable excuse’ for Japan to expand its military.”<sup>155</sup> The near-singular focus on ASW during the Cold War has shifted to include BMD and expanded maritime

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<sup>151</sup> Ibid., 64

<sup>152</sup> Toshi Yoshihara and James R. Holmes, “Japan's Emerging Maritime Strategy: Out of Sync or Out of Reach?” In *Comparative Strategy* 27, no. 1 (Jan, 2008): 30.

<sup>153</sup> Cole, *Asian Maritime Strategies*, 66.

<sup>154</sup> Samuels, *Securing Japan*, 65.

<sup>155</sup> Ibid., 67.

defense in national strategy.<sup>156</sup> Japan further expanded its defense goals in the 1995 National Defense Program Outline (NDPO), which allowed the SDF to protect “areas surrounding Japan...which have important influence on national peace and stability.”<sup>157</sup> The 1995 NDPO policy was included in the 1997 U.S.-Japan Defense Cooperation Guidelines, although neither document defined what “areas surrounding Japan” meant.<sup>158</sup>

Consequently, changes in the Post-Cold War era broadened the role of the JMSDF to include a strong BMD role in addition to SLOC defense, which complicates the purity of using Japan as an archetypal SLOC defense case. However, to complete the BMD mission, Japan used the same destroyer platforms it was investing in for SLOC defense, but it added BMD capabilities to its destroyers—making them multi-mission capable and identifiable based on their technological load out. In China’s case, it can be observed that if China is building a fleet of destroyers similar to Japan’s, but without the BMD capabilities, then China’s force structure would resemble Japan’s SLOC defense fleet.

After an embarrassing response to the first Gulf War, the Japanese Diet passed the International Peace Cooperation Law in 1992, which eased the restrictions on approving overseas deployments and involved the JMSDF in UN PKOs around the world. Furthermore, By the end of the 1990s, Japan entered into trade and security agreements with numerous states along the SLOCs that Japan depended on, including: Brunei, India, Indonesia, Malaysia, Singapore, and Thailand.<sup>159</sup> During the 1990s, Japan’s military goals and strategy continued to expand to take on a broader protection of Japan’s interests in the region. Maintaining free and secure SLOCs was at the center of the expansion as Japan faced an increasing number of regional threats—most notably North Korea. This gradual normalization accelerated after the attacks on the United States on 9/11.

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<sup>156</sup> Yoshihara, “Japan’s Emerging Maritime Strategy,” 29.

<sup>157</sup> Cole, *Asian Maritime Strategies*, 62–63.

<sup>158</sup> Kim, “Security Culture,” 94.

<sup>159</sup> Yoshihara, “Japan’s Emerging Maritime Strategy,” 31.

### (3) Modern Strategic Outlook (2001-2016)

After the terrorist attacks on September 11, 2001, Japanese PM Koizumi authorized deployment of the JMSDF to the Arabian sea to support refueling missions, and continued to do so until 2010.<sup>160</sup> Japan continued to order the JMSDF to partake in international military missions, including the 2005 deployment to Indonesia in support of tsunami relief—its largest military deployment since WWII.

Based on the 2004 Defense Program Guidelines, Cole asserts, “The essence of the new maritime strategy is twofold. The first aspect is defense of regional SLOCs, perhaps best defined by a triangle, the points of which are Tokyo, Guam, and Taiwan...Second, the JMSDF is tasked with fulfilling responsibilities under the mutual defense treaty with the United States.”<sup>161</sup> Humanitarian Aid and Disaster Relief (HA/DR) missions are viewed by the Japanese government as opportunities to strengthen alliances with key states along SLOCs, as well as a justification to expand the JMSDF’s amphibious fleet. Defense of the SLOCs remains Japan’s most difficult challenge because it depends on trade that enters through the distant Strait of Hormuz and Strait of Malacca. Having to protect shipping thousands of miles away requires both a strong blue water fleet, submarines to provide security, and the support vessels to regularly replenish the blue water fleet. Competition over ownership of various Spratly Islands has the potential to effect the free flow of trade through the South China Sea, further complicating the SLOC defense mission for the JMSDF. Moreover, unlike HA/DR missions that serve mostly to strengthen alliances, the SLOC defense mission is critical to Japan’s livelihood.

The 2011 Fukushima disaster further aided the expansion of amphibious forces—which can be used as command and control during conflict or as a forward sea base during HA/DR missions—as well as the importance of SLOC defense, since Japan’s reliance on foreign oil is likely to increase after concerns of nuclear power were raised.<sup>162</sup>

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<sup>160</sup> Cole, *Asian Maritime Strategies*, 63.

<sup>161</sup> Cole, *Asian Maritime Strategies*, 66.

<sup>162</sup> *Ibid.*, 67–68.

Expanded HA/DR and SLOC defense capabilities are being used by Japan as justification to expand the size and capability of the JMSDF in a peaceful and defensive context.

China's growing military strength and ambiguous intentions is another rising security threat to Japan and a source of changes to Japan's military policy. Cole argues, "Tokyo's concerns about China as a military threat to Japanese security are clear. They are the most evident in the goal of increasing the ability to defend the Senkakus, but they are also notable in the complain about Beijing's lack of transparency regarding the compositions and missions of its military."<sup>163</sup> Bhubhindar Singh states that China's military has been growing in "lockstep" with its economy and asserts,

Although China is still a distant second after the United States in the list of top spenders on defense, the Chinese defense budget dwarfs Japan's. Based on figures from the Stockholm International Peace Research Institute, China's defense budget for 2013 was almost \$189 billion, whereas Japan's budget was only \$50 billion.<sup>12</sup> The disparity is also evident from a comparison of the rates of increase in the two countries' defense budgets for the period 2003–13: while Japan's defense budget increased by 5%, China's rose by a staggering 270%.<sup>164</sup>

The 2014 NDPG identified China's military expansion as a concern for regional and global security since China has been "rapidly expanding and intensifying its activities in waters and airspace, showing its attempts to change the status quo by coercion."<sup>165</sup> Increased economic ties between Japan and China toward the end of the Cold War played an important role in normalizing relations between both countries and forming mutually beneficial economic interconnectedness. However, both countries have expressed concern over each other having expanded leadership roles in regional security and diplomacy.<sup>166</sup>

China's expanding A2AD capabilities provide a significant threat to denying access to SCLOS and includes "a large number of highly accurate ballistic missiles, high

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<sup>163</sup> Ibid., 70

<sup>164</sup> Singh, "Security Identity," 57.

<sup>165</sup> "National Defense Program Guidelines for FY 2014 and Beyond (Summary)," 2.

<sup>166</sup> David Shambaugh, "China Engages Asia: Reshaping the Regional Order," in *International Security*, 29:3 (2005): 95.

quality anti-ship cruise missiles, submarines, sophisticated long-range air defense systems, and counter-C4ISR (command, control, communication, computer, intelligence, surveillance, and reconnaissance) capabilities, including counter-space, electronic warfare cyberwarfare, and anti-radiation systems.”<sup>167</sup> A 2015 RAND analysis of potential conflict in 2017 within the Taiwan strait between the United States and China shows that China has parity or an advantage in maintaining air supremacy and anti-surface warfare, which gives China medium confidence for success over the United States—a shift from the low confidence in victory expected in 2010.<sup>168</sup> Although RAND assessed a long-range engagement scenario in the Spratly Islands between the United States and China as a low likelihood of victory for China, it has still made relative gains in past twenty years that are leading it toward parity in more aspects of battle.<sup>169</sup> China’s growing blue water fleet and denial capabilities give it the capability of blocking access to key SLOCs that are vital to Japan’s economy, and not even the United States is capable preventing the Chinese from doing so in some scenarios. Moreover, SLOC defense is becoming even more critical for the JMSDF, as is countering China’s long range A2AD technology.

Although the diversity of threats has grown since the end of the Cold War—to include shifting regional balance of power resulting from decreasing U.S. relative power in the region; cyber-attack; “gray zones” of territorial, economic, maritime, and sovereignty disputes; and piracy and illegal unilateral acts of coastal states that infringe on freedom of the high seas—Japan’s primary strategy for its JMSDF remains consistent. Japan’s 2014 NDPG exhibited the same dominant goal as the 1995, 2004, and 2009 reports: “As a maritime state, enhancing “Open and Stable Seas” and securing the safety of maritime and air traffic constitutes the foundation of the peace and prosperity of

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<sup>167</sup> RAND Corporation, “The U.S.-China Military Scorecard: Forces Geography, and the Evolving Balance of Power 1996–2017,” 2015; 4. [http://www.rand.org/content/dam/rand/pubs/research\\_reports/RR300/RR392/RAND\\_RR392.pdf](http://www.rand.org/content/dam/rand/pubs/research_reports/RR300/RR392/RAND_RR392.pdf)

<sup>168</sup> RAND Corporation, “An Interactive Look at the U.S.-China Military Scorecard,” Accessed May 14, 2016, <http://www.rand.org/paf/projects/us-china-scorecard.html>.

<sup>169</sup> Ibid.

Japan.”<sup>170</sup> Japan’s critical role in regional SLOC defense was also emphasized in the 2012 “U.S.-Japan Joint Statement on Global Supply Chain Security,” which recognized the important role that supply chains played in the global economy and “outlined ways to cooperate more closely to strengthen the security and resiliency of the global supply chain and promote the timely, efficient flow of legitimate commerce.”<sup>171</sup> The JMSDF’s modern goals are not limited to SLOC defense, but it is this the most critical to Japan’s security. Furthermore, in 2015 Japan passed legislation that allowed for collective self-defense in situations that could eventually pose a threat to the Japanese people—a major step toward normalization.<sup>172</sup>

**b. JMSDF Force Structure and Concept of Operations**

The small and constrained JMSDF force structure that emerged at the beginning of the Cold War has grown tremendously into a formidable fighting force and one of the world’s largest naval powers. Although constitutional constraints prevent the JMSDF from performing certain missions and procuring specific weapons systems, the slow normalization of the JMSDF has allowed it to assume many of the capabilities of the world’s strongest navies. *Jane’s World Navies* asserts that Japan “retains strengths in anti-submarine warfare (ASW), anti-air warfare (AAW), anti-surface warfare (ASuW), mine warfare, ballistic missile defense (BMD), electronic warfare, surveillance, transport/escort, and search and rescue (SAR). The JMSDF also possesses an aviation component that comprises fixed-wing aircraft and various rotor craft.”<sup>173</sup> In fifty years, Japan transformed from a gunboat defense force to a regional maritime power. The JMSDF has only expanded from 42,000 personnel in 1980 to 45,500 in 2016, but its technological capabilities have grown far more significantly and allow the JMSDF to perform nearly every major naval mission set.

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<sup>170</sup> “National Defense Program Guidelines for FY 2014 and Beyond (Summary),” Japanese Ministry of Defense, Published December 17, 2013. [http://www.mod.go.jp/e/d\\_act/d\\_policy/national.html](http://www.mod.go.jp/e/d_act/d_policy/national.html). 2.

<sup>171</sup> “Trade Policy Review Report by Japan.” *World Trade Organization*. January 15, 2013:12. [https://www.wto.org/english/tratop\\_e/tp376\\_e.htm](https://www.wto.org/english/tratop_e/tp376_e.htm)

<sup>172</sup> “Asia,” *The Military Balance*, 116, no.1 (2016): doi: 10.1080/04597222.2016.1127567.230.

<sup>173</sup> “Japanese Navy Overview,” *Jane’s World Navies*.

## (1) Cold War Force Structure

After complete demilitarization at the end of WWII, Japan had limited remilitarization through the creation of the Self-Defense Forces. The SDF's role in lessening the U.S. burden in the region during the Cold War resulted in the JMSDF developing niche capabilities as an ASW capable force as a means to defend the SLOCs. By 1980, the JMSDF had a sizeable regional force with over 42,000 personnel built with the ASW and SLOC mission sets in mind. Japan had forty-eight principle surface combatants comprised of thirty-three destroyers and fifteen frigates. Twenty of the destroyers and ten of the frigates were outfitted with Anti-Submarine Rockets (ASROCs), and the twenty ASROC capable destroyers also had SAMs capable of point defense—but not area defense—with half capable of embarking ASW helicopters.<sup>174</sup> The JMSDF had three large blue water minesweepers with thirty-three coastal minesweepers. Additionally, Japan had fourteen diesel submarines, one hundred and forty ASW maritime patrol planes, and sixty-three ASW helicopters. The JMSDF 20 lightly armed patrol boats, SAR and training aircraft, and small amphibious transport ships, but lacked any missile boats, corvettes or auxiliary support ships.<sup>175</sup>

The Cold War force structure of the JMSDF was clearly built with the ASW mission at the forefront. Over two-thirds of the surface and air combatants of the JMSDF had specific anti-ASW weapon systems and detection equipment. The ASW threat was viewed as a threat to the maritime shipping which was vital for the rapidly growing and import dependent Japanese economy. The ASW missions were generally within a triangle formed between Tokyo, Guam, and Taiwan, but Japan's blue water capable fleet of destroyers and frigates made limited distant SLOC defense possible. The lack of JMSDF replenishment support ships made longer deployments complicated and reliant on in-port replenishment. The first Japanese oiler—the *Towada* class—was not brought into service until 1985. Furthermore, the JMSDF's lack of SSMs, large amphibious force, nuclear

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<sup>174</sup> "Asia and Australasia," *The Military Balance*. 80, no.1, (1980). doi: 10.1080/04597228008459905. 70–71.

<sup>175</sup> Ibid.

power submarines, corvettes, auxiliary support ships, and aircraft carriers limited them from projecting power or conducting sustained operations outside of the near seas.

## (2) Post-Cold War Growth

With the new post-Cold War regional security threats in North Korea and China, Japan has significantly upgraded the quality of its fleet. The number of personnel only modestly grew from 42,000 in 1980 to 45,500 in 2016, but the capabilities of the fleet have expanded significantly.<sup>176</sup> Notably, Japan has built three “helicopter carriers,” which can embark ten to twelve helicopters built for ASW or sealift missions.<sup>177</sup> Additionally, Japan has added two guided missile cruisers to its fleet of capital ships, and each cruiser is outfitted with *Aegis* baseline seven, two SSM-1B quad launchers, 96 VLS cells capable of launching the SM2 SAM, SM3 BMD defense missile, and vertically launched ASROCs—each of which are the most advanced missiles actively deployed in the U.S. Navy.<sup>178</sup> The JMSDF’s destroyer fleet has the same number of ships it did in 1980—33—but they have all been outfitted with the *Harpoon* SSM in addition to the ASROC and SAM capabilities. Furthermore, six of the destroyers have *Aegis* BMD capabilities with two additional *Aegis* destroyers procured.<sup>179</sup> Japan’s blue water fleet could be used in a power projection context to provide area defense for a carrier, but since Japan does not have an aircraft carrier—and its helicopter carrier cannot currently embark fighter aircraft—the blue water fleet is relegated to SLOC and BMD defense.

The submarine force has modernized from conventional diesel submarines to AIP equipped diesel electric submarines with associated increases in operational range, and Japan now has eighteen of these modernized SSKs.<sup>180</sup> The JMSDF submarine fleet only grew from 18 to 19 since 1980, but all the submarines in the modern fleet are the more advanced AIP equipped SSKs—the Cold War era submarines were less capable conventional diesel submarines. The minesweeping fleet and amphibious fleet have

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<sup>176</sup> Ibid.; “Asia,” *The Military Balance*, 261–262.

<sup>177</sup> “Asia,” *The Military Balance*, 261–262.

<sup>178</sup> “Asia,” *The Military Balance*, 261–262.

<sup>179</sup> “Japanese Navy Overview,” *Jane’s World Navies*.

<sup>180</sup> “Asia,” *The Military Balance*, 261–262.

remained relatively constant in size since the 1980s with limited technological advances. The JMSDF's air wing component has five more ASW helicopters than in 1980, and fewer ASW Maritime Patrol and Reconnaissance Aircraft (MPRA), but the number of P-3 *Orion* MPRA has increased from 18 to 73—the P-3 is a much more capable than the P-2J and HSS-2 ASW and ISR aircraft the JMSDF had in 1980. The JMSDF were slow to acquire the P-3 during the Cold War, and still have not procured any of the P-8 MPRA which are in the process of replacing the P-3 in the United States. In both the Cold War and in the modern Japanese fleets, the JMSDF has operated capable—but not cutting edge—aerial ISR assets. However, the close alliance with the United States allows for Japan to obtain intelligence support from the United States. The JMSDF air component also has limited SAR, ISR, and minesweeping aircraft.<sup>181</sup>

There have been several key broad shifts in the JMSDF force structure since the end of the Cold War. The addition of helicopter carrier gives Japan a very limited power projection ability and expanding HA/DR capabilities. JMSDF Captain Takuya Shimodaira asserts that helicopter carriers give Japan sea basing capabilities that can act as an effective command and control sea base, minimize friction with local populations when conducting HA/DR, rapidly respond to natural disaster, build partnerships with regional states, and quickly transform from a peace time sea base to a wartime limited power projection asset.<sup>182</sup> Unlike France's *Mistral*-class LHDs—which carry strike fighter aircraft—the Japanese helicopter carriers do not embark fighter aircraft. If it were to embark fighter aircraft, it would require a STOVL capable craft, which Japan does not currently have. Japan has procured F-35 aircraft from the United States, but its contract is for the shore based “A” variant, which is not capable of STOVL. If Japan were to procure the STOVL capable “B” variant of the F-35—or building F-35 C capable ramps on its helicopter carriers—it could signal the transformation of their helicopter carriers into power projection assets. Japan views HA/DR missions as critical to building partnerships along critical SLOCs, and is using its expanded carrier capabilities in both the non-

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<sup>181</sup> “Asia,” *The Military Balance*, 261–262.

<sup>182</sup> Takuya Shimodaira, “The Japan Maritime Self-Defense Force in the Age of Multilateral Cooperation,” in *Naval War College Review*, Spring 2014, Vol. 67, no. 2; 55–56

traditional military operations like HA/DR and to bolster SLOC defense capabilities through partnership and limited power projection.<sup>183</sup> Moreover, adding SSMs to all principle surface combatants has given Japan's blue water capable ships an offensive weapon and deterrent which has advanced the destroyers, frigates, and cruisers from purely ASW hunters and near sea defenders to capable far seas combatants.

Japan's sustained deployments to the Malacca Strait area and the Gulf of Aiden for counter piracy have proven that Japan's JMSDF is capable of SLOC defense outside of the East Asian region. The modernized AIP equipped SSKs have given Japan's submarine fleet greater operational capabilities for operations farther from the home islands. Each upgrade to the JMSDF fleet has expanded Japan's ability to complete a new variety of missions in conjunction with SLOC defense—"ASW, ASuW, mine warfare, ballistic missile defense (BMD), electronic warfare, surveillance, transport/escort, and search and rescue (SAR)"—but they are centered on the two main missions of homeland defense and SLOC defense, which increasingly require the new mission capabilities that the JMSDF has acquired.

### (3) Concept of Operations

In the past, many of Japan's extended SLOC defense deployments have involved two destroyers that deploy together to escort shipping near the Horn of Africa (HOA), Strait of Hormuz, or Strait of Malacca. In recent counter-piracy deployments near the HOA, Japan has also deployed two of its P-3 aircraft to provide ISR. The main aspects of SLOC defense involve protecting shipping in convoys, displaying a presence to deter piracy or illegal activity, and preventing states from inhibiting access to vital SLOCs. Japan has benefited from the largely unchallenged maritime security apparatus that the United States has enforced—diminishing the need for larger SAG deployments. However, if regional SLOCs are challenged near the Strait of Malacca and South China Sea, it is likely that Japan would have to deploy a larger force to aid in the protection of its commerce. Japan conducts annual bilateral exercises with the United States to practice integrated C2 and larger scale naval movements to prepare for a situation where more

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<sup>183</sup> Shimodaira, "The Japan Maritime Self-Defense Force," 55–56.

active defense of SLOCs or the Japanese homeland is required. Although Japan maintains one of the largest navies in the world, it is still dependent on the United States for aspects of its security—including its nuclear deterrent. A notional SAG deployment for SLOC defense by the JMSDF in under current security conditions would include up to three destroyers, a submarine for advanced warning and SAG defense, an oiler for at sea replenishment, and P-3 detachment for ISR.

*c. Comparative Significance of the JMSDF*

Japan faces unique threats due to its status as a maritime island nation. Although most states in East Asia extensively use the sea for trade, Japan is the most reliant on seagoing trade in the region—with 99.7% of all imports and exports, 90% of its oil, and 60% of its food utilizing the sea for transportation.<sup>184</sup> Piracy, coastal states unlawfully interfering with trade, and regional territorial disputes have threatened freedom of navigation on the high seas near key maritime choke points that flow into East Asia. Japan has made defense of the homeland, defense of trade, and defense of interests vital to the U.S. alliance cornerstones of its security policy.

Over the course of fifty years, the JMSDF has transformed itself from a modest, one dimensional force, to a formidable multi-mission navy. Constitutional constraints on the JMSDF have slowly lifted to allow for more missions and quicker response to crisis. Throughout the evolution of the JMSDF it has had two main strategic goals: defense of the Japanese homeland and defense of the SLOCs. Defending the SLOCs means being able to counter the adversary which is attempting to deny or limit their use. In the Cold War, Soviet submarines posed the largest threat to freedom of navigation through the SLOCs, so the JMSDF focused on ASW to ensure safety of maritime shipping. After the Cold War ended, the emergence of new Chinese and North Korean threats has called for the JMSDF to modernize to meet the growing threats. North Korea's nuclear program has led to the JMSDF to make a growing number of its forces BMD capable. China's growing blue water fleet and increased regional ambition has led the JMSDF to invest in SSMs, ISR, and electronic warfare to build up the deterrent capability of their

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<sup>184</sup> Cole, *Asian Maritime Strategies*, 7; “Japanese Navy Overview,” *Jane’s World Navies*.

conventional forces to protect contested territory—like the Senkakus and Takeshima islands. The introduction of helicopter carriers allows Japan to complete HA/DR missions well away from home waters, build partnerships around key SLOCs, and give them a platform that can be quickly transformed to perform limited power projection capabilities—and potentially to house vertically launched fighter aircraft like the F-35. As regional threats evolve and gain the capability to challenge freedom of navigation, the JMSDF has been modernize to counter each new regional threat in partnership with the United States with homeland and SLOC defense in mind.

The continued growth in size and capability of the JMSDF—despite its pacifist constitution and close alliance to the United States—begs the question, if Japan could use SLOC defense and preventing Soviet hegemony as the justification for building a far reaching fleet, is it possible that SLOC defense and preventing U.S. hegemony is just as acceptable of a motivation for the Chinese to expand its fleet based on a structure similar to the JMSDF? Although China is not an island nation, it faces many of the same energy and trade dependency issues that Japan uses to justify the structure of its navy. Moreover, China does not enjoy the same alliance with the United States that Japan does, which makes building a naval force capable of defending its interests arguably more important than it is for Japan.

#### **4. Concluding Thoughts on Building a Navy with a Narrow Purpose**

Each navy discussed in this chapter based its force structure off of the goals and threats delineated by the respective governments. Additionally, the force structures of each navy drastically changed as perceived threats were strengthened or eliminated. Thus, it is crucial to ask several key questions when determining the purpose of a state's navy. First, what are the primary maritime threats of the state? In Sweden's case there was only one threat: invasion from the Soviet or Russian military. In Japan's case there was one primary threat in the Cold War, but regional destabilization after the Cold War led to a broader array of threats from more states.

Second, how does the perceived threat influence the size of the force? In Sweden's case the collapse of the USSR led to an 80% reduction in forces with the

remaining forces charged to carry out the same mission against a far less capable threat—rendering Sweden incapable of adequately employing a sea denial strategy like it was able to do during the Cold War. For France, power projection is a national priority to maintain national prestige and strategic autonomy, but there is no single threat or group of threats that makes a power projection force an existential requirement for France since it is a part of NATO. Consequently, France has seen a gradual reduction in funding and power projection capabilities as the goals of the country require an expansive naval force that does not match the small regional threat profile. The end of the Cold War only brought a more diverse array of regional threats for Japan, which led it to expand and modernize its fleet.

Third, does the type of force structure match the goals and threats of the state? In France's case, the size of its modern force exceeds its threat profile, but barely meets the goal of the state to have a global power projection force. For Japan, the JMSDF arguably exceeds both the threats and goals. Japan is constitutionally limited to having a military force with the singular purpose of self-defense, but it has repeatedly reinterpreted the constitution to semantically redefine what constitutes defense. Furthermore, while the rhetoric of the Japanese government has focused on regional security, SLOC defense, and homeland defense, the JMSDF could quickly configure its helicopter carriers to support vertical take-off fighter aircraft, which gives Japan significantly more power projection capabilities. Japan is a good example of a navy that has experienced gradual mission creep and capability expansion until the force structure exceeded the requirements to fulfill the declared national goal of self-defense—although China's military modernization has certainly justified the growth of the JMSDF to the revisionists in Japan's Liberal Democratic Party.

It can be difficult to accurately assess if a state is building a navy for sea denial, power projection, or SLOC defense for several reasons. First, the publicly stated goals of a state might not be the actual goals discussed at the classified level. Sweden, France, and Japan are all established liberal democracies that have been transparent about their military goals, budgets, and acquisitions—this is not necessarily going to be the case with the authoritarian government in China. Japan has been forthright in its desire to play an

active role in promoting international peace, but if had expanded and modernized its forces while sticking to strictly homeland defense rhetoric, it would be clear that the stated rhetoric probably does not match the classified goals. Additionally, naval equipment can be used for multiple missions and purposes. A blue water force of destroyers and frigates can be used to escort a carrier for power projection or conduct SLOC defense. With Japan's helicopter carrier and blue water fleet, SLOC defense and power projection are both possible—if the carriers are retrofitted to accommodate strike fighters. Thus, it can be a difficult task to match rhetoric, threats, and capabilities to ensure that one is not significantly out of sync with the others. In cases like Sweden's, there is a clear and limited goal for the RSwN which makes it easy to assess. For France, the government is outspoken about its desire to maintain an international influence through power projection—even if it slowly defunding its own ability to do so. For Japan, it is clear that SLOC defense is central to Japan's survival as an island nation, but their forces are advanced enough to complete a hybrid of power projection and SLOC defense if the situation demanded. It will crucial to keep these questions in mind when determining the main purpose for the naval force that China is building, while understanding that most navies can quickly adapt to complete multiple missions.

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### **III. THE PEOPLE’S LIBERATION ARMY (NAVY): MODERNIZATION STRATEGY AND CAPABILITIES**

The transformation of contemporary Chinese society, in terms of its viewpoint on sea power, is the evolution from an internally oriented economic form of a traditional farming civilization to an externally oriented economic form of a modern industrial civilization relying on sea lines of communication...[This transformation] is the basis of a historic about face in China, from its traditional advocacy of land power to the modern advocacy of sea power. Beyond that, it opens up a distinct, historic path by which China can achieve a national resurgence from “continental civilization” to “maritime civilization” in the 21st century.

—Lu Ning<sup>185</sup>

#### **A. INTRODUCTION: DISCERNING THE LONG-TERM PURPOSE OF CHINA’S NAVY**

Although it is seemingly impossible to perfectly and precisely impute the long-term intentions the political elite of the CCP has for the PLAN, it is possible to evaluate its current capabilities and how China’s modernization compares to other naval powers. From that, some inference regarding Chinese intentions is reasonable. This chapter will attempt to evaluate China’s naval expansion in the context of the abstract and empirical cases of forces optimized for power projection, SLOC defense, or sea denial detailed in the previous chapter. Once a strategy is determined, it makes deciphering Chinese regional political intent more manageable because it will identify the operational restrictions placed on Chinese policy by determining the capability of the PLAN in comparison to the regional naval powers previously analyzed. To identify the predominant maritime mission that the PLAN is most likely being built to achieve, this chapter will assess two broad topic areas. First, China’s strategy, goals, and threats will be discussed starting with its historical attitude toward maritime security and ending with China’s current maritime strategy. Next, the PLAN’s force structure, C2 and ISR capabilities, and the nature of its previous deployments and exercises will be analyzed as

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<sup>185</sup> Toshi Yoshihara and James R. Holmes, *Red Star Over the Pacific: China’s Rise and the Challenge to U.S. Maritime Strategy* (Naval Institute Press, Annapolis. 2010); 40–41.

a means to identify the characteristics of the PLAN and its current ability to employ sea denial, power projection, or SLOC protection missions—or a combination of multiple missions. Lastly, although there will be a brief summary of findings on PLAN modernization in this chapter, the direct comparisons of the PLAN with the archetypal navies discussed in Chapter II and the final assessment on China’s current long-term maritime strategy will be discussed in Chapter IV.

China’s regional and global status has drastically changed since the “Father of the Chinese Navy,” Liu Huaqing, developed the first modern strategy for the PLAN in the early 1980s. Liu called for developing a force capable of sea control in China’s littorals by 2000, sea denial outside of China’s near seas by 2020, and command of the seas globally by 2050.<sup>186</sup> The PLAN is not on track to meet Liu’s strategic goals by his goal dates, but the PLAN has made significant progress in modernizing its forces into a formidable regional power with limited global capabilities. China’s rapid economic growth has been parlayed into political power—domestically for the CCP and internationally for the PRC—and has allowed for a steady budget increase for the PLAN as more emphasis is being placed on maritime security by a military traditionally focused on its army. Moreover, the international system has shifted from the bipolar structure of the Cold War to a unipolar system that is trending toward multipolarity, which presents the PRC with new security considerations—like how to restructure the regional hub and spoke bilateral alliances with the United States into a more diverse regional security apparatus. The United States and its allies have expressed concern over China’s military modernization and assertive behavior involving territorial disputes in the South China Sea and East China Sea, prompting the “rebalancing” of U.S. forces to the Asia Pacific region to “avoid weakening the U.S. posture in Asia”—but the PRC continues to insist it seeks to rise peacefully.<sup>187</sup>

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<sup>186</sup> Bernard Cole, “Reflections on China’s Maritime Strategy: Island Chains and the Classics,” *Maritime Security, Seapower, and Trade Working Papers*, U.S. Naval War College (March 26, 2014) 3.

<sup>187</sup> Andrew J. Nathan and Andrew Scobell. *China’s Search for Security* (New York: Columbia University Press, 2012); 316; *China’s Peaceful Development*, Information of the State Council: People’s Republic of China, September 2011.

Despite its growing capabilities and substantive qualitative leaps in technological ability since its military modernization began in the early 1990s, China has shown restraint in the speed of its military modernization in part to avoid being accused of starting a spiraling security dilemma. Consequently, a RAND study from that era argued,

In its policies toward military modernization, the calculative strategy aims to reduce China's existing vulnerabilities while increasing the ability of its military forces to secure diplomatic and political leverage. The modernization—in both nuclear and conventional forces—is going forward slowly and steadily because a rapid military buildup might alarm China's neighbors and the major powers. Further, a sudden buildup would detract from China's current emphasis on civilian economic development.<sup>188</sup>

The political, geographic, and economic constraints that China faces are significantly different than what Sweden, France, and Japan face; thus, the archetypes laid out in the previous chapter will not perfectly mirror the PLAN—even if both navies are built for the same purpose. However, the goals, threats, capabilities, and CONOPS of each archetype should have significant overlap with the PLAN if it is built with the same purpose in mind. Furthermore, this chapter does not intend to predict what China will do with its navy; rather, it aims to determine what China is capable of doing with its navy, assess how naval strategic trends have changed in recent decades, discuss if China's rhetoric can be reinforced by its capabilities, and discern the maritime strategy which China is able to enforce.

## **B. STRATEGIC OUTLOOK OF THE PLAN**

The PLA's initial military strategy at the founding of the PRC in 1949 was solely based on continental considerations and was not significantly modified until after the threat of great power war dissipated due to the prevalence of “peace and development” that accompanied the decline—and eventual collapse—of the Soviet Union in mid-to-late 1980s.<sup>189</sup> The combined efforts of Deng Xiaoping and General Liu Huaqing in the 1980s

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<sup>188</sup> Michael D. Swaine and Ashely J. Tellis, “Interpreting China's Grand Strategy: Past, Present, Future” RAND Corporation, 2000. Accessed May 31, 2016, [http://www.rand.org/pubs/research\\_briefs/RB61/index1.html](http://www.rand.org/pubs/research_briefs/RB61/index1.html).

<sup>189</sup> Nathan and Scobell. *China's Search for Security*, 281.

helped to lay the foundation for China's modern naval strategy and introduced a specific set of goals for PLAN modernization that—to an extent—China continues to work toward today. Furthermore, pursuing reunification with Taiwan as a top political goal, increasing reliance on SLOCs for trade and energy security, and unrelenting demands to safeguard territorial interests in the SCS and ECS has gradually pushed maritime security to the forefront of China's security agenda.

## **1. Establishing a Foundation for Modern PLAN Strategy**

The role of the PLAN in China's national military strategy has drastically changed since the founding of the PRC in 1949. Initially, the PLAN was an afterthought to the PLA and strategic nuclear forces because Mao believed invasion and nuclear war were the biggest threats to China. As the Cold War came to a close and China began to focus on economic reform, the PLAN assumed a larger role in the national military strategy. By the 1990s, China's growing dependence on SLOCs for trade and energy, and the expectation that future conflicts would have limited objectives and probably involve maritime territorial disputes, made maritime security a higher priority in developing the national security plan.

### ***a. PLAN Strategy at the Founding of the PRC***

When the People's Republic was established in 1949, the PLAN was a dilapidated gunboat navy that held little strategic significance. The PRC's initial maritime strategy was formed in the early 1950s by General Xiao Jingguang, an infantryman, who argued that the sole purpose of the PLAN was to aid the PLA in coastal defense as part of the "People's War."<sup>190</sup> Moreover, Xiao asserted "a combination of coastal sea guerrilla warfare and coastal anti-landing warfare will be the major combat form for a future sea war."<sup>191</sup> Additionally, Mao believed that if China were to go to war it would likely either be because of a Soviet or American invasion or as a result of the spillover effects from a

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<sup>190</sup> Christopher R. Bullock, "China's Bluewater Ambitions: The Continental Realities of Chinese Naval Strategies," *Georgetown Journal of International Affairs* 3, no. 2 (2002): 60.

<sup>191</sup> *Ibid.*

nuclear war between the USSR and United States.<sup>192</sup> To prepare for either scenario, Mao argued, “The PLA had to be large, dispersed, low tech, and politically integrated with the people” for a scenario where the invading forces would be drawn deep into China and a combination of the PLA and massive rural militias would overcome the invasion force.<sup>193</sup>

Xiao and Mao’s decision to follow a “coastal defense” strategy remained intact for over thirty years. China pursued a dual strategy that emphasized continental and nuclear assets and largely neglected the PLAN. One exception is the development of the *Xia* class SSBN in 1980. Cole argues, “Although the single Fleet Ballistic Missile submarine China deployed about 1980 was national rather than a naval asset, the *Xia* gave the PLAN a nuclear deterrent mission for the first time.”<sup>194</sup> The PLAN’s new mission set did not acknowledge the importance of maritime security or strategy, it only added an asset to help employ the PRC’s nuclear strategy. Furthermore, the nuclear deterrence mission only applied to one submarine. The *Xia* was the only SSBN in the PLAN fleet for thirty years and its development did not signal major shift in Chinese maritime strategy or strategic deterrence capabilities. It would be nearly three decades before the PLAN commissioned a capable replacement SSBN—the *Jin*-class in 2007—which has yet to conduct a deterrent patrol. The five *Han*-class submarines commissioned between the mid-1970s and 1990—the only other nuclear powered submarines in the PLAN inventory—were capable of long distance missions, but there was no logistical support to enable such missions from occurring. Moreover, SSNs tend to operate in support of a blue water strike group or SAG when conducting distant deployments—the PLAN had no blue water strike groups or SAGs deploying at the time the *Han* SSNs entered the fleet, and they mostly served to provide long term support for operations in China’s littorals (while providing the foundation for more advanced indigenously built SSNs in the future).

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<sup>192</sup> Nathan and Scobell, *China’s Search*, 280.

<sup>193</sup> *Ibid.*, 280–281.

<sup>194</sup> Cole, *The Great Wall at Sea*, 174.

**b.      *Evolving Strategies Leading to PLAN Modernization***

In the early 1980s, Deng recognized that a war with either of the two great powers was becoming less likely, and if war did occur, it would probably have limited objectives and not devolve into total war.<sup>195</sup> In 1985, Deng revised the PLA's Military Strategic Guidelines (MSG) to prepare for "local war under modern conditions" that was more likely to take place "in a limited geographic area on China's periphery, such as the Taiwan Strait, the South or East China Sea, Vietnam, or Korea."<sup>196</sup> Moreover, the short, high intensity conflicts that would dominate the new security environment were likely to be technology driven. Deng's strategic assessment had major implications for the development of the PLAN, and marked the beginning a steady increase in significance placed on maritime strategy and technological modernization.

Around the same time that Deng acknowledged a strategic shift in China's security environment, General Liu Huaqing articulated a new maritime strategy for the PLAN, which continues to serve as a foundation that China's modern maritime strategy builds upon. General Liu started his career as a ground forces officer that fought the against the KMT during the Chinese Civil War, and it was twenty years after he joined the PLA that he was transferred to the naval forces and quickly worked his way up the ranks.<sup>197</sup> By 1982 he was appointed the PLAN commander and articulated his revolutionary plan to build the PLAN up from a weak force to a global power. The strategy has three phases based on sea denial, sea control, and command of the sea. Liu developed the "offshore defense" concept that China formally adopted in 1986—and continues to reference and use today—that is based on being able to dominate defense near of the coast, utilize mobile warfare at sea, and employ "surprise guerrilla-like-attacks at sea."<sup>198</sup>

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<sup>195</sup> Nathan and Scobell, *China's Search*, 280.

<sup>196</sup> Ibid.

<sup>197</sup> Daniel Hartnett, "The Father of the Modern Chinese Navy—Liu Huaqing," *Center for International Maritime Security*, October 8, 2014. [http://cimsec.org/father-modern-chinese-navy-liu-huaqing/13291#\\_ftn9](http://cimsec.org/father-modern-chinese-navy-liu-huaqing/13291#_ftn9).

<sup>198</sup> Cole, *Great Wall at Sea*, 175–176.

The model Liu created had two main geographical areas of interests. The first area consists of the Yellow Sea, ECS, and SCS and is known as the “first island chain.” Under Liu’s strategy, the PLAN would have control of the first island chain by 2000, but that still has not come to fruition—although the PLAN’s robust sea denial capabilities and blue water fleet verge on meeting this goal.<sup>199</sup> The second area, known as the “second island chain,” is based on a north-south line drawn from the Kuriles Islands northeast of Hokkaido down through the Marianas islands, Palau, the Caroline Islands of Micronesia, and the Indonesian archipelago.<sup>200</sup> Broadly, Liu advocated modernizing the navy to first employ a sea denial strategy within the first island chain, and once that goal was accomplished, China would build a power projection force capable of exerting sea control in the first island chain by 2000 and sea denial through the second island chain by 2020.<sup>201</sup> Once sea denial could be extended well outside China’s littorals, a global strategy to command the seas could be pursued more securely and was aimed to be accomplished by 2050.

Liu’s strategic goals were further refined in the late 1980s by General Zhang Lianzhong. Like General Liu, Zhang started his career as an infantry officer and spent thirteen years in the ground forces before transitioning to the fledgling PLAN submarine force. Zhang refined China’s maritime strategy to reflect the Soviet model of having a zone of sea control, a zone of sea denial, and a zone for ISR.<sup>202</sup> The first two zones matched Liu’s first and second island chains, and the third zone accounted for the space beyond the second island chain.

Liu’s strategic goals complimented Deng’s strategic outlook, and Liu assigned the PLAN four main capabilities to develop in order to fulfill the “offshore defense” strategy: “the ability to seize limited sea control in certain areas for a certain period of time, the ability to effectively defend China’s sea lanes, the ability to fight outside of China’s

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<sup>199</sup> Cole, *Great Wall at Sea*, 176.

<sup>200</sup> Cole, “Reflections on China’s Maritime Strategy,” 3.

<sup>201</sup> Cole, *Great Wall at Sea*, 176.

<sup>202</sup> *Ibid.*, 177.

claimed maritime areas, the ability to implement a credible nuclear deterrent.”<sup>203</sup> The four capabilities that Liu identified seem somewhat reasonable when viewed with knowledge of China’s current naval capabilities, but during the 1980s, the PLAN was still an abysmally backward gunboat navy with technology that was drastically inferior to Western powers.

When Deng changed MSGs in 1985, China had not yet experienced the economic explosion that would eventually help drive military modernization in the 1990s and 2000s. Furthermore, in order to enable future investment in military modernization, Deng drastically cut military expenditures to facilitate economic development—which he believed was a precondition to military modernization.<sup>204</sup> The PLA budget was cut by an average of 6% annually between 1979 and 1989, and starting in 1985, over a million troops were demobilized in the following decade.<sup>205</sup> After a decade of Deng’s rule, China had achieved enough economic success to end the military drawdown and start funding acquisitions of the new technology needed to modernize the PLA for the “local modern wars” that Deng argued were the future of conflict in the region. A steady increase in investment into military modernization began by the late 1980s. China was starting its modernization significantly behind most of the relevant regional naval powers—like Japan, Korea, and the United States. Moreover, Deng continued to emphasize the importance of technology in short, high intensity conflicts—the likely nature of a conflict involving Taiwan—and PLA leaders were forced to recognize its high level of military inferiority after witnessing the swift and absolute victory the United States accomplished over Iraq in 1991.<sup>206</sup> Technological advancement and defense in depth—starting with maritime defense—were identified as critically important after the first Gulf War, and military modernization became a top strategic priority as China refined its maritime strategy.

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<sup>203</sup> Daniel Hartnett, “The Father of the Modern Chinese Navy—Liu Huaqing,” *Center for International Maritime Security*, October 8, 2014. [http://cimsec.org/father-modern-chinese-navy-liu-huaqing/13291#\\_ftn9](http://cimsec.org/father-modern-chinese-navy-liu-huaqing/13291#_ftn9).

<sup>204</sup> Christopher P. Twomey and Xu Hui, “Military Developments,” *Debating China: The U.S.-China Relationship in Ten Conversations*, ed. Nina Hachigian. (Oxford; NY:Oxford University Press, 2014); 159.

<sup>205</sup> Ibid.; Nathan and Scobell, *China’s Search*, 283.

<sup>206</sup> Nathan and Scobell, *China’s Search*, 279.

## 2. Modern PLAN Strategy

From 1986 to 2015, the PLAN's official strategy was "offshore defense," but maritime defense rhetoric in China's white papers gradually began to include references to expanding "blue water capabilities" as early as 2010.<sup>207</sup> The 2010 and 2013 white papers asserted the PLAN was "solely following and 'offshore defense,' strategy," but both white papers also called for the continued development of "open seas" capabilities—the 2010 white paper specifically called for building capabilities to operate in distant waters, although what types of operations were not specified.<sup>208</sup> Moreover, the 2013 white paper tasked the PLAN in "protecting overseas interests" and developing "blue water capabilities for mobile operations," but it was not until the 2015 white paper that China's maritime strategy official expanded the role of the PLAN beyond "offshore defense" and to include "open seas protection."<sup>209</sup> The expanded blue water rhetoric in the 2013 white paper and the official addition of the "open seas protection" strategy in the 2015 white paper appear to be in response to a policy change that was articulated in the 18th Party Congress in 2012, during which President Hu Jintao called for China to become a "strong maritime power."<sup>210</sup>

Although the overarching official strategy remained relatively static until 2015, PLAN interpretation of the type of technology, naval platforms, and tactics that can be used for "offshore defense" evolved during the same time frame. At the onset of modernization, "offshore defense" seemed to be constrained to a sea denial strategy aimed specifically at a Taiwan scenario, but as PLAN has grown in capabilities "offshore defense" missions have been carried out further from the mainland until the 2015 Chinese Defense white paper formally added, "open seas protection" to its maritime strategy.<sup>211</sup>

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<sup>207</sup> "China: New Military Strategy Emphasizes Maritime Conflict, Force Modernization for Critical Domains," *Open Source Enterprise*, June 4, 2015. [https://www.opensource.gov/portal/server.pt/gateway/PTARGS\\_0\\_0\\_15884\\_484\\_0\\_43/content/Display/CHL2015060459955668](https://www.opensource.gov/portal/server.pt/gateway/PTARGS_0_0_15884_484_0_43/content/Display/CHL2015060459955668).

<sup>208</sup> Ibid.

<sup>209</sup> Ibid.

<sup>210</sup> "Full Text of Hu Jintao's 18 Party Congress Report" *Xinhua News in English*, published November 17, 2012. [http://news.xinhuanet.com/english/special/18cpcnc/2012-11/17/c\\_131981259.htm](http://news.xinhuanet.com/english/special/18cpcnc/2012-11/17/c_131981259.htm).

<sup>211</sup> The State Council Information Office of the People's Republic of China, "China's Military Strategy," May 2015. [http://news.xinhuanet.com/english/china/2015-05/26/c\\_134271001.htm](http://news.xinhuanet.com/english/china/2015-05/26/c_134271001.htm).

Furthermore, China's gradual expansion of the bounds of its "offshore defense" strategy has occurred in conjunction with expanding economic and security interests in the East Asian region and beyond.

**a. Territorial Interests and Maritime Strategy**

Protecting territorial sovereignty is a vital interest of every state, but China's semi-colonial experience during the "Century of Humiliation" has caused CCP and PLA officials to develop an extreme sensitivity to territorial claims—China's first National Defense white paper in 1998 explicitly mentions the Opium Wars and semi-colonialism as a driver of modern sovereignty concerns.<sup>212</sup> This history continues to shape China's sense of defining its security policy—which emphasizes respecting sovereignty and non-intervention into the affairs of other states.<sup>213</sup> Cole argues, "Beijing is party to six of East Asia's more than two dozen maritime territorial disputes: the Diaoyu/Senkaku Islands with Japan; Taiwan; the Paracel Islands with Vietnam; the Spratly Islands in the South China Sea with Taiwan, Vietnam, the Philippines, Brunei, and Malaysia; water areas of the South China Sea with the forgoing nations and Indonesia; and the maritime border with Vietnam."<sup>214</sup> The PRC has settled nearly all of its continental territorial disputes—with the notable exception of its territorial dispute with India—so the remaining contested territories are at sea. PLAN modernization is aimed at enforcing the maritime territorial claims that China had been too weak to enforce since the onset of the "Century of Humiliation"

Reunification with Taiwan is a core interest of the PRC. Consequently, the top maritime strategic priority of the PLAN is to aid in national unification through the integration of Taiwan and to counter foreign intervention—should unification come through armed conflict.<sup>215</sup> The United States asserts that the people of the PRC and

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<sup>212</sup> Cole, *Great Wall at Sea*, 19; *China's National Defense*, The State Council Information Office of the People's Republic of China, 1998. <http://www.china.org.cn/e-white/5/5.2.htm>

<sup>213</sup> Han Nianlong, "Initiation of Five Principles of Peaceful Coexistence and Participation in Asian-African Conference" *Diplomacy of Contemporary China* (Hong Kong: New Horizon Press, 1990); 105–106.

<sup>214</sup> Ibid.

<sup>215</sup> Nathan and Scobell, *China's Search*, 303.

Taiwan should make any decisions regarding unification and that any resolution should be made peacefully. However, the PRC has reserved the right to resolve the dispute by force under particular circumstances. China's 2005 Anti-Secession Law legally acknowledged that armed conflict could be used for unification in certain scenarios and declares

In the event that "Taiwan independence" secessionist forces should act under any name or by any means to cause the fact of Taiwan's secession from China should occur or that possibilities for a peaceful reunification should be completely exhausted, the states shall employ nonpeaceful means and other necessary measures to protect China's sovereignty and territorial integrity.<sup>216</sup>

The impressive show of force by the U.S. Navy during the Taiwan Straits Crisis from 1995–1996 further justified the need to modernize China's military forces, and illuminated the important role maritime security would assert in the post-Cold War security environment in Asia. Additionally, the Taiwan Strait crisis led China to catalyze the development Anti-Access/Area Denial (A2/AD) weaponry to accompany "a broader strategy of 'countering intervention' by the United States in a Taiwan conflict."<sup>217</sup> Advancements in A2/AD—the specifics of which will be discussed later in this chapter—through the 1990s and 2000s helped China to achieve sea denial capabilities in its littorals and edge closer to Liu's first strategic goal of having the capability to exert sea control within the first island chain. Additionally, the shore based element of China's A2/AD capabilities—including the PLAN's shore-based SU-30 fighters and DF-21D ASBMs—has freed up the PRC to use PLAN surface and subsurface assets to protect other territorial and economic interests further away from its near seas—a strategic game changer.

Once PLAN modernization gave China sea denial capabilities for a Taiwan conflict scenario, China simultaneously had capabilities to address other nearby points of tension. Beijing began its strategy to protect its territorial claims in the SCS and ECS. In addition to reaching immediate sea denial milestones, the international situation evolved

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<sup>216</sup> Ibid., 303–304.

<sup>217</sup> Twomey and Hui "Military Developments," 153.

in the late 2000s and pushed China to form a more assertive stance in its claims in the Spratly and Diaoyu/Senkaku Islands. Upon ratifying UNCLOS in 1996, China made four formal declarations including “The People’s Republic of China reaffirms its sovereignty over all its archipelagos and islands as listed in article 2 of the Law of the People’s Republic of China on the territorial sea and the contiguous zone, which was promulgated on 25 February 1992.”<sup>218</sup> The archipelagos and islands referenced in the UNCLOS declaration included all of the SCS within the “Nine Dash Line” and the Diaoyu/Senkaku Islands. China’s has remained ambiguous concerning the exact nature of its sovereignty claims within its 200nm EEZ.

China’s Nine Dash Line claims became a higher strategic priority as the 2009 UNCLOS deadline to solve SCS territorial disputes approached and passed without resolution. Starting in 2011, China steadily increased its Chinese Maritime Surveillance (CMS), Fishery Agency, Coast Guard, and PLAN presence in the Spratly Islands. Although the military activity in the SCS from all claimants has increased, China has pursued a considerably larger buildup in the SCS than any other state. PRC officials cite U.S. aerial and maritime reconnaissance in the region as the motivation for the buildup as a means to protect sovereignty,<sup>219</sup> but the other claimants in the SCS are concerned China is expanding facilities in the SCS in an attempt to make a broader territorial grab that gives the PRC economic rights to the abundant fisheries and untapped natural resources in the area.

By 2016 massive land reclamation projects on multiple reefs and shoals became capable of supporting various military missions—including long airstrips on Fiery Reef that support extended range bomber aircraft.<sup>220</sup> China is not alone in its island

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<sup>218</sup> 1982 United Nations Convention for the Law of the Seas 1996 Ratification Declarations and Statements by China; [http://www.un.org/depts/los/convention\\_agreements/convention\\_declarations.htm#China%20Upon%20ratification](http://www.un.org/depts/los/convention_agreements/convention_declarations.htm#China%20Upon%20ratification).

<sup>219</sup> Javier C. Hernandez, “China Blames U.S. Military Actions for Tensions in the South China Sea,” *New York Times*, July 30, 2015. <http://www.nytimes.com/2015/07/31/world/asia/china-blames-us-military-actions-for-tensions-in-the-south-china-sea.html>.

<sup>220</sup> Asia Maritime Transparency Initiative and Center for Strategic and International Studies. “Timeline” Accessed June 3, 2016. <http://amti.csis.org/timeline/>; “Airpower in the South China Sea,” *Asia Maritime Transparency Initiative and Center for Strategic and International Studies*: Accessed June 3, 2016. <http://amti.csis.org/airstrips-scs/>

reclamations and militarization of the SCS. Vietnam has engaged in island building projects,<sup>221</sup> the Philippines has manned a naval vessel aground on the Second Thomas Shoal,<sup>222</sup> and Taiwan, Vietnam, the Philippines, and Malaysia all have built airstrips in the SCS—but none of its airstrips are long enough to support bombers.<sup>223</sup> Although most of the claimants have militarized their SCS claims to some extent, China's land reclamation projects have been built up to provide logistical support for its warships, fighter aircraft, and bombers—making China's SCS actions more serious and escalatory according to U.S. Director of National Intelligence James Clapper.<sup>224</sup>

China's territorial dispute with Japan over the Diaoyu/Senkaku Islands escalated in 2010 after a Chinese fishing boat and Japanese Coast Guard vessel collided within the territorial seas of the Diaoyu/Senkaku Islands and the Japanese arrested the crew under domestic law.<sup>225</sup> Tensions continued to rise in 2012 after the nationalist mayor of Tokyo attempted to purchase the islands from a private owner. The Japanese Government stepped in to buy the islands as a step to mitigate possible Chinese outrage, but the PRC saw the process as a land grab and a challenge to China's sovereignty and the status quo.<sup>226</sup>

Recent escalatory events in the SCS and ECS involving China's territorial claims offer one reason as to why China is expanding its blue water naval capabilities—as the sea denial forces originally focused on in the 1990s did not have the capabilities to

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<sup>221</sup> Asia Maritime Transparency Initiative and Center for Strategic and International Studies. "Vietnam's Island Building: Double Standard or Drop in the Bucket?" Accessed June 3, 2016. <http://amti.csis.org/vietnams-island-building/>.

<sup>222</sup> Jane Perlez, "Philippines and China in Dispute Over Reef," *New York Times*, March 31, 2014. [http://www.nytimes.com/2014/04/01/world/asia/beijing-and-manila-in-dispute-over-reef.html?\\_r=0](http://www.nytimes.com/2014/04/01/world/asia/beijing-and-manila-in-dispute-over-reef.html?_r=0).

<sup>223</sup> Asia Maritime Transparency Initiative and Center for Strategic and International Studies. "Airpower in the South China Sea."

<sup>224</sup> "Document: DNI Assessment of Chinese Militarization, Reclamation in South China Sea," *USNI News*. Published March 8, 2016. <https://news.usni.org/2016/03/08/document-dni-assessment-of-chinese-militarization-reclamation-in-south-china-sea>.

<sup>225</sup> Ken Jimbo, "The Rise of China and Japan's Foreign Policy Reorientation," *China's Power and Asian Security*, Li Mingjiang and Kalyan M. Kemburi, eds. (London: Routledge, 2015), 258.

<sup>226</sup> Jane Perlez, "China Accuses Japan of Stealing After Purchase of Group of Disputed Islands," *New York Times*, September 11, 2012. <http://www.nytimes.com/2012/09/12/world/asia/china-accuses-japan-of-stealing-disputed-islands.html>.

project power to the distant portions of the SCS that are over one thousand miles from Hainan Island. Additionally, starting in 2004, China's military strategy has acknowledged the need for moving its "strategic center of gravity" further outward to create a "favorable strategic posture" in the region.<sup>227</sup> The facilities built on reefs in the SCS provide logistical support points for China's blue water navy. Moreover, the notion of pushing out the defensive boundary outward toward the Pacific Ocean is in line with Liu's strategy to expand China's sea denial capabilities through the second island by 2020—a goal that forward sea-basing in the SCS and a larger blue water fleet would help them accomplish.

**b. *Economic Interests and Maritime Strategy***

The growing power of the PLAN is catching up to meet the security demands resulting from China's expanding economic power, which is heavily reliant on maritime commerce. The CCP believes that its continued political viability is inextricably linked to economic success, and the maritime arena is a critical component of China's economic progress. Cole asserts,

The importance of the maritime arena is increasingly crucial to that process...the PLAN's value as an instrument of statecraft is linked directly to maintaining and defending China's maritime stakes: the concentration of the nation's economic enterprises in its coastal regions, its dependence on one of the world's largest fleets of merchant ships and the world's second-largest ship-building capacity, its massive seaport infrastructure, its dependence on riverine and coastal maritime commerce, and the increasing national dependence on offshore fisheries and other natural resources, especially oil and gas.

China imports over half of its oil—with 80% of that arriving over the sea—and became a net importer of natural gas in 2007.<sup>228</sup> The PLAN has multiple roles in protecting China's oil and natural gas supply. First, the PLAN is tasked to provide security for the shipping that delivers oil and natural gas to China—as it must do with the

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<sup>227</sup> "China: New Military Strategy Emphasizes Maritime Conflict, Force Modernization for Critical Domains," *Open Source Enterprise*, June 4, 2015. [https://www.opensource.gov/portal/server.pt/gateway/PTARGS\\_0\\_0\\_15884\\_484\\_0\\_43/content/Display/CHL2015060459955668](https://www.opensource.gov/portal/server.pt/gateway/PTARGS_0_0_15884_484_0_43/content/Display/CHL2015060459955668).

<sup>228</sup> *Ibid.*

plethora of maritime traffic that China depends on to export its goods. As much as 50% of China's economic growth is dependent on foreign trade, and over 90% of that foreign trade is transported by ship.<sup>229</sup> Strategic maritime choke points at the Strait of Hormuz and Strait of Malacca are thousands of miles from China's coastline and require blue water capabilities to protect trade that transits through the straits. Currently, the PLAN would struggle to defend against a blockade against the Strait of Malacca, but the PLAN's sustained deployments to the HOA have proven that the PLAN's capabilities for distant SLOC defense are improving. Second, China's maritime territorial disputes involve areas with offshore oil and gas reserves, and the PLAN plays a role in upholding China's territorial claims. To date, China's Coast Guard has played the leading role in asserting territorial claims, but if territorial disputes erupt into limited conflict in the SCS and ECS, the PLAN would be charged to protect China's territorial claims and the important offshore energy resources that surround them. China's estimates of oil reserves in the SCS and Spratlys is significantly higher than the U.S. estimates—China estimates 213 billion oil barrels (bbl) in the SCS and 105 billion bbl in the Spratlys, vice the 28 billion bbl in the SCS and 2.1 billion bbl estimated by the United States.<sup>230</sup> Abundant natural gas fields—estimated to be 2,000 trillion cubic feet (Tcf) by the Chinese and 266 by the United States—are already being exploited in the SCS.

In addition to exports, oil, and gas reserves, China is heavily dependent on offshore fisheries. The SCS had abundant fishing resources, but by 2004, it was in danger of being “fished out.” Overfishing was a catalyst to China implementing EEZ claims in the SCS and increasing Fishing Agency patrols in 2009.<sup>231</sup> The PLAN has not been involved in armed disputes over fisheries yet, but the close ties fisheries have to territorial claims, and the dwindling fish populations in contested areas, make future PLAN involvement more likely—especially as the Chinese government subsidizes fuel for

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<sup>229</sup> Ibid., 53–54.

<sup>230</sup> Ibid., 49.

<sup>231</sup> Cole, *Great Wall at Sea*, 53.

fishermen to fish in contested portions of the SCS far from China's shores.<sup>232</sup> As the PLAN continues to grow and modernize, China's defense strategy has expanded to protect China's economic interests further away from its near seas.

**c. *Threat Perception and its Impact on Naval Modernization and Maritime Strategy***

China's rising economic status enabled military modernization to occur, but the perceived threat the United States poses to various Chinese interests has shaped the nature of PLAN modernization in numerous ways. At a 2014 Conference on Interaction and Confidence Building Measures in Asia (CICA), Xi Jinping made a thinly veiled criticism of the United States' "outdated thinking of the Cold War," by attacking the hub and spoke bilateral alliance system the United States has maintained in Asia.<sup>233</sup> Xi asserted, "We cannot just have security for one or a few countries while leaving the rest insecure...A military alliance which is targeted at a third party is not conducive to common regional security."<sup>234</sup> Chinese Ambassador Cui Tiankai echoed Xi's sentiments in 2015 at the International conference on China-US Cooperation in Global Security Affairs when he stated, "Do we work together to build broad-based partnerships that will enable us to effectively confront the global issues for common interest, or do we still keep a narrow focus on Cold War type of alliances that actually restrict the vision, reduce the choices and will render the world more divided and less secure?"<sup>235</sup> Although Xi argued that alliances should not be targeted at a third party, in many ways PLAN modernization guided specifically to counter a third party: the United States (like the development of the DF-21D, YJ-62, and YJ-83 to counter the U.S. Navy threat in the immediate aftermath of the Taiwan Strait Crisis of 1995–1996).

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<sup>232</sup> Simon Denyer, "How China's Fishermen are Fighting a Covert War in the South China Sea," *Washington Post*, April 12, 2016. [https://www.washingtonpost.com/world/asia\\_pacific/fishing-fleet-puts-china-on-collision-course-with-neighbors-in-south-china-sea/2016/04/12/8a6a9e3c-fff3-11e5-8bb1-f124a43f84dc\\_story.html](https://www.washingtonpost.com/world/asia_pacific/fishing-fleet-puts-china-on-collision-course-with-neighbors-in-south-china-sea/2016/04/12/8a6a9e3c-fff3-11e5-8bb1-f124a43f84dc_story.html).

<sup>233</sup> Shannon Tiezzi, "At CICA, Xi Calls for New Regional Security Architecture," *The Diplomat*, May 22, 2014. <http://thediplomat.com/2014/05/at-cica-xi-calls-for-new-regional-security-architecture/>.

<sup>234</sup> Ibid.

<sup>235</sup> Cui Tiankai, "Keynote Speech at the International Conference on China-US Cooperation in Global Security Affairs," *Asia Maritime Transparency Initiative*. Published April 20, 2015. <https://amti.csis.org/china-responds-a-speech-by-amb-cui-tiankai/>.

Deng gave military modernization higher priority after the U.S. invasion of Iraq in 1990 because it demonstrated China's vast inferiority to the United States in conducting "local wars under modern conditions" that Deng viewed as the future of warfare. China's pivot toward investing more heavily in A2/AD technologies came in response to the Taiwan Strait Crisis of 1995–1996.<sup>236</sup> In 1996, the Chinese Aerospace Science and Technology Corporation (CASC) began to research the feasibility of an Anti-Ship Ballistic Missile (ASBM) program and provided concept demonstrations in potential guidance and control systems for an ASBM.<sup>237</sup> Further investments into ASBM research eventually yielded the operational testing of the DF-21D "carrier killer" missile in 2010, which was developed specifically to counter U.S. power projection capabilities gained through aircraft carriers.<sup>238</sup> Research and design of the YJ-62 ASCM and YJ-83 ASM—which are outfitted on various PLAN warships and submarines—was sped up following the Taiwan Strait Crisis and both missiles made their way to the fleet by the mid-2000s.<sup>239</sup> Moreover, PLAN weapon-development in the aftermath of the Taiwan Strait was characterized by designing weapons to counter specific threats in the U.S. Navy.

China's maritime strategy has been largely reactionary to the CMC's perception of the U.S. threat and has declared no clear long term goal outside of nebulous statements like "peaceful development" or "peaceful rise" that are difficult for U.S. military leaders to believe. In some aspects Liu Huaqing's grand strategy is being followed as the PLAN modernizes, but the CCP has never confirmed the global aspirations that Liu laid out. The November 2012 18th Party Congress Report advocated making China into a "strong maritime power," but did not give much detail on the roles it believed the navy of a

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<sup>236</sup> Andrew Erickson and David Yang, "Using Land to Control the Sea? Chinese Analysts Consider the Anti-Ship Ballistic Missile," *Naval War College Review*, Autumn 2009. Vol. 62, no.4 (2009).

<sup>237</sup> Thomas G. Mahnken, "Arms Races and Long-Term Competition." *Strategy in Asia: The Past, Present, and Future of Regional Security*. Ed. Thomas G. Mahnken and Dan Blumenthal. (Stanford, California: Stanford University Press, 2014).

<sup>238</sup> Ibid.

<sup>239</sup> "China Equipment Overview: YJ-62 (C602)" *Jane's World Navies*. Accessed August 2, 2016. [https://janes.ihs.com.libproxy.nps.edu/Janes/DisplayFile/JNW\\_0008](https://janes.ihs.com.libproxy.nps.edu/Janes/DisplayFile/JNW_0008); "China Equipment Overview: YJ-83(C802AK)" *Jane's World Navies*. Accessed August 2, 2016. <https://janes.ihs.com.libproxy.nps.edu/Janes/DisplayFile/JALW2892>.

“strong maritime power” should play.<sup>240</sup> The 2015 white paper formally added “open seas protection” as a new role of the PLAN after tasking the PLAN to protect overseas interests (2013 white paper) and developing capabilities for conducting blue water operations (2010 white paper), but failed to provide much clarity on the how far into the open seas China intends to regularly use the PLAN or what “protection” constitutes.

Counter-piracy deployments to the Horn of Africa (HOA) provide one such interpretation of “open seas protection,” but China has been conducting continuous naval deployments to the HOA for seven years without formally changing its “offshore defense” strategy, so “open seas protection” may constitute something entirely different. Retired U.S. Rear Admiral Michael McDevitt asserts, “the combination of ‘offshore waters defense’ with ‘open seas protection’ build a combined, multi-functional and efficient maritime combat force structure. This passage suggests that protecting overseas interests and sea lanes is forecast to become as important to China’s leadership as defending China itself.”<sup>241</sup> While it is not yet apparent if protecting overseas interests will become a “core interest” of the PLA, China is certainly expanding the boundaries it expects the PLAN to routinely operate in. U.S. Naval Postgraduate School Professor Christopher Twomey argues,

The most notable priority for the CCP over the past 35 years has been economic development, and the reforms in this area are often described, as you know, in former paramount leader Deng Xiaoping’s phrase “crossing the river by feeling for stones.” This same process of Chinese decision makers gradually developing policy as the situation emerges is likely to characterize Chinese security policy making, precluding any “long-term” plan for global leadership (or anything else for that matter).<sup>242</sup>

China has routinely released Military Defense white papers regularly since 1998, which PRC leadership started in order to calm concerns many states had in discerning the purpose of Chinese military modernization. It is certainly reasonable to expect China’s

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<sup>240</sup> The State Council Information Office of the People’s Republic of China, “China’s Military Strategy.”

<sup>241</sup> Michael McDevitt, *Becoming a Great “Maritime Power”: A Chinese Dream*, Center for Naval Analysis. Published June 24, 2016. [https://www.cna.org/CNA\\_files/PDF/IRM-2016-U-013646.pdf](https://www.cna.org/CNA_files/PDF/IRM-2016-U-013646.pdf); 36.

<sup>242</sup> Twomey and Hui “Military Developments,” 154.

military power to grow as its economic and political power grow, but the opaque long term intentions for PLAN modernization make it difficult to discern the primary strategy the PLAN is building toward. CCP has a well-known desire to decrease U.S. dominance in the regional maritime security apparatus—as Xi discussed at the 2014 CICA conference—but it is unclear how the PLAN would evolve to meet the needs of leading a “Asian security partnership program” led by the Chinese.<sup>243</sup> Moreover, the expansion of PLAN strategy to include “open seas protection” may be related to increased investment abroad, such as the One Belt One Road initiative—which includes a new maritime silk road that includes numerous commercial ports. As China looks to protect its investments in the One Belt One Road initiative, it is reasonable that it wants to have more control over the security apparatus which protects the maritime approaches to its commercial ports. Consequently, McDevitt argues,

The “open seas protection” mission also makes sense within the context of Xi’s much-ballyhooed 21st Century Maritime Silk Road, which will run from China’s major ports through the Indonesian Straits, and then proceed along the Indian Ocean’s northern littoral, grazing East Africa, before transiting the Red Sea and Suez Canal into the Eastern Mediterranean. This “road” is already heavily traveled by China’s shipping, but if China does invest in infrastructure along the route, as it has promised to do, it will need to look after those investments as well as its shipping.<sup>244</sup>

(1) Current Defense Strategy

President Xi’s call for China to become a “strong maritime power” during the 18th Party Congress was further discussed by Vice Admiral Jiang Weilie, who clearly identifies the SCS as the primary location that one of Deng’s “localized wars” could occur. Jiang stated,

We need to do more with respect to implementing the strategy of strategic management of the South China Sea. The fleet is an important strategic force in the South China Sea. It ensures the security of important sea lines of communication and it effectively safeguards national sovereignty and maritime rights and interests. We need to do more to strengthen our theoretical research on strategic management of the South China Sea;

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<sup>243</sup> Tiezzi, “At CICA, XI Calls for New Regional Security Architecture.”

<sup>244</sup> McDevitt, *Becoming a Great “Maritime Power,”* 38.

proactively combine [actions that] safeguard rights and [actions that] safeguard stability; thoroughly augment the strength of our strategic control over the South China Sea; and thoroughly guard, build and strategically manage the South China Sea.<sup>245</sup>

Additionally, China's 2015 Defense white paper builds upon the same concepts that date back to Deng Xiaoping's strategic concerns (and Jiang discusses above), but also provides an expanding set of national interests and missions for the PLAN. Like Deng asserted in the 1980s, the 2015 white paper states "the world still faces both immediate and potential threats of local wars" and China's primary defense goals are to "safeguard its national unification, territorial integrity, and development interests."<sup>246</sup> Unlike Deng's focus on bolstering defense in China's immediate littorals aimed at A2/AD—even if it was not explicitly labeled A2/AD by PLA leaders—the 2015 white paper formalized the recent trend of expanding the role of China's military in safeguarding China's global maritime interests first alluded to in the 2010 and 2013 white papers. The 2015 white paper declares,

China's armed forces will remain a staunch force in maintaining world peace... With the growth of China's national interests, its national security is more vulnerable to international and regional turmoil, terrorism, piracy, serious natural disasters and epidemics, and the security of overseas interests concerning energy and resources, strategic sea lines of communication (SLOCs), as well as institutions, personnel and assets abroad, has become an imminent issue... In line with the strategic requirement of offshore waters defense and open seas protection, the PLA Navy (PLAN) will gradually shift its focus from "offshore waters defense" to the combination of "offshore waters defense" with "open seas protection," and build a combined, multifunctional and efficient marine combat force structure.<sup>247</sup>

The 2015 Defense white paper is nuanced with statements that indicate China is shifting toward pursuing a global maritime force over the long term. The proclamation

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<sup>245</sup> Ryan D. Martinson, "Jinglue Haiyang: The Naval Implications of Xi Jinping's New Strategic Concept," *China Brief*. Vol 15 no. 1. January 9, 2015. [http://www.jamestown.org/programs/chinabrief/single/?tx\\_ttnews%5Btt\\_news%5D=43375&amp%3BcHash=5717d#.V6JwHmWnzFI](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=43375&amp%3BcHash=5717d#.V6JwHmWnzFI).

<sup>246</sup> The State Council Information Office of the People's Republic of China, "China's Military Strategy."

<sup>247</sup> The State Council Information Office of the People's Republic of China, "China's Military Strategy."

that China's military will remain "a staunch force in maintain world peace" seems to explicitly acknowledge a global military role (although one might argue that China's military will focus on regional peace and stability as its contribution to protecting broader global economic stability). However, the "growth of national interests" is further specified by listing maritime focused missions—almost exclusively—that require a larger blue water navy component and can be used to justify expanding power projection and logistical capabilities. China's power projection assets have traditionally been focused on short range operations in Taiwan, but growth in larger blue water amphibious shifts could indicate a strategic shift to a further reaching power projection force. Moreover, the addition of "open seas protection" to the traditional "offshore waters defense" indicates an expansion of the PLAN's strategy to include SLOC defense outside the region at a minimum, and potentially expanding power projection capabilities away from its immediate littorals.

***d. Summary of PLAN Strategy***

Certain aspects of the PLAN strategy have remained constant since the start of modernization. Protection of territorial sovereignty through "offshore defense" is a core mission of the PLAN, but the PLAN strategy has quickly evolved to respond to specific threats that U.S. Navy poses. China invested in an A2/AD strategy after U.S. involvement in the Taiwan Straits conflict in 1995–1996, and the PLAN's blue water force has steadily improved to expand China's defense perimeter to include contested territories in the SCS and ECS. Although Liu Huaqing provided an ambitious modernization strategy aimed at producing a global navy with command of the seas, it is unclear if China is actually toward that goal. China's articulated goals and strategies have no clear long term end state and are centered around more immediate security concerns. Strategy articulated in the 2015 China Defense white paper and Xi Jinping's speech at the 2014 CICA conference support the notion that China desires to expand its regional influence and to become a leader in the regional security architecture. Moreover, the PRC claims to be modernizing the PLAN to provide greater maritime security to East Asian region and the strategic SLOCs that feed into it.

### C. PLAN FORCE STRUCTURE AND CONCEPT OF OPERATIONS

The PLAN is charged with the defense of China's vast maritime territory including 11,000nm of coastline, 6,500 islands, and 1.86 million square miles of near seas made up of territorial seas, EEZs, and continental shelf waters.<sup>248</sup> Moreover, the PLAN is broken up into three principle fleets organized by geography. The North Sea Fleet is headquartered in Qingdao and is responsible for the North Korean border to Lianyungang in Jiangsu Province. The North Sea Fleet served as the main base for SSBNs and SSNs prior to the gradual shift of submarine assets to Hainan Island, and the North Sea Fleet is home to the *Liaoning* aircraft carrier.<sup>249</sup> The East Sea Fleet is headquartered in Ningbo and covers the coast from Lianyungang to Dongshan.<sup>250</sup> The East Sea Fleet's proximity to Taiwan and Japan make it a strategic location for launching operations into either location should hostilities occur. The South Sea Fleet is headquartered in Zhanjiang and stretches from Dongshan to the Vietnam border. The South Sea Fleet is the fastest growing of the three fleets and is home to both PLA Marine Corps Brigades and is expanding submarine facilities on Hainan Island—and is building facilities at Yulin that be used to support future aircraft carrier procurements.<sup>251</sup> Furthermore, the South Sea Fleet is constructed to play a major role in a Taiwan conflict or escalation of conflict in the SCS.

To better understand the maritime strategy China is capable of enforcing, it is essential to analyze the PLAN's force structure. This section will assess the PLAN's coastal attack craft, mine warfare vessels, amphibious capabilities, blue water vessels, aircraft carrier, submarine fleet, land-based A2/AD assets, and C4ISR capabilities. PLAN force structure will be analyzed in conjunction with recent PLAN deployments and exercises to develop a notional concept of operations for multiple maritime strategies.

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<sup>248</sup> Ren Xiaofeng, "China's Maritime Security Policy Making and Maritime Confidence-Building Measures," *Twenty-First Century Sea Power: Cooperation and Conflict at Sea*, eds. Peter Dutton, Robert Ross, and Oystein Tunsjo. (New York: NY. 2012); 197.

<sup>249</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>

<sup>250</sup> Ibid.

<sup>251</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

## 1. PLAN Force Structure

At the onset of modernization in the 1980s, naval procurement focused on large numbers of cheap single-mission vessels. More recent PLAN modernization efforts have shifted to procuring new multi-mission naval platforms based on quality over quantity. A steady push has been made to make big “leaps” in the technological capacity of each platform until it has reached parity with the cutting edge vessels of other major powers. Moreover, China is working to develop “home grown” technology to support each component of its naval forces—China’s blue water and submarine fleets have largely met this goal, while its aircraft carrier program is still in the initial stages of producing an indigenous carrier.

Defense spending in the PRC is dwarfed by the defense spending of the United States—China spent \$215 billion in 2015 compared to the nearly \$600 billion spent by the United States—but China’s military budget has grown 11% a year since 1995, which over three times the pace that the U.S. defense budget grew in the same time period.<sup>252</sup> While we do not know how the budgets are distributed across the services, the steady shift away from an Army centric force at least suggests that the Navy is not a lower percentage of that growing budget. Moreover, the difference between the defense budget reported by the CCP and the real defense budget (that International Institute of Strategic Studies estimates) has declined from a 72% gap (in RMB) in FY2005 to leveling out at around a 40% gap by FY2012—making the actual defense budget easier to estimate and future defense budgets easier to predict.<sup>253</sup> Even if the exact budget is unknown, the most important aspect of defense spending is how the money is being spent (and in support of what strategy). Adam Liff and Andrew Erickson assert, “Specific details remain unclear, but China’s defense spending overall is no mystery—it supports PLA modernization and personnel development as well as its announced objectives of securing China’s homeland and asserting control over contested territorial and maritime claims, with a focus on the

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<sup>252</sup> “SIPRI Military Expenditure Database,” *Stockholm International Peace Research Institute*, accessed June 7, 2016. [http://www.sipri.org/research/armaments/milex/milex\\_database](http://www.sipri.org/research/armaments/milex/milex_database).

<sup>253</sup> Adam P. Liff, and Andrew S. Erickson, “Demystifying China’s Defense Spending: Less Mysterious in the Aggregate,” *The China Quarterly* 216 (December 2013); 812.

Near Seas (the Yellow, East, and South China seas).”<sup>254</sup> Furthermore, steady increases in defense budgets have allowed the PLAN to domestically develop and produce some cutting edge naval technology that has parity with the United States and other major powers, which has forced the United States to react and build new capabilities to counter the increasingly advanced Chinese fleet.

This section on PLAN forces structure will address significant advancements made since modernization began concerning patrol and coastal combatants, minesweepers, shore based A2/AD, submarines, blue water surface vessels, amphibious vessels, aircraft carriers, and C4ISR. First, the coastal assets used for sea denial will be reviewed (patrol and coastal combatants, minesweepers, and shore based A2/AD), then the platforms that allow the PLAN to conduct SLOC defense (submarines and blue water surface vessels), and it will conclude with the platforms that could potentially be used for power projection (amphibious vessels and aircraft carriers) and C4ISR.

**a. Patrol and Coastal Combatants**

The PLAN’s patrol and coastal combatants fall into three broad categories: corvettes, patrol craft (PC) intended for defensive purposes but with extended offensive capabilities, and PCs intended for strictly for near seas defense. There are seventy-eight PCs that are used for near seas defense. The *Haijiu*, *Hainan*, and *Haiqing* class PCs are lightly armed with anti-ship mortars and a 57mm gun, and its size and capabilities limit its use to defense of the immediate near seas around China’s coastline.<sup>255</sup> The slightly larger and better equipped *Houjan* and *Houxin* class offer between four and six YJ-8/CSS-N-4 ASMs that have a 50nm range.<sup>256</sup> The *Houjan* and *Houxin* are also intended for the immediate near seas by China’s coastline, but offer a modest range ASuW threat in a sea denial scenario. The *Haijiu*, *Hainan*, and *Haiqing* class PCs have shallow drafts which makes operating in the rougher waters outside of China’s immediate littorals difficult and renders the speed of the vessels ineffective. Moreover, the lack of long-term

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<sup>254</sup> Liff, and Erickson, “Demystifying China’s Defense Spending,” 805.

<sup>255</sup> “Asia,” *The Military Balance*.116, no.1 (2016): doi: 10.1080/04597222.2016.1127567; 243.

<sup>256</sup> Ibid.

habitability amenities prevents the *Haijiu*, *Hainan*, and *Haiqing* class PCs for being underway for more than a day or two.

Since the onset of modernization, the PLAN has greatly improved its coastal combatant inventory through the mass production of the *Houbei* class PC and the *Jiangdao I* and *II* class corvettes. The capabilities of the *Houbei* class PC and the *Jiangdao I* and *II* corvettes provide a fierce ASuW threat in a sea denial or sea control scenario. The use of swarm tactics with the stealthy *Houbei* utilizing OTH capabilities make the PLAN's coastal defense capabilities formidable. Although both classes were originally built with a Taiwan contingency in mind, the longer range and better armament of the *Jiangdao* corvettes aid in extending sea denial capabilities to the SCS and ECS.

The *Houbei* PC has additional capabilities that allow it to be used for offensive purposes—or “offshore active defense” in PLAN doctrine. John Patch of the China Maritime Studies Institute (CMSI) at the U.S. Naval War College argues, “The *Houbei* missions fit within the recent PLAN emphasis on expanding near-seas missions beyond sea denial (which, of course, is inherently defensive) to sea control.”<sup>257</sup> The *Houbei* contributes to the sea control mission because it can rapidly respond to crisis—with a top speed around 50kts—while maintaining the hull strength to operate in seas slightly beyond the EEZ. Furthermore, the *Houbei* class is equipped with two quad-launchers that fire the formidable YJ-83/C803 ASM that has a 135nm range and can be used for over the horizon (OTH) targeting by utilizing data-link capabilities that acquires targeting data inputs from aircraft, submarines, and other surface combatants.<sup>258</sup> Additionally, the *Houbei*'s stealthy design and advanced data-link capabilities make it an ISR asset for OTH targeting and surveillance.

The *Houbei* class is logistically limited to short duration conflicts in China's near seas—and slightly beyond—but its OTH offensive capabilities, fast top speed, and large numbers (with over sixty in active use) make it ideal for both sea denial and sea control scenarios. Moreover, the *Houbei*'s ability to cover a significant operating space allows

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<sup>257</sup> John Patch, “Chinese Houbei Fast Attack Craft: Beyond Sea Denial,” *China Maritime Study no. 11*, ed. Peter Dutton, Andrew S. Erickson, and Ryan Martinson (February 2014), 3.

<sup>258</sup> Patch, “Chinese Houbei Fast Attack Craft,” 4.

for other blue water combatants to push out further from China's littorals without sacrificing sea denial capabilities. The PRC stopped production of the *Houbei* class PCs in 2009 in order to produce corvettes that have extended time on station and blue water capabilities. The shift from mass production of *Houbei*'s to the larger *Jiangdao* corvette appears to be one signal of PLAN satisfaction with its surface fleet's sea denial capabilities within its littorals and a shift toward coastal craft with longer range capabilities that can be used to protect the approaches to nearby SLOCs as well as disputed territories just beyond China's immediate littorals.

The PLAN has twenty-two corvettes and are broken into the *Jiangdao I* and *Jiangdao II* classes. In addition to having an extended range, the *Jiangdao I* and *II* are multi-mission capable. Like the *Houbei*, the corvettes have the YJ-83/C803 ASMs, but the corvettes are also equipped with HG-10 short-range SAMs, Anti-submarine torpedo tubes (ASTT), 76mm and 39mm guns, and a helicopter pad that can land—but not embark—ASW helicopters.<sup>259</sup> The *Jiangdao I* and *II* are comparable to the *Visby* class corvettes employed by the RSwN and discussed in Chapter II. The *Visby* gives the Swedish the ability to patrol all of the Baltic Sea, but is limited to do much further from home. Similarly, the *Jiangdao I* and *II* can reach disputed territories in parts of the South and East China Sea, but more accurately provides a layer of defense between the immediate littorals that the *Houbei* operates in and the open ocean where *Luyang* destroyers and *Jiangkai* frigates operate. *Jane's* assessed the *Jiangdao* corvettes as being primarily used for EEZ defense and were adopted as a cheaper and longer range alternatives to the *Houbei*.<sup>260</sup>

#### **b. Mine Warfare**

The PLAN has expanded its mine warfare capabilities as part of its initial push for sea denial capabilities at the onset of modernization. An ONI report assessed China's naval mine's program as increasingly sophisticated and stated,

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<sup>259</sup> "Asia," *The Military Balance*, 243.

<sup>260</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

The PLA(N) has moved from an obsolete mine inventory consisting primarily before-WWII mines to a robust and modern inventory including moored, bottom, drifting, rocket propelled and intelligent mines. The PLA(N)'s more advanced mines feature microprocessors for better targeting and integrated sensors to resist sweeping. The mines can be laid by submarines (primarily for covert mining of enemy ports), surface ships, aircraft, and fishing and merchant vessels.<sup>261</sup>

The PLAN has forty-nine mine warfare ships, but the most capable vessels are the various models of the *Wochi* and *Wozang* minesweepers—which currently account for only sixteen ships but are in routine production—that employ the advanced Italian *PLUTO* mine hunting vehicle (MHV).<sup>262</sup> The PLAN is in the process of reverse-engineering the *PLUTO* MHV so it can be produced domestically. The PLAN's advanced naval mines include the EM-52 and the EM-55. *Jane's* assessed the EM-52 as potentially having the power to crack the hull of an aircraft carrier, and the EM-55 mines are small enough to be laid covertly by submarines.<sup>263</sup> The PLAN's naval mine program is part of its "Assassin's Mace" concept aimed at countering U.S. interference in a Taiwan scenario and is a key part of China's sea denial capabilities. As discussed in Chapter II, Sweden has similarly invested in an expansive mine program that allows for an inexpensive way to significantly slow down the progress of larger more advanced fleets (while having the potential to inflict heavy losses at a low cost).

### **c. Shore-Based A2/AD**

The PLAN coordinates with the Second Artillery Force of the PLA in the execution of its A2/AD strategy. The *U.S. Joint Operational Access Concept (JOAC)* defines "Anti-Access" and "Area Denial" capabilities by asserting "Anti-access actions tend to target forces approaching by air and sea predominantly, but also can target the cyber, space, and other forces that support them," and "Area Denial capabilities target

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<sup>261</sup> "The People's Liberation Army Navy: A Modern Navy With Chinese Characteristics," *Office of Naval Intelligence*, August 2009. <https://fas.org/irp/agency/oni/pla-navy.pdf>.

<sup>262</sup> "Asia," *The Military Balance*, 243; "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

<sup>263</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>

forces in all domains, including land forces.”<sup>264</sup> More generally, A2/AD denies the adversary access to operate in a defined space for a defined time by the threat of heavy asymmetric losses. The PLAN’s patrol craft, corvettes, submarines, and part of the blue water fleet all contribute in employing the A2/AD mission in the near seas, but assets from the shore based Second Artillery Force and PLAN aircraft (like SU-30 fighters) significantly bolster the PRC’s ability to employ an A2/AD strategy at a longer range.

The maritime connection between the Second Artillery Force and the PLAN comes from the newly developed DF-21D ASBM. The DF-21D is launched from road mobile platforms and has an assessed maximum range of 1,500nm.<sup>265</sup> The maneuverable warhead of the DF-21D makes it difficult for missile defense interceptors that some U.S. ships employ to intercept it. Similar to the *Houbei* PC receiving targeting data via data-link inputs from other ships and submarines to allow for its YJ-83 ASM to be employed for OTH targeting, the DF-21D will rely on targeting data inputs from several possible OTH sources. *Jane’s* asserts that data input for DF-21D guidance and targeting is expected to be received from UAVs, satellites, active and passive radar, submarines, and surface ships at sea.<sup>266</sup>

The net effect of the DF-21D is that it provides a “low cost high yield” weapon that pushes the operating distance of U.S. carriers and its strike aircraft out of striking range during a near seas conflict. Unlike the Swedish artillery forces discussed in Chapter II, the A2/AD equipment China possesses can potentially attack forces 1,500nm—the Swedish use conventional artillery and short range missiles that only can reach 10–20nm away. The employment of DF-21D in conjunction with maritime A2/AD assets would come at huge costs for the U.S. Navy if it were to intervene in a Taiwan Strait scenario. Additionally, the extended range of the DF-21D could be potentially used in a sea denial strategy as far out as the distant parts of SCS and ECS. Moreover, when used in conjunction with the PLAN’s near seas maritime assets, the DF-21D guarantees China

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<sup>264</sup> *Joint Operational Access Concept*, Department of Defense, Washington, DC, January 17, 2012. [http://www.defense.gov/Portals/1/Documents/pubs/JOAC\\_Jan%202012\\_Signed.pdf](http://www.defense.gov/Portals/1/Documents/pubs/JOAC_Jan%202012_Signed.pdf); 6.

<sup>265</sup> “China Naval Overview.” *Jane’s World Navies*.

<sup>266</sup> *Ibid.*

the ability to employ a sea denial strategy—and potentially a sea control strategy—within its near seas.

**d. Submarine Fleet**

ONI argues that since the mid-1990s, China has focused on submarine modernization as one of its primary efforts due to the strategic and conventional deterrence capabilities that can be attained through employing a strong submarine force.<sup>267</sup> Like the blue water surface fleet, the submarine fleet has moved into serialized production of a small number of platforms after a period of indigenous technological leaps and foreign military purchases.<sup>268</sup> The PLAN submarine force consists of nine nuclear power submarines and fifty-nine diesel electric submarines of varying quality. The most advanced conventionally power submarine is the *Yuan* class SSP, which employs Air Independent Propulsion(AIP) technology that significantly extends the time it can submerge and remain on station. As discussed in Chapter II, both the Swedish and the Japanese have invested in AIP equipped submarines as well—producing AIP submarines is a way to extend asset time on station, but at a discounted price compared to expensive nuclear submarines. There are twelve *Yuan* class submarines already in service and ONI assesses that as many as eight more are already approved for production.<sup>269</sup> In addition to torpedoes, the *Yuan* class has been upgraded to fire the YJ-18 ASCM that has a maximum range of around 290nm—a significant upgrade to the previous YJ-82 that had significantly less than half of the range of the YJ-18.<sup>270</sup> The *Song* and *Shang* classes are similarly outfitted with the YJ-18 ASCMs. The PLAN has also acquired twelve stealthy *Kilo* class diesel submarines from Russia, eight of which carry the advanced SS-N-27 *Sizzler* ASCM that has a 120nm range and was designed to defeat the *Aegis* weapon system.<sup>271</sup> Moreover, between 2005 and 2014, PLAN submarines capable of employing

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<sup>267</sup> “The People’s Liberation Army Navy: A Modern Navy With Chinese Characteristics,” 20.

<sup>268</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” *Office of Naval Intelligence* (2015). <http://www.oni.navy.mil/Intelligence-Community/China>; 18.

<sup>269</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” *Office of Naval Intelligence* (2015). <http://www.oni.navy.mil/Intelligence-Community/China>, 19.

<sup>270</sup> *Ibid.*

<sup>271</sup> *Ibid.*

ASCMs has grown from 34% of the submarine force to 59% of the submarine force—and is projected to be 64% by 2020.<sup>272</sup>

The PLAN has slowly advanced its nuclear-powered submarine force as well. After halting production of the *Shang* class SSN after two boats were completed between 2002 and 2003, and improved *Shang* class has since gone into serial production and four have been commissioned since 2012. The improved *Shang* is quieter than both the first two *Shangs* and its predecessor—the *Han* class SSN—but still remains much noisier than Russian and U.S. nuclear submarines.<sup>273</sup> Consequently, plans for a new Type 095 SSN are already being developed to create a quieter SSN with greater weapons capacity.<sup>274</sup> In addition to nuclear attack submarines, the PLAN has added four *Jin* class SSBNs since 2007 and a fifth boat is expected to be commissioned by 2017.<sup>275</sup> The *Jin* gives China a credible nuclear deterrent and carries the JL-2 SLBM. *Jane's IHS Weekly* reported that the first *Jin* patrol took place at the end of 2015,<sup>276</sup> but such a patrol has not been widely reported nor confirmed in the latest report to Congress on Chinese naval modernization. If *Jin's* first patrol has not occurred yet, reports to congress on Chinese naval modernization have predicted the first *Jin* deployment annually since 2014 and a the first patrol is considered to be imminent.<sup>277</sup> The next generation of SSBNs—the Type 096—is expected to enter the initial phases of development after the fifth *Jin* enters the fleet.

The PLAN's submarine force has certainly made significant technological strides since the beginning of modernization, but what does it mean for developing China's maritime strategy? ONI assesses the PLAN submarine fleet's capabilities as limited and argues,

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<sup>272</sup> Ibid.

<sup>273</sup> Cliff, *China's Military Power*, 143.

<sup>274</sup> "The PLA Navy: New Capabilities and Missions for the 21st Century," 19.

<sup>275</sup> "China Naval Overview." *Jane's World Navies*.

<sup>276</sup> Richard D Fisher Jr., "China Advances Sea-and Land-Based Nuclear Deterrent Capabilities," *HIS Jane's Defense Weekly*, December 15, 2015. <http://www.janes.com/article/56667/china-advances-sea-and-land-based-nuclear-deterrent-capabilities>

<sup>277</sup> "China Naval Overview." *Jane's World Navies*.

Most of China's submarine force is conventionally powered, with ASCMs, but without towed arrays. These submarines are optimized for regional missions that concentrate on ASuW near major SLOCs. China's small nuclear attack submarine force is more capable of operating further from the Chinese mainland, conducting intelligence, surveillance and reconnaissance (ISR), and ASuW missions. China's submarines are not currently optimized for two missions at the core of U.S. submarines—ASW and land attack.<sup>278</sup>

Like the blue water fleet, the PLAN submarine fleet is lacking in its capability to conduct ASW because of a lack of advanced towed arrays, and its primary torpedo (the YU-6) is based on the U.S. MK 48 torpedo from the 1980s (which has been significantly improved in the MK 48 ADCAP). Furthermore, the submarine force's value as an ASuW threat and ISR asset have led it to increasingly conduct SLOC defense and reconnaissance missions. As the PLAN's SSN numbers gradually increase, it will aid in making a sustained global submarine presence possible. However, the notable lack of power projection weapons (like the TLAM capabilities of U.S. SSGNs and SSNs) and poor ASW technology limit the future employment of the PLAN's current SSN inventory to ASuW, SLOC defense, and reconnaissance missions.

***e. Blue Water Capabilities (Including Logistical Support)***

Perhaps the greatest technological leaps that the PLAN has made during modernization—along with submarine advancements—are in the advanced blue water fleet the PLAN has begun to field. At the onset of modernization, China's blue water fleet was mostly dilapidated old Soviet vessels that offered little hope of actually sustaining blue water operations. Since 2000, the PLAN has developed four advanced indigenous classes of destroyers and two classes of advanced indigenous frigates.<sup>279</sup> Altogether the PLAN has seventy-four destroyers and frigates, but fewer than half would be considered to be technologically advanced compared to other regional power like Japan, France, or the United States. Although a large portion of the PLAN's destroyers and frigates are older and less capable than its newer indigenous ships, it compensates for

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<sup>278</sup> "The PLA Navy: New Capabilities and Missions for the 21st Century," 19.

<sup>279</sup> Roger Cliff, *China's Military Power: Assessing Current and Future Capabilities* (Cambridge University Press, 2015.) 138–139.

their age with advanced weapon systems. For example, the *Hangzhou* class destroyers—former Russian *Sovremenny* class destroyers—are equipped with eight SS-N-22 *Sunburn* ASMs that have a 130nm range and a seeker built specifically to defeat the *Aegis* weapon system on U.S. cruisers and destroyers.<sup>280</sup> Moreover, even most of the oldest frigates in the PLAN inventory—like the *Luda* class—are outfitted with the YJ-83 ASM that has a 135nm range, and others are outfitted with the YJ-8A with a 65nm range (providing considerable ASuW protection).

The most significant progress in the PLAN's blue water fleet is in development of its *Luyang III* class destroyers. The *Luyang I-III* classes represent several key milestones for the PLAN's blue water fleet. First, they were assessed by ONI as “comparable in many respects to the most modern Western warships.”<sup>281</sup> Consequently, the *Military Balance* assessed that the “leap frog” technique used in building previous destroyer classes—rapid technological jumps in each ship class, but only one or two ships per class (which made maintenance and logistical supply chain development a nightmare)—has ended with the *Luyang III*. *Jane's* corroborates this assessment and states that twelve *Luyang III* class ships are expected to be built.<sup>282</sup> *Luyang II-III* both include the *Dragon Eye* phased array radar, which gives each ship area air defense capabilities on par with U.S. *Aegis* destroyers and cruisers.<sup>283</sup> Furthermore, the ASM and ASCM capabilities of the *Luyang II-III* have achieved parity with comparable U.S. cruisers and destroyers. The range of the only operational ASM in the U.S. Navy surface fleet (*Harpoon*) only has a range of 67nm (Block 1C and older variants) or 130nm (Block 1D and newer variants) and is not outfitted on over half of U.S. destroyers.<sup>284</sup> This deficiency has been recognized by the U.S. Navy, and it has invested in the LRASM, SM-6 (surface mode), and *Tomahawk* (surface to surface mode) as a part of its “distributed lethality” concept

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<sup>280</sup> “Asia,” *The Military Balance*, 242–243.

<sup>281</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” *Office of Naval Intelligence* (2015). <http://www.oni.navy.mil/Intelligence-Community/China>; 13.

<sup>282</sup> “China Naval Overview.” *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

<sup>283</sup> *Ibid.*

<sup>284</sup> “RGM-84/UGM-84 Harpoon (GWS 60),” *Jane's World Navies*, Accessed August 22, 2016. <https://janes.ihs.com/Janes/Display/1495985>.

aimed at countering many of the A2/AD, ASM, ASCM, and ASBM advances the PLAN has made.<sup>285</sup> The *Luyang II* is equipped with YJ-62 ASM with a 162nm range and has the long rang HHQ-9 SAM that provides protection out to at least 62nm.<sup>286</sup> The *Luyang III* is similarly equipped with the HHQ-9 SAM, but adds the YJ-18 ASCM to its arsenal, which has an impressive 290nm range.<sup>287</sup> The *Luyang III*'s capabilities rival—and in ASuW surpasses—the most technologically advanced U.S. ships.

The growth of advanced capabilities within the PLAN's blue water fleet is significant because of the new missions the PLAN can support as a result. The PLAN has advanced from point air defense to area air defense, which can enable future global SAG and carrier deployments and power projection. Additionally, the PLAN is developing the Type-055 cruiser class which is expected to have twice the number of VLS cells as the *Luyang III* (128 versus 64), while carrying many of the same weapons systems—and potentially the longer rang YJ-100 ASCM that is still being developed.<sup>288</sup> Furthermore, advanced ASuW weapons allow the blue water fleet to contribute to A2/AD efforts, and give China increasingly greater capabilities to employ a sea control strategy within China's near seas.

Several critical deficiencies stand in the way of making the PLAN a viable global fleet. First, the most advanced ships—the *Luyang I-III* destroyers—account for less than 15% of the current blue water fleet, number 12 hulls (with eight more under construction). The most capable frigates—the *Jiangkai I-II* classes—account for another 30% of the fleet, but they have less capable in providing ASuW weaponry and can provide area air defense, but at shorter ranges than the *Luyang II-III*s.<sup>289</sup> *Jiangkai* FFGs enjoy parity to the ASuW capabilities of a U.S. LCS, but coming advancements in U.S.

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<sup>285</sup> Thomas Rowden, Peter Gumataotao, and Peter Fanta, "Distributed Lethality," *Proceedings Magazine*, Vol. 141, no. 1. <http://www.usni.org/magazines/proceedings/2015-01/distributed-lethality>.

<sup>286</sup> "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015," *Department of Defense*, April 7, 2015. 10; Cliff, *China's Military Power*, 138.

<sup>287</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

<sup>288</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>

<sup>289</sup> "Asia," *The Military Balance*, 242–243.

ASuW weaponry and the LCS ASW package in development should soon give the LCS the technological edge . Moreover, the PLAN possesses only limited quantities of platforms that extend its capabilities outside of the region, but as *Jane's* and *Military Balance* asserted, the serial production of *Luyang III*s and *Jiangkai II*s will gradually give the PLAN more global capabilities—*Luyang III* has eight additional hulls in various stages of production and *Jiangkai II* has three in production with another five proposed<sup>290</sup> Another deficiency comes in the surface fleets ability to conduct ASW. Most ASW efforts have been made in submarine and naval aircraft development, not in surface combatant development. The advanced *Luyang III* is only equipped with the over the side launched Yu-7 light weight torpedoes, which act more as defensive countermeasures than offensive firepower.<sup>291</sup> New SONAR suites and towed array technology is slowly reaching the fleet, but its capabilities are still relatively unsophisticated—clearly the blue water fleet is being constructed with ASuW in mind and with ASW as an afterthought. The PLAN's ASW weaknesses could be easily exploited by capable ASW forces—like that of the U.S. Navy and JMSDF—and could prove to be a decisive flaw in battle. Moreover, China's newest destroyers and frigates share a similar level of sophistication as the frigates and destroyers that Japan and France employ—and were discussed in Chapter II. Even with its weaknesses, the PLAN blue water fleet has made significant strides in catching up with the rest of the world in terms of quality—only time stands in the way in catching up in quantity.

One often over looked blue water capability that the PLAN has also invested in is its blue water auxiliaries fleet. Even if the PLAN makes advancements in its destroyers, frigates, or even aircraft carriers, there must be logistical support ships if the advanced new fleet is to deploy outside of the region. One example is the advanced *Fuchi* class oiler. Since 2000, the PLAN has commissioned five *Fuchi* class oilers to add to its

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<sup>290</sup> Ibid., 226; “China Naval Overview.” *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>; “Luyang III (Type 052D Class)” *Jane's World Navies*. Accessed August 5, 2016. <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1524889>; “Jiangkai II (Type 054A Class)” *Jane's World Navies*. Accessed August 5, 2016. <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1357334>.

<sup>291</sup> “Asia,” *The Military Balance*, 242–243.

auxiliaries fleet.<sup>292</sup> Prior to the *Fuchi* class, three of the five oilers the PLAN used were over twenty-five years old, and only one was capable of refueling more than one ship at a time.<sup>293</sup> *Fuchi* class oilers are substantially smaller than U.S. oilers, they only displace 22,000 tons of water, and provided 10,400 tons of fuel—around half of what a U.S. oiler displaces and holds.<sup>294</sup> However, the *Fuchi* class is comparable to the Japanese *Mashuu* class oiler which displaces 25,000 tons and 11,000 tons of fuel oil and gasoline.<sup>295</sup> Japan's oilers have been used primarily in regional operations with occasional deployments outside of the East Asia—like the deployment of the oiler *Tokiwa* in support of U.S. operations in the Arabian Gulf at various points between 2001 and 2007. China's *Fuchi*-class has similarly deployed in support of out of area deployments to the HOA. Moreover, the small nature of both Japan's and China's oiler fleet point to use primarily in the Asian region with short deployments beyond—they cannot sustain long blue water deployments. The stark difference between a U.S. oiler and the Japanese and Chinese oilers exemplify the difference between an oiler built for sustained blue water deployments out of region compared to one that can only support brief blue water deployments out of region—the difference between a regional global power projection force and a regional SLOC defense force.

In sum, the PLAN's blue water capabilities are not as large as other regional powers like Japan or the United States, but it is closing the gap—and closing quickly relative to Japan's destroyer fleet (China has 26 destroyers relative to Japan's 39).<sup>296</sup> PLAN modernization has allowed for its newer destroyers to be assessed as equals to comparable U.S. and Western ships, and allows for deployments outside of East Asian region. Expansion of the logistical fleet is complimenting the blue water combatants to

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<sup>292</sup> Aaron Tate, "PLAN Commissions, Launches Several New Ships as Modernization Continues," *Jane's Sea Platforms*, January 7, 2016. <http://www.janes.com/article/57020/plan-commissions-launches-several-new-ships-as-modernisation-continues>

<sup>293</sup> Cole, *Great Wall at Sea*, 107.

<sup>294</sup> Ibid.

<sup>295</sup> "Mashuu Class Overview" *Jane's World Navies*. Accessed August 5, 2016. <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1356606>.

<sup>296</sup> "China Naval Overview." *Jane's World Navies*. Accessed August 5, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>; "Japan Naval Overview." *Jane's World Navies*. Accessed August 5, 2016. <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1322704>.

make sustained global deployments possible for a limited portion of the PLAN's blue water fleet—as has been evident in *Fuchi*-class oilers being deployed as part of the ongoing PLAN counter-piracy operations in the Gulf of Aden.

**f. *Amphibious Capabilities***

Although the PLAN's amphibious lift capabilities have not significantly expanded since modernization began, all troop and equipment carrying platforms have been improved and modernized. Cole asserts that the PLAN's troop-carrying capability is limited to approximately one mechanized division.<sup>297</sup> China would certainly need the capability to carry more than one mechanized division to enforce any power projection aspirations, and civilian sealift cooperation would likely be required even in amphibious operations against Taiwan. However, the PLAN is steadily increasing the seaworthiness of its amphibious forces and laying the groundwork for future power projection capabilities.

In addition to producing forty-seven modern smaller landing ships to replace obsolete versions, three state-of-the-art LPDs have been commissioned in the last five years.<sup>298</sup> Cole argues that the Cole argues that these three *Yuzhao* LPDs are “straightforward copies” of the U.S. *San Antonio* class LPDs.<sup>299</sup> The *Yuzhao* LPDs are the first PLAN vessels to incorporate a well deck—giving them amphibious assault capabilities—a significant a necessary component of a power projection strategy. Moreover, the *Yuzhao* can embark 500–800 marines along with its equipment—to include 4 LCACs and 2 helicopters.,<sup>300</sup> the new LPDs have blue water capabilities and can be deployed globally—albeit they would have to deploy with area AAW and ASuW capable platforms since all of its armaments are short-range last resort defensive weapons (like the AK630 CIWS) as is the case for most modern amphibious assault ships. Although the *Yuzhao* LPDs could provide a critical component of a power projection

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<sup>297</sup> Cole, *Great Wall at Sea*, 95.

<sup>298</sup> “Asia,” *The Military Balance*, 243.

<sup>299</sup> Cole, *Great Wall at Sea*, 95.

<sup>300</sup> “Asia,” *The Military Balance*, 243.

strategy, there are not enough of them in the PLAN fleet to employ power projection except in an extremely limited scenario—like hypothetical portions of a complex Taiwan situation. China would like need to seize a port and use commercial shipping to provide the needed logistical lift to support an amphibious assault on Taiwan. Moreover, the serious power projection capabilities from amphibious assault vessels come from strike capable LHAs/LHDs, which China has yet to invest in.

In addition to blue water LPDs, *Jane's* assessed that China is currently in the early stages of domestically building a big deck LHA capable of embarking eight helicopters, four LCACs, and over 1,000 marines—the U.S. DOD calculates that construction on the LHA will begin within five years.<sup>301</sup> Notably, the LHA that China is currently is not capable of embarking strike capable fighter craft, which limits its power projection capabilities to situations where air supremacy has already been achieved (presumably in a A2/AD scenario involving Taiwan).

Although the PLAN currently has a modest lift capability of a single mechanized division, the addition of three LPDs provides a blue water platform to build on for a future power projection and can currently be used to conduct HA/DR missions globally. Adding an LHA to the amphibious force will continue to lay the groundwork for power projection outside of China's near seas. However, pursuing helicopter carriers and LPDs does not necessarily mean that China is pursuing a global power projection strategy. The specifications of China's LHA match Japan's *Hyuga* class helicopter carrier more closely than France's *Mistral* class LHA. Like the *Hyuga* class, the PLAN LHA is predicted to lack the strike or attack capabilities that the power projection capable *Mistral* class LHA employs. As mentioned in Chapter II, the *Mistral* class LHA can embark up to 16 attack helicopters—double what the under-construction PLAN LHA could embark. However, unlike Japan's *Hyuga* class helicopter carrier, the new PLAN LHA will likely have the ability to embark LCACs and other amphibious lift capabilities that can be used for power projection—only modifications to support VSTOL fighter air craft would be needed to transform China's future LHA into a more offensive weapon.

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<sup>301</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>

In sum, China's amphibious capabilities remain modest, but it is increasingly able to support far seas operations. The primary mission of the amphibious forces is undoubtedly a Taiwan strait scenario, but the PLAN amphibious forces would more than likely need civilian sea lift assistance to replenish the single marine division that the status quo PLAN is capable of landing. China's blue water LPDs could play a major role in future HA/DR missions and are intended to be used for Military Operations Other Than War (MOOTW) in addition to a Taiwan Strait scenario—Defense white papers from 2008 to 2015 highlight the importance of MOOTW and HA/DR specifically. Although the *Yuzhou* class has yet to be used in a real world HA/DR yet, its 2010 deployment to the HOA in support of counter-piracy operations prove that it has the capability to operate far from China for prolonged periods of time. The PLAN is not close to being able to conduct distant power projection missions in the near term, but it is slowly building the capabilities that could gradually support power projection missions over time.

**g. Aircraft Carriers**

The PLAN commissioned its only aircraft carrier, the *Liaoning*, in September of 2012. *Liaoning* was originally an unfinished Ukrainian *Varyag* class carrier and began initial flight integration training after finishing an extensive maintenance period in 2014.<sup>302</sup> *Liaoning* is capable of embarking up to twenty-four fighter aircraft and twelve helicopters—to date it is using J-15 fighter aircraft and Z-18J, Z-18F, and Z-9C helicopters. Although the commissioning of an aircraft carrier is a significant milestone in the PLAN's modernization program, the carrier air wing it can embark is only half the size of a U.S. Carrier Air Wing. *Liaoning* is more comparable in size and aircraft compliment to the French *Charles de Gaulle* class or British *Queen Elizabeth* class carriers, although the French and British carriers are considered to be more technologically advanced and capable of longer range missions. Moreover, the *Liaoning* does not give the PLAN immediate power projection capabilities. The *2015 Annual Report to Congress on Military and Security Developments Involving the PRC* states,

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<sup>302</sup> "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015," 10–11.

The LIAONING's smaller size limits the number of aircraft it can embark, while the ski-jump configuration limits restricts fuel and ordnance load. The LIAONING is therefore best suited to fleet air defense missions, extending air cover over a fleet operating far from land-based coverage. Although it possesses a full suite of weapons and combat systems, LIAONING will likely continue to play a significant role in training China's carrier pilots, deck crews, and developing tactics that will be used with later, more capable carriers.<sup>303</sup>

As identified by the 2015 Congressional Report, the *Liaoning's* greatest value comes in initiating the training regimen that can be used on larger future aircraft carriers. Moreover, training and operating on the *Liaoning* gives its pilots the operational experience needed to influence future doctrine and tactics. Additionally, the facilities the PRC has built to support the construction, maintenance, and upkeep of the *Liaoning* can be used to support future carrier procurement. As discussed in Chapter II, France's *Charles de Gaulle* class carrier is a strike capable carrier that has twice the number of strike fighters as the *Liaoning* can also employ a C2 aircraft to broaden the aircraft early warning capabilities needed for achieving air superiority in a power projection scenario. *Liaoning* is incapable of providing both the strike and C2 capabilities needed for power projection.

The *2015 Annual Report to Congress on Military and Security Developments Involving the PRC* assess that China is pursuing an indigenous aircraft carrier program and it is building the industrial and logistical capacity to build multiple aircraft carriers in the next 15 years.<sup>304</sup> *Jane's* further asserts that China's first indigenous aircraft carrier is expected to be launched by 2017 (and enter service several years later) with a second aircraft carrier completed within the next six years.<sup>305</sup> In December of 2015, Chinese Ministry of Defense officials confirmed that the first indigenous aircraft carrier was being built and would use the same short take-off but arrested recovery (STOBAR) configuration used on the *Liaoning*—during the same conference it was confirmed that

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<sup>303</sup> *Ibid.*, 11.

<sup>304</sup> "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015," 10–11.

<sup>305</sup> "China Naval Overview." *Jane's World Navies*. Accessed June 7, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

more advanced catapult systems were being developed for future models to move away from the STOBAR configuration.<sup>306</sup>

China's aircraft carrier program marks a substantial shift in seeking future power projection capabilities. Although the current carriers in production or commissioned are relegated to a fleet air defense role, the PLAN is building the foundation for more advanced platforms. The current carrier program could be viewed as a status symbol more so than a shift to a power projection strategy, but if future carrier models rival the size and capabilities of the U.S. carriers, it would seem to confirm that China is seeking to employ a limited power projection strategy outside of the East Asian region. Conversely, if future carriers stay small, it would point to a regional strategy with power projection only possible in very limited situations—as is the case currently.

#### ***h. C4ISR***

The PLAN has developed a sophisticated C4ISR network that allows for advanced early warning of surface, air, and subsurface combatants operating near China and facilitates the use of its OTH ASCMs and ASBMs. A 2015 report to Congress on China's modernization states, "These systems reportedly include land-based over-the-horizon backscatter (OTH-B) radars, land-based over-the-horizon surface wave (OTH-SW) radars, electro-optical satellites, radar satellites, and seabed sonar networks."<sup>307</sup> ONI assesses that the most reliable intelligence China gains are from ships at sea—to include fishing boats outfitted with the commercial Automatic Identification System that provides precise GPS locations that can be used when reporting a warship sighting—and from its aircraft—like the KJ-200s (airborne early warning similar to the U.S. AWACS) and Y-8JB ELINT aircraft.<sup>308</sup>

Land based Skywave OTH radars used in conjunction with satellite imagery significantly bolster the PLAN's intelligence picture past its near seas—more importantly

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<sup>306</sup> Sam LaGrone, "Officials Confirm Construction of First Domestic Chinese Aircraft Carrier," *USNI News*, January 4, 2016. <https://news.usni.org/2016/01/04/officials-confirm-construction-of-first-domestic-chinese-aircraft-carrier>.

<sup>307</sup> O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities*, 25.

<sup>308</sup> "The PLA Navy: New Capabilities and Missions for the 21st Century," 24–25.

they can potentially provide targeting data for the DF-21D ASBM or at a minimum vector vessels with the data link capabilities to areas suspected to have adversarial forces.<sup>309</sup> Additionally, China has made significant strides in its space program. Roger Cliff argues that if China maintains its current trajectory of satellite deployment, “in 2020 China would have: seven optical reconnaissance satellites, four radar reconnaissance satellites, eight electronic intelligence satellites, four groups of ocean reconnaissance satellites, seven missile launch early warning satellites, and thirty-five navigation satellites.”<sup>310</sup> The PLAN has expanded its reconnaissance capabilities by investing in surveillance ships. Four *Dongdiao* class intelligence collection ships have been commissioned since 2000. The PLAN also receives ISR from its improved submarine force outside its near seas and stealthy *Houbei* patrol craft within its near seas. The space program in conjunction with PLAN modernization has allowed for a major increase in regional situational awareness, and serves as the basis for OTH targeting data used in the ASCM and ASBM systems that give China a high probability of success in a sea denial or sea control scenario in its near seas. Each element of China’s C4ISR supports the broader situational awareness needed to implement a sea denial strategy in its near seas. Having long range, shore-based weaponry without long range intelligence gathering and targeting data degrades the capability. Intelligence gather ships (like the *Dongdiao*) extend China’s ISR capabilities outward, but the bulk of China’s most sophisticated C4ISR technology is in support of operations in China’s near seas.

## **2. Exercises, Recent Deployments, and Concept of Operations**

Since beginning its naval modernization program, the PLAN has gradually become more involved with international exercises and far seas deployments. Part of the gradual increase is due to introduction of more advanced blue water capable ships to the fleet while retiring the older ships left over from before the modernization push. Additionally, China’s economic growth—and its dependency on maritime shipping for both trade and energy—has highlighted the importance of the SLOC defense mission and

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<sup>309</sup> O’Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities* 25.

<sup>310</sup> Cliff, *China’s Military Power*, 179.

the subsequent need for “far seas exercises” and training has been emphasized to gain proficiency in operating outside of China’s littorals. The PLAN’s internal fleet exercises, multilateral exercises, and sustained deployments have helped the PLAN to gain greater proficiency in new mission areas outside of the traditionally emphasized littoral defense missions.

This section will discuss the PLAN’s internal training exercises, multilateral exercises, recent deployments, and the concept of operations for a notional deployed force in a sea denial or SLOC defense scenario.

**a. Training Exercises**

Up until 2009, the PLAN enlisted forces were limited to sixteen years of service and was comprised mostly of conscripts with four-year service contracts. Consequently, there was frequent turnover of enlisted forces that resulted in an unsatisfactorily small Non-commissioned Officer (NCO) corps within the PLAN.<sup>311</sup> The “conscript cycle” heavily influenced the PLAN fleet level training cycle. When new conscripts entered the fleet in the fall, a training stand down would occur between November and the beginning of the new year. Over the coming months, the three geographically fleets would work their way up from single ship training to larger flotilla-level training toward the end of the year when the cycle started over again.

Starting in 2009, the PLAN extended the maximum enlisted service length to thirty years and shortened enlisted contracts to two years in order to encourage career enlisted sailors and expand the NCO component of the PLAN—significantly changing the training cycle.<sup>312</sup> The effect of the new training cycle is that fleet assets are not required to return to lower level training immediately after achieving their peak level of readiness in flotilla-exercises. Rather, PLAN forces can continue to build from flotilla-exercises and take on more advanced missions and exercises. One example is that prior to 2009—and the development of requisite technology—planned fleet exercises were

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<sup>311</sup> Kenneth Allen and Morgan Clemens, *The Recruitment, Education, and Training of PLA Navy Personnel*, Naval War College China Maritime Studies no. 12, August 2014. 1–2.

<sup>312</sup> Allen and Clemens, *The Recruitment, Education, and Training of PLA Navy Personnel*, 2.

almost exclusively focused on littoral defense ASuW operations. Since 2009, exercises have become increasingly oriented to conduct multiple missions, to include ASW, AAD, and C4ISR employment.<sup>313</sup> Additionally, larger exercises that included forces from all three fleets have occurred regularly since 2013 and have continually increased in tactical difficulty.

Although PLAN exercises have more complex, they have lacked much joint interaction between services. Moreover, some exercises that the PLA labels as “joint” would certainly not meet that standard in the United States. For example, annual “joint” exercises between the PLAN and the PLAAF occur, but the two services act as opposing forces rather than as a joint force pursuing a shared operational goal.<sup>314</sup> The critical weakness in joint training was addressed in the PLA’s 12th Five Year Plan in 2011, and improving multi-branch training was on the top of its list of needed training reforms.<sup>315</sup> Until joint training improves, it limits the PLAN’s ability to employ a strategy that requires far seas coordination between multiple services—like a power projection strategy. A power projection strategy would require seamless integration of the PLA, PLAN, and the PLAAF to train to a series of complicated missions—for example: defensive counter air, tactical air support, close-in fire support, strategic air lift in support of amphibious operations, and strike operations. The respective armed forces would not act completely independently of each other in any major combat operation, so better joint training exercises are required to establish the doctrine and organizational cohesion needed for a joint campaign to be successful—whether the campaign were to involve A2/AD, power projection, or SLOC defense.

***b. Multilateral Exercises***

The PLAN has regularly participated in multilateral exercises in recent years and ONI assesses “the PLA(N) has actively promoted naval diplomacy through goodwill

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<sup>313</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” 28.

<sup>314</sup> “The People’s Liberation Army Navy: A Modern Navy With Chinese Characteristics,” 35.

<sup>315</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” 28.

cruises and low-level joint exercises.”<sup>316</sup> In response to the U.S. policy of “rebalancing to the Pacific,” the PLAN has increased its frequency and size of its bilateral operations with Russia. Major bilateral naval exercises between China and Russia occurred in August 2012, July of 2013, July of 2014, and April of 2015.<sup>317</sup> Each exercise with Russia included around 23 ships and submarines, 20 aircraft, and Marine Corps elements to conduct exercises that included “hijack rescue, escorting commercial ships, defending a convoy from air and sea attack, ASW, live-firing, and SAR.”<sup>318</sup>

China participated in the largest multi-lateral naval exercise in the world for first time in 2014 by sending four ships to the U.S.-led RIMPAC exercise. The various events of RIMPAC shined a positive light on the tactical advances the PLAN have made and ONI assessed “China’s successful participation in RIMPAC highlighted its emergence as a capable navy in the Pacific and its increasing confidence in showcasing its own abilities.”<sup>319</sup> The PLAN also hosted a 2014 SAR and HA/DR multi-national naval exercise led by ASEAN, which included seven other states and took place off of Qingdao—the PLAN participated in a similar ASEAN naval exercise off Brunei in 2013.<sup>320</sup> The gradual increase in participation in bilateral and multilateral exercises—including some well away from its near seas—has allowed the PLAN to gain valuable operational experience while making symbolic gestures of cooperation with other key security players in the region.

### ***c. Deployments***

Routine PLAN deployments to the Gulf of Aden in support of UN counter-piracy operations has demonstrated the PLAN’s ability to conduct sustained—albeit limited—blue water operations well outside the East Asian region. Cole asserts, “The PLAN has been making out-of-area deployments since the mid-1970s, for political as well as operational reasons, but the counterpiracy deployments—the thirteenth task group

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<sup>316</sup> Ibid., 30.

<sup>317</sup> “China Naval Overview.” *Jane’s World Navies*.

<sup>318</sup> Ibid.

<sup>319</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” 30.

<sup>320</sup> “China Naval Overview.” *Jane’s World Navies*.

departed China in December 2012—mark a new expanded scope for Chinese operations.”<sup>321</sup> At the end of 2015, the PLAN had conducted over nineteen deployments to the Gulf of Aden, and notably sent a *Song* class submarine to aid in counter-piracy operations in 2014.<sup>322</sup> The Gulf of Aden deployments are significant for several reasons. First, the PLAN has managed to sustain continuous out of area deployments for seven years. Second, it highlights the importance of the SLOC defense strategy for the PLAN and justifies the expansion of blue water assets to meet accomplish distant SLOC defense. China has begun construction on “support facilities” (read “naval base”) in Djibouti in February of 2016.<sup>323</sup> The Chinese base in Djibouti signals both a commitment to SLOC defense in the region and a big step toward sustaining a constant blue water presence outside of the East Asian region. Moreover, there are no other facilities currently being built similar to that in Djibouti—even with the extensive One Belt One Road policy. While the Djibouti base marks a significant event in PLAN overseas operations, the PLAN still needs similar facilities near other key SLOCs (like the western portion of the Strait of Malacca and Strait of Hormuz) if it seeks to provide a sustained SLOC defense force at all of the most critical SLOCs that China depends on. Third, it acts as an example of cooperation and integration into global maritime security efforts that can be viewed as a confidence building measure. Finally, it serves to contextualize recent changes to the PLAN maritime strategy in the 2015 Defense white paper that expand PLAN missions to “open seas protection.”<sup>324</sup>

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<sup>321</sup> Bernard Cole, *Asian Maritime Strategies: Navigating Troubled Waters* (Annapolis, Maryland: Naval Institute Press, 2013); 100.

<sup>322</sup> Sam LaGrone, “Chinese Submarine Headed to Gulf of Aden For Counter Piracy Operations,” *USNI News*, September 30, 2014. <https://news.usni.org/2014/09/30/chinese-submarine-headed-gulf-aden-counter-piracy-operations>.

<sup>323</sup> Ankit Panda, “Confirmed: Construction Begins on China’s First Overseas Military Base in Djibouti,” *The Diplomat*. February 29, 2016. <http://thediplomat.com/2016/02/confirmed-construction-begins-on-chinas-first-overseas-military-base-in-djibouti/>.

<sup>324</sup> For better and more detailed information on the Gulf of Aden deployments by the plan see Andrew S. Erickson and Austin M. Strange, “Chinese Cooperation to Protect Sea Lane Security: Anti-piracy Operations in the Gulf of Aden,” *China Maritime Study no. 13*, ed. Peter Dutton and Ryan Martinson (May 2015), 33. Information on forward sea basing requirements for PLAN SLOC protection see Christopher D. Young, “Chinese Overseas Basing Requirements for the 21st Century,” *China Maritime Study no. 13*, ed. Peter Dutton and Ryan Martinson (May 2015), 47. *China’s Military Strategy*, The State Council Information Office of the People’s Republic of China, May 2015.

PLAN Surface Action Groups (SAGs) have made other far seas deployments in recent year—including a three ship SAG that transited the Strait of Magellan in South America in December of 2013 and a five ship SAG that conducted an innocent passage through Alaska’s Aleutian Islands in September of 2015.<sup>325</sup> More importantly, the PLAN escorted ships carrying Chinese citizens to safety in the Libya conflict of 2011 and out of Yemen in 2015, and the PLAN also provided security escorts during the removal of Syrian WMDs in 2014. Both instances were significant because of the PRC’s cooperation with the global community in situations that intervened in another states’ sovereignty for the sake of the domestic citizens—typically a situation the Chinese avoid or speak out against. Despite China’s symbolic maritime involvement in the evacuation of its citizens from Libya and Yemen, or the escorting of WMDs out of Syria, this has little resemblance to the strike-heavy power projection deployments France has conducted against Syria or Afghanistan discussed in Chapter II. The sustained out of area deployments demonstrates that China has naval aspirations that are certainly beyond its near seas, but still indicate that—for now—the aspirations seem to be limited to providing SLOC defense assets to key strategic maritime chokepoints.

**d. Concept of Operations**

In both concept of operation described below, information from previous deployments and exercises as well as the capabilities of each naval platform are taken into consideration for a notional sea denial or SLOC protection scenario—neither of the concept of operations are doctrinal, rather they are inferred from past behavior and capabilities. For a sea denial scenario, the PLAN would use defense in depth to deny the enemy from accessing its near seas by maintaining maritime and air superiority. The first layer of defense in China’s littorals would be a combination of *Houbei* PCs and *Jiangdao* Corvettes that have OTH ASuW capabilities and large numbers which could be used to swarm enemy surface combatants and overwhelm its anti-missile defenses. Additionally, mines could be used to block access to strategic entrance points and would force an

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<sup>325</sup> “The PLA Navy: New Capabilities and Missions for the 21st Century,” 30; Sam LaGrone, “Chinese Warships Made ‘Innocent Passage’ Through U.S. Territorial Waters off Alaska,” *USNI News*, September 3, 2015. <https://news.usni.org/2015/09/03/chinese-warships-made-innocent-passage-through-u-s-territorial-waters-off-alaska>.

enemy strike group to divert its approaches for attack or to slow to a crawl while minesweeping vessels cleared the way—making them easy targets for OTH ASuW weapons or submarine attack.

The next layer of defense would be provided by blue water vessels, like the *Luyang I-III* destroyers or *Jiangkai* frigates, which can provide area air defense for amphibious assault ships making landings—in a Taiwan scenario—or the *Liaoning* aircraft carrier. Additionally, many destroyers and frigates are outfitted with long range ASCMs—including the YJ-18 on the *Luyang III* that has a 290nm range. Even the less capable YJ-83s that are found on older frigates and destroyers provide a credible OTH threat that could be used to engage an enemy strike group well outside of China’s littorals. Beyond the destroyers and frigates, attack submarines would be deployed both for ISR—to detect and localize enemy forces—and to act as an ASuW threat with the SS-N-27 *Sizzler* or YJ-18 ASCM capabilities the majority of the submarine fleet possesses. The furthest layer of defense comes from the shore based mobile DF-21D ASBMs. Targeting data for engaging the enemy fleet with DF-21Ds would be gained from satellites, submarines, surface combatants, and UAVs. The combination of naval and shore based maritime assets allow for a formidable defense within 1,500nm of the Chinese mainland. The PLAN is increasingly attempting to integrate its three fleets in exercises that provide similar training in a red versus blue environment. In 2013, the PLAN conducted a 15-day exercise in the Philippine Sea with its naval air, surface, and subsurface forces that were focused on 24-hour “combat realistic” operations—a similar exercise took place in the Western Pacific in December of 2014.<sup>326</sup> Both of these exercises focused more on coordination among fleets rather than coordination between maritime assets and shore based assets.

In a SLOC defense scenario, the scale of operation would be much smaller. A submarine would be deployed ahead of the SAG to provide ISR and act as a credible ASuW threat if access to SLOCs were blocked. Additionally, two destroyers and two frigates would be deployed and accompanied by an oiler. The surface combatants would

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<sup>326</sup> The PLA Navy: New Capabilities and Missions for the 21st Century,” *Office of Naval Intelligence* (2015). <http://www.oni.navy.mil/Intelligence-Community/China>, 29.

be assigned an escort role for merchant shipping or provide AAD and ASuW defense for the SAG centered on the oiler—since it would be considered the high value unit in its role as a logistical necessity and defenseless unit. The PLAN has enough sophisticated blue water submarines, surface ships, and oilers to sustain operations to at least one strategic chokepoint—as demonstrated in the Gulf of Aden deployments—but probably could have a sustained SAG presence near two strategic chokepoints.

#### **D. CONCLUSION/SUMMARY**

While the PRC’s long term naval strategy is opaque and will largely adapt to meet China’s domestic economic and political demands, there are several inferences that can be made regarding the long term trajectory of the PLAN based on current information. First, the PLAN is already capable of employing a sea denial strategy in its near seas, which was the main priority of modernization after the 1995–1996 Taiwan Strait crisis. Territorial disputes in the SCS and ECS are important to the PRC, but only the sovereignty statuses of Taiwan, Tibet, and Xinjian were identified as “core interests” by the CCP—signaling that even as the PLAN continues to build up its blue water capabilities, near seas sea denial will remain a core competency for the foreseeable future.<sup>327</sup> Cole asserts, “There is little in China’s decades-old program of naval modernization that would support an offensive maritime strategy...Extensive operations in ‘blue waters’ or the ‘far seas’ no doubt remains a PLAN ambition, but it is an ambition for the future.”<sup>328</sup>

The PLAN’s modern submarines, destroyers, and frigates enable China to employ a SLOC defense strategy, but the number of “modern” destroyers and frigates in the PLAN’s current inventory does not allow it to provide sustained SLOC defense to more than one or two strategic choke points at once. Although the absolute number of vessels in China’s fleet has remained relatively constant since the beginning of modernization, the technological capabilities of the fleet is growing dramatically as advanced indigenous vessels are built and replace older obsolete craft from the Cold War—slowly extending

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<sup>327</sup> Cole, *Asian Maritime Strategies*, 96.

<sup>328</sup> *Ibid.*, 101.

the size of its blue water fleet. New investment in LPD, air defense DDGs, and aircraft carriers will allow for modest power projection capabilities that—to date—are limited to regional security scenarios that focus on Taiwan. The PLAN's amphibious capabilities are greater than they were at the beginning of modernization, but are far too limited to conduct offensive power projection outside of a Taiwan scenario where a sea denial strategy had already been accomplished. The current procurement of more LPDs, aircraft carriers, and a LHA—with the ability to deploy marines but without fighter aircraft—continue to build up a very modest power projection capability whose greatest long term value comes from the operational experience, doctrine, and tactics that can be developed before investment in a substantial power projection force is pursued (if the PRC chooses to adopt that strategy).

Rhetoric from PRC leaders and official policy laid in Defense white papers point to an extended global presence for the PLAN, but do not specify to what end—only that it will be for peaceful purposes and defense. While Liu Huaqing's "offshore defense" strategy has certainly been adopted and built upon by CCP and PLA leaders, it is unclear if Liu's long term naval strategy aimed at global command of the seas is actively being pursued—if it is being pursued the PLAN has made significant progress, but is far behind the necessary progress needed to achieve global command of the seas by 2050. The PLAN modernization, thus far, has been specifically for a sea denial strategy, but has increasingly evolved to support a SLOC defense strategy in conjunction with—but subordinate to—the sea denial strategy. China's success or failure in achieving its expressed desires to take a leadership role in redesigning the regional maritime security structure may have a strong influence over the decision to continue to use its blue water force primarily for SLOC defense or to build up power projection capabilities for coercive diplomacy.<sup>329</sup> In the meantime, the PLAN is capable of a sea denial—and potential sea control—strategy in its littorals and limited sustained SLOC defense outside of the region. The continued modernization of the PLAN fleet appears to be aimed toward an expanded global presence capable of wider sustained SLOC defense as a mission of secondary importance to sea denial in a scenario involving Taiwan.

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<sup>329</sup> Tiezzi, "At CICA, XI Calls for New Regional Security Architecture."

In the following chapter, direct comparisons will be made between China and each archetypal navy reviewed in Chapter II to identify the type of force the PLAN most closely resembles. China's force structure and strategy appear to favor a SLOC protection maritime strategy when viewed independently, but the next chapter will identify if the PLAN is comparable to the archetypal sea denial, power projection, or SLOC defense forces when viewed through the archetypal lens established in Chapter II.

## IV. CONCLUSIONS

### A. ANALYZING THE COMPARATIVE CASES

After compiling the relevant data on the archetypal navies and the PLAN, it is pertinent to analyze how the archetypes compare to the modernized PLAN. It is difficult to draw direct comparisons between states with differing geography, policy, threats, and budgets; however, there is still generalizable information on the sea denial, power projection, and SLOC protection archetypes that provide insight to the nature of China's modernization. This chapter will provide direct comparisons between China and each archetypal navy, provide a final assessment concerning the strategic capabilities of the PLAN, and briefly discuss the implications of China's naval strategy.

#### 1. Comparing the PLAN and the Royal Swedish Navy

The PLAN possesses some characteristics of an archetypal sea denial force, but it is clearly not being built exclusively for a sea denial strategy—as was the case with the Royal Swedish Navy. After the Taiwan Strait crisis of 1995–1996, it became abundantly clear just how weak the PLAN was at the time—the U.S. Navy was capable of sending a substantial naval force thousands of miles away from its homeland to easily deter a Chinese military force in a scenario just over one hundred miles from its homeland. Consequently, initial PLAN modernization efforts were made to develop technology that emphasized a sea denial strategy to prevent U.S. naval intervention in a Taiwan scenario.

The A2/AD weapons that China invested in starting in 1996 have direct parallels to investments the RSwN made at the onset of the Cold War. RSwN Naval Plan 60 called for the navy to be structured by a “light navy concept” that emphasized “fast attack-craft with torpedoes and guided missiles, submarines and defensive mines,” while phasing out capital ships and complimenting the afloat assets with fortified and mobile artillery batteries ashore.<sup>330</sup> The PLAN has similarly invested in fast attack craft with ASM and ASCMs (*Houbei* PC and *Jiangdao* corvettes), submarines with ASCM and minelaying

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<sup>330</sup> Granholm, “A Small Navy,” 171.

capabilities (*Shang* SSNs and *Yuan* SSPs), and a sizeable fleet of minelayers and minesweepers which lay sophisticated domestically produced mines (EM-52s and EM-55s). Additionally, China invested in mobile shore-based batteries to be used in a A2/AD scenario, but unlike Sweden, China invested in long range missiles rather than artillery—including the DF-21D ASBM, which has a 1,500nm range, and mobile YJ-62 ASCM batteries with a 150nm range.

The plethora of sea denial assets the PLAN possesses certainly gives it a sea denial capability, but sea denial is an intermediate objective in a larger strategy for the PLAN. The use of A2/AD weaponry to employ a sea denial strategy in a Taiwan scenario is the top maritime strategic priority of the PLAN—should unification come through armed conflict.<sup>331</sup> However, once the PLAN developed its sea denial forces, it did not stop there. Unlike the RSwN, China has expanded its amphibious forces (to include three new LPDs), blue water fleet (*Luyang III* DDG, *Jiangkai II* FFG, and logistical support vessels like the *Fuchi* class oiler), and aircraft carrier program. Moreover, China has made significant investments in its blue water fleet. In the last ten years, China has commissioned nearly the same number of *Jiangdao* corvettes (26) as it has *Jiangkai II* frigates (22).<sup>332</sup> The *Jiangdao* represents the largest green water ship the PLAN produces and costs approximately \$50 million per ship.<sup>333</sup> The *Jiankai II* represents the smallest new construction blue water ships that the PLAN is building and costs roughly \$350 million per ship—seven times as much per ship, which accounts for an additional \$6.4 billion in spending during the last ten years. China's destroyers are significantly more expensive than its frigates, and the fledgling blue water amphibious force is extremely costly as well—if the *Yuzhao* LPD (that is a near copy of the U.S. *San Antonio* class LPD) shares a similar construction cost as the *San Antonio*, the *Yuzhao* LPDs would cost

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<sup>331</sup> Nathan and Scobell, *China's Search*, 303.

<sup>332</sup> "China Naval Overview." *Jane's World Navies*. Accessed August 24, 2016. <https://janes.ihs.com/Janes/Display/1322663#Organisation>.

<sup>333</sup> Jane's IHS Defense Weekly, "China, Argentina Set for Defense Collaboration, Malvinas-class OPV Deal." February 2, 2015. <https://janes.ihs.com/Janes/Display/1735217>.

around each \$1.8 billion each.<sup>334</sup> China has spent tens of billions of dollars to build a large and sophisticated blue water fleet that proves its ambitions are not limited to sea denial. Additionally, official Chinese Defense Whitepapers have recently expanded the role of the PLAN from “offshore waters defense” to include an “open seas protection” role for the navy.<sup>335</sup>

It is no surprise that the PLAN does not fit the archetypal model of a sea denial navy because China has a significantly different strategic outlook than Sweden. Sea denial forces tend to be built by states that cannot afford larger navies, so they invest in large numbers of inexpensive—but well equipped—vessels that can inflict a high cost on any potential invading force. In Sweden’s case, it had a small defense budget—the RSwN only receives one-sixth of the meager security budget—that made a sea denial force the only feasible solution without greater defense investment. China’s military budget shrank during the 1980s, but once economic progress accelerated so did military modernization. China now possesses the second largest economy in the world with stable and steady growth—allowing China to continue to increase military investment since the 1990s. Moreover, China’s maritime geography is significantly different. Unlike Sweden, which defends 2,000nm of coastline in the closed off Bay of Bothnia that must be entered through a single chokepoint, China has an expansive 11,000nm coastline with a myriad of islands and open access. Furthermore, China’s Nine Dash Line claims demand a blue water fleet for enforcing the claims.

China and Sweden’s threats are significantly different as well. Sweden’s greatest threat is Russia, which has potential invasion routes over land through Finland and across the Baltic Sea. Sweden has assessed the land route as the preeminent threat and has invested more in its army and air forces than in its navy—limiting its strategic possibilities to sea denial. China’s primary threat is U.S. Navy intervention in the region—whether it be by blockade of key SLOCs, power projection in a Taiwan scenario,

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<sup>334</sup> Department of Defense, “Fiscal Year (FY) 2017 President’s Budget Submission: Shipbuilding and Conversion, Navy” Justification Book Vol. 1. February 2016. [http://www.secnave.navy.mil/fmc/fmb/Documents/17pres/SCN\\_Book.pdf](http://www.secnave.navy.mil/fmc/fmb/Documents/17pres/SCN_Book.pdf)

<sup>335</sup> The State Council Information Office of the People’s Republic of China, “China’s Military Strategy.”

or protecting disputed territorial claims. Since the U.S. Navy poses a variety of threats to Chinese interests in the region, China is modernizing the PLAN to respond to each of those threats. Sea denial forces were built up first since preventing U.S. intervention in Taiwan is considered most important, but the PLAN is expanding to protect its territorial claims and economic interests further away from its littorals.

In sum, the PLAN has built a sophisticated sea denial force, but sea denial is not the long term maritime strategy of the PLAN—only a critical skillset required to ensure a successful military campaign in Taiwan should hostilities ensue. China’s threat profile, geography, and regional leadership aspirations require a larger and more capable navy than an archetypal sea denial force, and it has continued to modernize its forces to carry out missions well outside of its near seas.

## **2. Comparing the PLAN and the French Navy**

PLAN modernization does not fit into the power projection archetype as exemplified by the French Navy. Although China has invested in some of the same types of platforms that are the basis of France’s power projection force, the capabilities of the PLAN vessels are not currently suited for power projection. One example can be drawn from a comparison of China’s aircraft carrier *Liaoning* and France’s aircraft carrier *Charles de Gaulle* and *Mistral*-class LHDs. *Charles de Gaulle* can embark nearly twice as many fighter craft as the *Liaoning* and *Charles de Gaulle*’s air wing includes the C4ISR equipped E2-C *Hawkeye*—allowing for an expansive radar ranges, airborne early warning, and relaying track data to other naval platforms through Link-16. Moreover, *Charles de Gaulle*’s C2 suite allows for fleet air defense in addition to power projection. Consequently, *Charles de Gaulle* is capable of sustained strike operations far outside of its home waters—as demonstrated in its multiple deployments in support *Operation Enduring Freedom* against the Taliban in Afghanistan and *Operation Chammal* against ISIS in Syria and Iraq. *Mistral* LHDs have a similarly advanced C2 system and can support sixteen helicopters, two LCACs (or fifty AAVs), and a marine detachment of 450 personnel. The combination of the *Charles de Gaulle* and *Mistral* LHDs give the French

the capability to gain air superiority and establish a protected ground presence on foreign shores.

The *Liaoning* has been assessed by *2015 Annual Report to Congress on Military and Security Developments Involving the PRC* as being suited for regional conflict and fleet air defense, but is not capable of power projection.<sup>336</sup> The greatest value provided by the *Liaoning* is in establishing carrier doctrine and training programs for its pilots to be used on future carriers. Additionally, Chinese amphibious forces—specifically its three newest LPDs—have lift capabilities for its marine forces, but all three *Yuzhao* class LPDs combined do not even embark half of the number of helicopters of one *Mistral* LHD—severely limiting the PLAN’s ability to quickly insert marine forces and their equipment deep into enemy territory. Moreover, the greatest symbol of power projection that the Chinese possess—an aircraft carrier—is not capable of conducting power projection missions. Future Chinese carriers may very well be similarly capable to the French carriers and LHDs, but the current Chinese aircraft carrier and amphibious forces do not have power projection capabilities—except for in a limited scenario involving Taiwan well inside China’s A2/AD umbrella.

France and China have major differences in their maritime threat picture as well. France has land based trade options with the rest of Europe that China does not have. France’s nuclear power program also provides relief to its industry by making it less dependent on foreign oil than China. Maritime trade is certainly important to France, but it is not dependent on it for its economic survival like China. Additionally, France’s membership in NATO provides a coalition of defense forces that provide maritime protection in the waters around Europe. The NATO partnership allows France to focus less on defense and more on offensive power projection without jeopardizing its territorial defense that is guaranteed through the NATO alliance. Even if France insists on maintaining independent nuclear and conventional power projection forces, it still can fall back on NATO if a serious threat arose in Europe. China does not have the luxury of a massive regional mutual defense pact or land based trade network. Furthermore, ensuring

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<sup>336</sup> “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2015,” 10–11.

China's economic viability by protecting key SLOCs and preventing outside interference in "domestic" issues like Taiwan unification dominate Chinese defense policy, rather than power projection.

The stated defense goals of the French and Chinese governments are also significantly different. Since the 1960s, French leadership has been vocal about its intentions to maintain independent nuclear and conventional forces capable of power projection in order to ensure France has its opinions more seriously considered in international decision making. Moreover, France's overseas territories require a power projection force to protect—four of the six military scenarios the 2013 French white paper identifies for its armed forces to prepare for involve power projection.<sup>337</sup> Chinese *Defense Whitepapers* maintained "offshore waters defense" as the naval strategy for twenty years and only recently added "open waters protection" to the naval strategy—neither of which insinuate power projection in any way.

In sum, China neither has the capabilities nor the stated intent to currently carry out power projection missions. Some of its recent investments—like in an aircraft carrier and amphibious force—may provide a foundation to build a power projection force upon, but for now that foundation is small, weak, and incapable of conducting power projection outside of a Taiwan scenario (which would be heavily dependent on sea denial forces to provide for security, unlike a true power projection scenario outside of China's littorals or the East Asian region). Moreover, China's primary maritime security concerns involve SLOC protection and sea denial in protection of national sovereignty, but France's security concerns involve protecting overseas territories and stated overseas political and economic interests. Additionally, China's new naval platforms—like its aircraft carrier, LPDs, and blue water frigates and destroyers—have not changed the regional balance of power in important regional security issues. China's land reclamation projects and expansive Nine Dash Line claims are not affected by many of their new capabilities because China already had relative superiority over the rest of the Spratly Island claimants well before it had a substantial blue water fleet. China's naval strength relative

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<sup>337</sup> Gómez, "The Waning Power," 422.

to other regional powers—like Japan and the United States—is growing, but it is still unclear just how much China will build up the PLAN and how it will impact China’s political relationship with other key regional actors. One argument is that China’s continuous deployments to the HOA in support of counter piracy operations is an example of power projection, but I disagree. Continuous deployments to the HOA to protect commercial shipping from ill-equipped and marginally trained pirates does not require the same sophisticated forces as achieving air and sea superiority as a means to project power inland in a state that outside of the near seas of the power projecting force. China’s HOA deployments point toward a SLOC defense strategy more than a power projection strategy.

### **3. Comparing the PLAN and the Japanese Maritime Self Defense Force**

Significant portions of China’s naval modernization have parallels to the JMSDF and the SLOC defense archetype. China and Japan both face a similar dependence on energy imports and trade exports, which makes SLOC protection a critical component of both states’ maritime strategies. SLOC defense has been acknowledged as a key component of JMSDF strategy since the 1960s, and in the 1980s it extended the perimeter of acceptable SLOC defense operations out to 1,000nm. My interpretation of the “open seas operations” stated in the 2015 *China’s Military Strategy* document is that it is primarily referring to SLOC defense. Moreover, recent deployments by both Japan and China support a SLOC defense strategy. Japan regularly deploys its DDGs to the Strait of Malacca to provide SLOC protection, and China’s sustained counter-piracy deployments to the HOA are also focused on protecting the Bab-el-Mandeb Strait as a key SLOC for trading with Europe. China and Japan’s similar dependence on maritime trade and SLOC protection deployments enforce the notion that China the PLAN to act as a substantial SLOC protection force.

There some are difficulties in making a direct comparison between PLAN modernization and the JMSDF. First, the JMSDF does not resemble the size or force structure of the PLAN. This is for multiple reasons. The JMSDF does not currently require A2/AD technology because it is a unified state with no threat of invasion or

external actors intervening in its internal affairs. Whereas China has built up a sizable sea denial force, Japan does not need one. Additionally, the JMSDF is integrated into the U.S. Navy's regional security apparatus. With a powerful ally that is forwardly deployed within Japan's homeland, it does not need as large of a force as China to complete the same missions. France's membership in NATO and Japan's bilateral alliance with the United States allows both states to maintain smaller navies for more specific strategies while relying on their allies to bolster their shortcomings in relevant missions that are unaffordable—China does not have the same luxury. The most notable example is Japan's dependence on the United States for nuclear deterrence, but also extends to the BMD defense the U.S. Navy provides Japan—both through technology transfers and forward deployed naval vessels. Moreover, since Japan fits into the U.S. led regional maritime security apparatus, it does not need to build a huge fleet. Conversely, if China wants to lead a new regional maritime security system, it would require China to build up a regional maritime security force competitive with what the U.S. Navy currently provides the region already. Since China is looking to become a regional security leader, it has to focus on the most prominent regional security problems. SLOC protection is the preeminent maritime security concern—and maritime security is the preeminent regional security concern because of its central role in regional economic growth—which makes SLOC protection a critical capability that the PLAN must provide if China hopes to become a regional maritime security leader.

Article Nine of the Japanese constitution places restrictions on the JMSDF preventing it from maintaining an offensive force, but Japan has slowly expanded its definition of self-defense to include vital SLOCs. Additionally, homeland defense is the primary purpose of the JMSDF. There are some similar parallels to China's stated defense policy and Japan's defense restrictions that result from Article Nine. Although China has no constitutional restraints, its political rhetoric has repeatedly asserted it wishes to rise peacefully, rejects intervention in the foreign affairs of other sovereign states, and states the crucial importance of SLOC protection for China's economy. Furthermore, Chinese policy has indicated that protection of its territory—most importantly Taiwan—would be the only foreseeable scenario where it permits the wide

scale use of its armed forces in conflict. Of course China's peaceful rise rhetoric may be a deceptive ruse to bide time until it is more powerful, but it could also be a genuine strategy to gain credibility and good favor with neighboring states that could see China's expansive force being used for the greater good of the region by providing SLOC security—perhaps the best means to an end where China becomes the regional security leader. However, China's "peaceful rise" rhetoric is far less binding and more open to interpretation than Japan's Article Nine—which has seen the definition of "self-defense" broaden significantly. In both cases, Japan and China have used SLOC defense to expand their naval forces without losing political credibility. Japan does so under the guise of "self-defense" by defending its economic lifeblood, and China has expanded its blue water forces for the same reason. Having a powerful SLOC defense force that actively deploys in defense of regional trade gives China more credibility and leverage to assert itself a credible alternative to the United States for leading the regional security apparatus. Additionally, if China seeks to limit the dominant role the U.S. Navy has in the region, it would push to assume a larger leadership role in reshaping the regional security apparatus. If China were to become the regional security leader, it would require a force that can provide security to the broader Asian region. Providing regional maritime security includes ensuring key SLOCs remain open, ensuring regional states adhere to maritime law and established norms, and providing a more general security against negative external actors. It is debatable whether or not the United States consistently lives up to the previously discussed requirements, but the U.S. Navy is clearly the most powerful maritime security actor in the region—which allows the United States to dictate many of the norms in the maritime realm. Maritime security is a key component to regional economic growth and the PLAN must be a powerful force capable of providing security throughout the mammoth East Asian maritime environment, which requires a force substantially larger and more capable than one that is built primarily for sea denial—a SLOC defense strategy would give them a solid foundation to begin providing more expansive maritime security to region.

One advantage to building a fleet primarily for SLOC defense is that it provides a solid foundation to build from if future needs for power projection arise. A blue water

force capable of conducting fleet air defense and sea control is required to protect high value targets—like aircraft carriers or big deck amphibious ships—in a power projection force in order to gain air and sea superiority. Japan and China have both invested in submarines with AIP technology that can be used to escort a SAG or prevent the blockade of a strategic SLOC. While nuclear submarines are a better SLOC defense asset because of their substantially longer window of submerged operations, AIP equipped diesel submarines can remain submerged for two weeks (and up to a month under the right operating conditions) but are much cheaper to build and maintain. Consequently, AIP submarines provide a cost effective option for routine SLOC protection missions that are not expected to last indefinitely. In Japan's case, they can rely on U.S. Navy submarines in a scenario where SLOC protection would be required for an extended amount of time. Moreover, China could use their growing fleet of *Shang* class submarines in an extended SLOC defense scenario.

The blue water forces built up by Japan and China have sophisticated AAW and ASuW weapons that can be used to protect valuable shipping assets, other ships in the SAG, or high value units—in the SLOC context the SAG oiler is the high value unit since it provides the logistical support required for sustained operations. Japan and China have both invested in large and sophisticated destroyer fleets—Japan with 39 and China with 26, but only half of Japan's and China's destroyers are the most technologically advanced. Although China lacks destroyers in comparison to Japan, its fleet of 55 frigates dwarfs the JMSDF's six frigates. When combined, Japan and China have similar sized blue water fleets with advanced ASuW capabilities. China's focus on making formidable ASuW surface and subsurface platforms—at the expense of other mission areas like BMD—further hints at a SLOC strategy for the immediate future since the biggest current threats to the SLOCs are piracy and blockade. Furthermore, the LHA the PLAN is currently building is predicted to be similar to Japan's helicopter carrier—which is has primarily been used for HA/DR efforts and as a C2 hub. Japan and China both are heavily dependent on maritime trade, and they have both built up the blue water forces necessary to protect maritime interests far from their home seas. Moreover, the strong blue water forces both states possess are large enough to conduct escort operations and

support a power projection force. Neither Japan nor China possess a power projection fleet, but they both have the blue water assets necessary to support the future development of a power projection force—should either state decide to pursue it.

With advanced blue water and submarine technology, all Japan and China are missing are aircraft carriers or big deck amphibious ships capable of power projection. Japan's *Hyuga*-class helicopter carrier platform could be quickly redesigned to incorporate strike aircraft, and China's *Liaoning* aircraft carrier will be used to establish doctrine for future carrier development that could include larger carriers capable of power projection—if the PLAN desires the power projection capability. Building a regional SLOC defense navy for an expansive and complex maritime environment like East Asia gives both Japan and China the framework to build a larger power projection force relatively quickly since the support framework for the centerpieces of a power projection force are already in place.

In sum, PLAN modernization for SLOC defense makes the most sense currently based on China's force structure and stated political aims. While China's long term maritime strategy has been much more opaque than Japan's—and is not constrained constitutionally like Japan—its military investments and regional political discourse support the notion that its current strategy is SLOC defense.

#### **4. Final Assessment**

The CCP has not formally adopted Liu Huaqing's maritime strategy—which called to achieve sea control in the first island chain by 2000, sea denial within the second island chain by 2020, and a dominant global naval force by 2050—but it has made significant progress toward achieving the first two goals. Adopting a SLOC protection strategy for the long term would still lend the PLAN toward massing a naval force that could exert sea control within the first island chain and sea denial in the second island chain, but not a dominant global force—which would require significant power projection assets. Chinese political rhetoric has expressed desires for China to become the regional leader for security cooperation, but it has not expressed similar desires for global leadership. Like the United States and the Monroe Doctrine, China could be attempting to

exert regional control before it moves onto a broader global leadership role, but at this point China has expressed neither the political desire nor built the requisite equipment to become a global power projection force. Moreover, why would China need a global power projection force in the current global environment? Sea denial and SLOC protection strategies have clear links to Chinese defense policy and its economic viability—especially should the U.S. Navy try to intervene in a Taiwan scenario or block access to key SLOCs in response to Chinese actions. Conversely, power projection capabilities are tied to missions that the Chinese has historically spoken out against—like intervention in the sovereignty of other states.

China's quick development of a sea denial force does not indicate an overarching long term sea denial strategy. Employing a sea denial—and potentially sea control—strategy in a Taiwan scenario is certainly a key component of China's maritime policy, but China's maritime interests are not limited to preventing intervention in a Taiwan scenario. China's economic growth is dependent on maintaining unimpeded accesses to the global maritime commons—especially through key SLOC chokepoints. Before PLAN modernization, China depended on the U.S. Navy to provide maritime security in East Asia, but China used its increasing military budget to build a sizable navy and desires a leading voice in establishing new regional security norms. As China's power grows, it expects its representation in the regional security apparatus to grow as well. This is not to say that China desires to get rid of the United States from the East Asian region all together, rather it is seeking to ensure that Asia is led by Asians—especially in the security realm. The United States has credibility in East Asia after providing regional maritime security for decades, and if China desires to take over the reigns as the regional security leader it must be able to provide a similar amount of maritime security.

The U.S. Navy encountered a similar situation in the 1800s when it declared the Monroe Doctrine—declaring that all future European colonization of the Western Hemisphere would not be tolerated—but the United States did not have the navy to enforce such a bold proclamation. Over the course the 1800s, the United States relied upon the British to enforce the Monroe Doctrine until the U.S. Navy was formidable enough to enforce the Monroe Doctrine itself—an achievement that was not achieved

until after Admiral Dewey's overwhelming defeat of the Spanish Fleet in Manila Bay in 1898 or perhaps the global deployment of Teddy Roosevelt's "Great White Fleet" from 1907–1909. The United States maintained its status as an isolationist regional naval power until it was propelled into its status as a global naval leader after the end of World War II. Similarly, China must prove its ability to enforce its desires for regional security before having the credibility to move on to any greater global ambitions—assuming these ambitions develop in the first place.

This thesis finds that China's current long term maritime goals aim to build a large SLOC defense navy that is capable of providing regional maritime security and security for SLOCs that are outside of the region but are essential for East Asian economic stability. China's sea denial force was built for a singular purpose—protection of territorial claims, most notably Taiwan. Moreover, by building a large naval force strategically focused on regional SLOC defense, China also has the foundation to build upon should it choose to pursue a global power projection power force. In other words, a SLOC defense force—combined with the sea denial force already assembled—gives China the option to stay regionally focused for now, but the ability to move toward a power projection force if it changes its security policy in the future. If the PLAN is capable of taking the lead in providing maritime security in one of the largest and most complex maritime environments in the world, it gives it a leg up in trying to expand its naval ambitions to global command of the sea if the political will and economic growth expand to accommodate global ambitions.

## **5. Future Prospects and Implications**

Although the current PLAN strategy is grounded in SLOC defense, it is difficult to ascertain what the long term evolution of the PLAN will entail. Several factors that are difficult to predict will weigh heavily on the future direction of the PLAN. First, PLAN modernization has occurred simultaneously with economic modernization and staggering sustained economic growth rates. If China's economic growth sputters as a host of domestic considerations converge—aging population, middle income trap, losing the momentum gained during the initial mobilization of capital without the requisite "Total

Factor Productivity” growth occurring concurrently<sup>338</sup>—the CCP’s maritime ambitions may be forced to shrink to ensure that domestic indicators of legitimacy are funded first. Moreover, an economic slowdown could lead to the development of a more pragmatic, sustainable, and predictable long term defense policy because it will reveal how much the CCP is willing to invest in the PLAN when the economy is not growing as quickly. If the CCP uses military spending in a similar way that it has used infrastructure investment, the PLAN could continue to grow despite broader economic slowdown—to use military modernization as a way to stimulate the economy. Conversely, economic slowdown could also cause military investment to level out or decrease. It is unclear when China’s economic growth will slow down, to what extent it will slow down, or how quickly it will slow down.

Another major factor that will influence future Chinese military strategy is the American reaction to China’s pursuit for a larger regional leadership role. The rebalance to the Pacific policy the United States enacted emphasizes the critical importance of the East Asian region to U.S. security policy. Moreover, it seems unlikely that the United States would endorse Chinese leadership in the regional maritime security realm. However, if the United States seeks a policy to support broader maritime security partnerships that include Chinese and U.S. leadership—rather than the hub-and-spoke bilateral alliances—China could become satisfied with its role in regional security and not pursue more ambitious maritime goals that would necessitate a power projection force. China has shown some restraint in its naval modernization as to prevent fears that it is seeking to challenge the United States. If China seeks to fit into the U.S.-led global maritime security system as a regional leader and partner with the United States, it may allow for China’s military to grow peacefully.

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<sup>338</sup> “China’s Achilles Heel: A Comparison with America Reveals a Deep Flaw in China’s Model of Growth,” *Economist*, April 21, 2012. <http://www.economist.com/node/21553056>; Damien Ma, “Can China Avoid the Middle Income Trap?” *Foreign Affairs*, March 12, 2016. <http://foreignpolicy.com/2016/03/12/can-china-avoid-the-middle-income-trap-five-year-plan-economy-two-sessions/>; “Unproductive Production: Weakening Productivity Is Casting Doubt on the Sustainability of China’s Growth,” *Economist*, October 11, 2014. <http://www.economist.com/news/finance-and-economics/21623708-weakening-productivity-casting-doubt-sustainability-chinas>.

If the United States and China do not find ways to cooperate and build confidence in their relationship, regional conflict could ignite over a number of territorial disputes that lead to a broader assertion by China that it should be the regional leader. China has remained ambiguous concerning red lines in disputed territorial claims like the Spratly Islands and the Senkaku/Diaoyu Islands, but the United States acknowledged that its defense treaty with Japan encompasses territories that Japan has administrative control over—which includes the Senkakus. If China makes clearer and more assertive declarations of territorial sovereignty and acts on its claims, it could threaten the U.S. spoke and hub alliance system as the United States must decide whether it is worth risking open war with China over the Spratly Islands or the Senkakus—a decision that could undermine the credibility of the United States to its allies if it fails to act, or lead to war over a seemingly insignificant piece of land to protect the status of the United States in the region. Conflict between the United States and China is not inevitable, as both China must choose to assert itself as the outright regional leader—and act on those assertions *vis-a-vi* enforcing territorial disputes like the Spratlys, Senkaku/Diaoyus, or Taiwan—and the United States must reject a preeminent Chinese role in regional leadership for conflict to become more likely.

At the moment, China's regional ambitions and SLOC defense strategy are compatible. Future economic and geostrategic factors will strongly influence whether China limits its ambitions to becoming the regional security leader in East Asia or if it is interested in slowly accumulating a dominant global navy similarly to the United States. I believe there is little chance that China decides to build a global navy akin to the United States because of the political and economic cost of doing so. For the foreseeable future the PLAN will remain a sophisticated and formidable navy capable of sea denial in its littorals and sustained SLOC protection in the East Asian region and beyond.

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