Sea Power: Its Relevance in Future War 2025-2030

The U.S. has maintained sea power and forward presence since the early 1900's, but is slowly losing it. Loss of U.S. maritime dominance brings with it increased maritime conflict. From large fleets to small vessels to underwater domain, three emerging naval activities cover the spectrum of current and emerging threats to the global economy. The impending emergence of China's blue-water Navy challenges whether maritime law will mitigate the need for future maritime dominance. The interpretation of international maritime law depends on the influence of naval powers with the teeth to enforce it. The growing phenomenon of modern maritime piracy disrupts commercial shipping and causes the commitment of increased commercial and national resources toward security measures while stressing the underlying foundations of international commercial shipping, all resulting in economic loss. Drug smuggling submersibles perpetuate illegal drug trafficking, which in turn helps to fund illegal arms trade and terrorist organizations. An analysis of each of these threats with respect to their growing influence on the world will show the need to maintain a robust naval presence in all areas.

Maritime Dominance, Maritime Law, Maritime Piracy, Drug Semi-submersibles, People's Liberation Army Navy (PLAN)
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FUTURE WAR PAPER

Sea Power and Its Relevance to Future War, 2025-2030

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF OPERATIONAL STUDIES

AUTHOR: MAJOR BRANDON K. THOMAS
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Mentor: DR. WRAY R. JOHNSON
Approved: 
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INTRODUCTION

Alfred Thayer Mahan once declared, “Whoever rules the waves rules the world.” This claim still resonates today. The implications for United States naval strategy are considerable, and the solutions posited in this paper will serve to mitigate potential future risks. Economic factors have and will continue to determine the relevance of sea power in future war. The ability of the United States to maintain a dominant position in the global economy is threatened without command of the seas. Due to China’s growing blue-water navy, an increase in maritime piracy, and drug smuggling semi submersibles funding global terrorism, the requirement for a robust U.S. Navy will be greater and met only by a fundamental change in naval acquisition strategy, maintaining U.S. shipbuilding capabilities in unconventional ways, and investment in unmanned underwater vehicles (UUV’s).

The focus of United States strategy has shifted, pivoting towards Asia and the Pacific. The political ends of this shift include continued participation in a global economy that requires freedom of navigation. This requires either general maritime dominance or the capability to exert regional maritime dominance relative to Sea Lines of Communication (SLOC’s) and chokepoints. Protecting those SLOC’s and chokepoints requires considerable investment in maritime power and the absence of such investment calls into question a nation’s commitment to freedom of the seas.

Over the previous two centuries England dominated the seas and, correspondingly, the world. During the course of World War I, the United States stepped onto the global stage and took up England’s torch. Britain was no longer the supreme naval power on the globe. Consequently, Britain lost its dominant economic position. The question is, are maritime power
and economy correlated? And if so, does marginalization in one lead to diminishment in the other?

The United States from the second half of the 20th century to the present has maintained its place as the supreme naval power. What made earlier empires and nations great and powerful was either naval or economic predominance. There exists a correlation between maritime power and political and/or economic power in the world. Such positive correlation implies that for the U.S. to remain the dominant nation in the world politically and economically, the U.S. must also maintain its dominance of the seas.

GLOBAL ECONOMY AND FREEDOM OF NAVIGATION

Figure 1. Increase in global maritime shipping over time.

The modern world exists amidst the allure of the Information Age, where the Internet and air power seem to portend a future in which the movement of goods abroad does not require
traversing the seas. However, in truth, the realities of trade in the world economy demand robust and expanding maritime shipping. “Seaborne trade has historically represented 75% – 90% of global trade volume.” Maritime power has always been inextricably related to real political and economic global power and the prevalence of commercial shipping across the globe today would indicate the future will be no different. The need for global shipping is an ever-increasing one:

Globalization, technological advances and the emergence of new, strong commercial players, have resulted in rapid growth in global trade. Between 2000 and 2008 global trade grew at an average rate of ~12% per year. While growth slowed significantly after the financial crisis, trade levels have since picked up again and in 2011 the dollar value of global trade reached a record US$18.3 trillion. In 2013, this number is currently expected to reach US$19.9 trillion and is projected to continue to grow at a rate of 9% p.a. to 2020.

![Production concentration of critical raw mineral materials](image)

**Figure 2. Global distribution of Rare Earth Elements (REE)**

Contrary to the notion that greater connectedness and more globally available air power mitigate the need for commercial shipping, they actually serve to increase the demand. Increased
trade results from increased interconnectedness, with global conveniences demanding more goods than before to be delivered on the high seas. Expanded air power across the globe requires expanded fuel distribution. Bulk liquids, like many other heavy goods, are most economically distributed by commercial shipping. Thus, certain SLOC's and chokepoints become critical nodes in the globally connected economies of multiple states.

U.S. ECONOMIC AND MILITARY HEALTH

War has always been an economic activity and the success of virtually every economy depends on freedom of the seas. The U.S. has secured that freedom by forward presence and a large navy since the early 1900’s. But future American naval power is not assured. As a result of the current U.S. fiscal situation and subsequent military financial drawdowns termed “sequestration,” cost-cutting measures are being implemented that will directly affect American maritime power. As a result of sequestration, the U.S. Navy has already had to “cancel 70 percent of ship maintenance in private shipyards and all aircraft maintenance scheduled for the second half of FY13.”vi The U.S. Navy has also decided to “cancel all ship and aircraft deployments to Africa”vii as well as “halt all amphibious ready group deployments to the Middle East/Persian Gulf in FY14.”viii Thus, American naval predominance is threatened, as is the will of the American and potentially global economies.

Loss of U.S. maritime dominance brings with it the threat of increased maritime conflict. Given the current and projected U.S. fiscal and economic environment, an analysis of potential threats demonstrates the need to find solutions that maintain a robust naval presence in all regions of the world.
The ramifications for the U.S. are complex, including the fiscal, economic, and military status of the U.S., domestically as well as on the international stage. The increasing national debt of the United States is a problem that is slowly causing the United States to adjust its expenditures on such crucial areas as defense. Two complementary forces bring value to an organization, a company, or a country: operational effectiveness and strategic value. While such mechanisms as sequestration, cutbacks, and even the government “shutdown,” all address operational effectiveness, the health of maritime trade is an issue of strategic value. If the economic situation does not improve, the military will be forced to reduce its capacity to protect maritime trade. Thus, reduced operational effectiveness directly affects strategic value. With that in mind, much of U.S. manufacturing has moved overseas. Securing the SLOC’s secures the manufacturing base even though it resides mostly outside the continental U.S.

Figure 3. US National Debt as % of GDP over Time (Through 2010)
EMERGENT MARITIME THREATS

Current emergent phenomena overseas contribute to a changing maritime environment. From large fleets to small vessels to subsurface vehicles, emerging threats cover the gamut. The expansion of China's blue-water Navy is especially concerning. However, the growing phenomenon of modern piracy now directly disrupts commercial shipping with a commitment impact on regional and national economies. In addition, drug smuggling submersibles facilitate illegal drug trafficking, which in turn helps to fund the illegal arms trade and terrorist organizations.

The development of China's blue water navy comprises the most significant threat. Since 2000, China has been developing a robust naval capability. With that in mind, China has asserted its claims to the Japanese-held Senkaku Islands in the East China Sea.

![First Chinese Aircraft Carrier Liaoning](image)

Figure 4. First Chinese Aircraft Carrier Liaoning

More recently, China has extended its Air Defense Identification Zone to include these islands. This line includes most of East China Sea and overlaps with Japan's already existing air
defense boundary. The tiny islands of the Senkakus represent what may be the beginning of Chinese territorial expansion. China’s gambit may signal additional expansionist aims that might threaten Vietnam and the Philippines. Chinese expansionist aims have the potential to disrupt freedom of navigation and thus the global balance of power. In the near to mid-term, China’s maritime claims may also have an end that seems to include shoving the U.S. out of the Asiatic region and the possibility of pushing the U.S. back to the second island chain, as shown in Figure 5.

Figure 5. First and Second Island Chains, Pacific

In addition to the potential Chinese threat, the growing phenomenon of modern maritime piracy disrupts commercial shipping, prompting the commitment of increased national resources toward security measures. Figure 6 shows the burgeoning threat of global maritime piracy. (See Annex A.) The problem of piracy is only going to become more prevalent, particularly as piracy, organized crime, and terrorism become linked. Consequently, shipping companies are compelled to hire security companies in order to safeguard their vessels. These added costs are passed on to the price of goods. The global economy therefore suffers from this erosive activity.
Much of the money that funds such criminal activities comes from the drug trade. Drug smuggling submersibles facilitate illegal drug trafficking, which in turn helps to fund the illegal arms trade and terrorist organizations. This technology has disrupted U.S. and allied efforts to combat drug trafficking. These submarine-like vessels travel at very low speeds – no higher than six knots – and in doing so can evade radar detection. They can carry up to 3,000 pounds of drugs, have a range up to 1,500 nautical miles, and, if located, the cargo can be detached and sink to the bottom of the ocean. A concerted effort headed up by Joint Interagency Task Force (JIATF) South entitled Operation Martillo (Spanish for “hammer”) sought to interdict these drug smuggling submersibles. Their efforts resulted in disrupting approximately 119 metric tons of
cocaine worth $2.35 billion USD, to include $21 million USD in cash and $16 million USD in
black market goods.\textsuperscript{xv}

Despite such efforts, drug trafficking submersibles and even submarines are still reaching
their destinations and much of the profits are going to a "complicated mixture of crime,
opportunism, and intransigent Islamic ideology."\textsuperscript{xvi} Although it was at one time believed that
drug profits would be eschewed by Islamic groups, this has not been the case. Extremist Islamic
groups actively participate in this activity, claiming they "have no choice but to cooperate with
drug cultivators to make money and buy [weapons]."\textsuperscript{xvii} Some even claim that their "interests
and the situation... warrant peddling a different ideology that coincides with using drugs as a
source of [income]."\textsuperscript{xviii} The drug trade upon which Islamist extremist and other terrorist groups
rely is not restricted to any narrow sector of the drug trade. Everything from cocaine to heroin
and marijuana are trafficked on every continent and from one continent to another.

![Figure 7. Colombian Drug Smuggling Semi-Submersible\textsuperscript{xix}](image)

PROPOSED SOLUTIONS

Alfred Thayer Mahan and Julian Stafford Corbett proffered differing theories of sea
power at the end of the 19th century and outset of the 20th century. Mahan looked back at history
and posited that all of the great powers in history were great naval powers and that in order for a
rising power to be great it must be a great naval power. Thus, Mahan’s view was that robust naval power translated to a nation’s place in the world. Corbett largely rejected Mahan’s offensive emphasis and instead focused more on the defense as the stronger form of war, preferring more limited objectives. He insisted that powers must distinguish between positive aims – which seek to take something away from the enemy – and negative aims – which seek to prevent the enemy from gaining something. Nevertheless, he too believed great power status was tied to maritime and naval power.

To appreciate Mahan in the context of today’s circumstances, one could argue that the U.S. must build back up its fleet and maintain maritime dominance. Mahan would see China as the threat that England viewed Germany to be prior to World War I. Interestingly, the People’s Liberation Armed Navy (PLAN) has studied Mahan and it can be inferred that their intent is largely Mahanian in origin.

Followers of Corbett, however, would emphasize the strength of the defense in developing any new American maritime strategy. For acolytes of Corbett, the best course of action would be to focus on rebuilding the nation’s economy. More narrowly and from a naval perspective, the U.S. should concentrate on the ability to defend a SLOC when needed, and be able to project power forward but not to maintain itself in that offensive posture as a matter of course.

Both approaches require the reader to consider Chinese naval power as a real threat and to maintain power relative to that threat. The geographic positioning of U.S. military assets provides a tactical buffer but U.S. reliance on global shipping necessitates freedom of navigation. China’s blue water navy more than any other current or potential future threat requires the U.S. to maintain a globally capable fleet.
ACQUISITIONS STRATEGY

Current naval acquisitions strategy has tended to focus on obtaining one platform that can “do it all.” As a result, ships and aircraft in the current inventory are very expensive. Therefore, the Navy can only afford to build so many. The current fiscal environment will not permit this to continue. Thus the DD(X), a destroyer that was engineered to “do it all,” was produced in very small numbers.\textsuperscript{xxiii} A better acquisitions strategy would sacrifice some survivability for less expensive and therefore greater numbers. As someone noted, quantity has a quality all its own.

MAINTAIN SHIPBUILDING CAPABILITY

It is vital that the United States retains a robust shipbuilding capability. Shipbuilding is an art that, once gone, is extremely difficult to bring back except over the course of several years of training. One solution to promoting American shipyards would be to build ships for friendly and allied nations (India, Brazil, and Australia, to name a few). The U.S. can provide maritime vessels in less time and perhaps for less cost than it would take for some countries to produce their own ships from scratch. Doing this builds good will, saves time and effort, maintains the shipbuilding capability for the U.S., and may even generate revenue for a country that is currently crippling under its rising national debt. This alternative also encourages cooperation among our allies and friends. From a domestic policy perspective, it keeps Americans employed and keeps shipyards open.

Ultimately, a shipbuilding base gives the U.S. the ability to ramp up shipbuilding quickly in the event of a major war or conflict. The time from laying the keel to putting to sea would be reduced if the facilities are already existent. This deals with the current diminishing presence of
shipbuilding facilities in the U.S.\textsuperscript{xxiv} along with personnel who know how to build those ships. If the U.S. allows this capability slip away, it may lose vital skills that would take years to regenerate, years the U.S. may not have if it someday finds itself embroiled in a conflict that requires a rapid buildup.

INVEST IN UUV RESEARCH

From a maritime perspective, nothing seems more promising than the innovations that are currently taking place within the realm of Unmanned Underwater Vehicles, or UUV’s. China is currently investing considerable capital to build and employ UUV’s.\textsuperscript{xxv} UUV’s can be as small or as large as is needed. They can perform reconnaissance, carry ordnance, operate in an offensive or defensive mode, and the unmanned and increasingly autonomous behavior of such machines makes them disposable as required. It is clear that the US must similarly invest in the research, development, and deployment of UUV’s.

CONCLUSION AND RECOMMENDATIONS

The United States Navy is withdrawing from the seas of the world while the Chinese are embarking on naval expansion. China’s ideology fuels its political objectives. Its political objectives in turn drive its government strategy, which includes its economic and military strategies. China’s intent can be inferred from its development of a blue water navy.

A naval capability requires long-term planning. Building up naval capability takes time, resources, and making the right decisions. The U.S. Navy is the premier naval force today but the U.S. must keep a weathered eye on the future and emerging threats. The U.S. owes it to future generations to make good decisions regarding naval strategy in conjunction with reviving
the fiscal health of the nation. The two are inextricably linked and weakness in one area diminishes the other.
END NOTES


iii HKNDF Group, 2.

iv HKNDF Group, 1.


vii Truver, 61.

viii Truver, 62.


xv Phillips, 27.


xvii “UAE: TV Discusses Al-Qa’Idah’s Drug Dealing to Finance Operations.”

xviii “UAE: TV Discusses Al-Qa’Idah’s Drug Dealing to Finance Operations.”

xix Figure of Colombian drug smuggling semi-submersible, http://m3report.wordpress.com/2008/07/28/narcotraffickers-using-submersible-boats-to-smuggle-drugs/.

xx Mahan.


### ANNEX A
### MARITIME PIRACY STATISTICS 2011

#### Release statistics 2011

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<th>Dates released</th>
<th>Ransom ($ million)</th>
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<td>Greece</td>
<td>18</td>
<td>04.07.10</td>
<td>16.01.11</td>
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| 2  | General cargo Izumi 9414955 | Japan       | 20   | 10.10.10       | 27.02.11       | 4.5                |             *
| 3  | General cargo Ems River 9551662 | Germany     | 6    | 27.12.10       | 28.02.11       | 3                  |             *
| 4  | LPG tanker York 9220421     | Greece      | 17   | 23.10.10       | 10.03.11       | 4.5                |             *
| 5  | General cargo RAK Africana 8200553 | UAE         | 26   | 11.04.10       | 08.03.11       | 2                  | Abandoned by the crew after release; fate unknown, presumably sank |
| 6  | Bulk carrier Jahan Moni 9102954 | Bangladesh  | 26   | 05.12.10       | 14.03.11       | 4.2                |             *
| 7  | Chemical tanker Hannibal II 8011756 | Tunisia     | 31   | 11.11.10       | 17.03.11       | 2                  |             *
| 8  | VLCC Irene SL 9285923      | Greece      | 25   | 08.02.11       | 08.04.11       | 13.5 (?!)          |             *
| 9  | General cargo Thor Nexus 8712491 | Thailand    | 27   | 25.12.10       | 11.04.11       | 4.77               |             *
| 10 | Heavylift Beluga Nomination 9350402 | Germany    | 8    | 22.01.11       | 13.04.11       | 5                  |             *
| 11 | Asphalt carrier Asphalt Venture 8875798 | UAE         | 15   | 29.08.10       | 15.04.11       | 3.6                |             *
| 12 | Bulk carrier Frenuar 8042221 | Greece      | 24   | 11.12.10       | 23.04.11       | 6.0                |             *
| 13 | General cargo Sinar Kudus 8172507 | Indonesia  | 20   | 16.03.11       | 01.05.11       | 4.5                |             *
| 14 | Bulk carrier Khaled Muhlecdina K 8105650 | Syria   | 25   | 20.01.11       | 28.05.11       | 2.5                |             *
| 15 | General cargo Yuan Xiang 7699192 | China       | 29   | 12.11.10       | 08.06.11       | 3.6                |             *
| 16 | Tanker aframax Zirku 9237802 | UAE         | 29   | 26.03.11       | 10.06.11       | 12.0 (?!)          |             *
| 17 | General cargo Suez 8216742 | Egypt       | 23   | 02.08.10       | 11.06.11       | 2.1                |             *
| 18 | General cargo Susan K 9344370 | Germany     | 10   | 08.04.11       | 16.06.11       | 5.7                |             *
| 19 | Bulk carrier Sinin 9274941 | Iran        | 21   | 12.02.11       | 13.09.11       |                    |             *
| 20 | Bulk carrier Eagle 8126408 | Greece      | 24   | 17.01.11       | 20.08.11       | 6.0 (?!)           |             *
| 21 | Tanker Polar 9295653        | Greece      | 24   | 30.10.10       | 28.08.11       |                    | 1 crew died in captivity |
| 22 | Boxship MSC Panama 8902125 | USA         | 23   | 10.12.10       | 06.09.11       | 7.0 (?!)           |             *
| 23 | Bulk carrier Hoang Son Sun 8323862 | Vietnam  | 24   | 19.01.11       | 15.09.11       | 4.5                |             *
| 24 | Bulk carrier Dover 7439664 | Greece      | 23   | 26.02.11       | 30.09.11       | 3.8                |             *
| 25 | Bulk carrier Bida 7705635 | Algeria     | 27   | 01.01.11       | 03.11.11       | 2.6                |             *
| 26 | Bulk carrier Rosalia D'Amato 9225201 | Italy     | 21   | 21.04.11       | 25.11.11       | 6                  | first pirates voiced 0.6 mil, later said it was 6 mil |
| 27 | Product tanker Gemini 8412362 | Singapore   | 25   | 30.04.11       | 30.11.11       | 4                  | 4 seamen of ROK nationality still in capture |
| 28 | Aframax tanker Savina Caylyn 9488225 | Italy     | 22   | 08.02.11       | 21.12.11       | 11.5 (?!)          |             *

* - sum of the ransom reported by pirates, no confirmation or otherwise from other sources

Total some $130 million. Favourite figure given by pirates was $4.5 million. Well, it doesn't matter much, because all those millions pirates are bragging about hardly exist, actual ransoms were at least one third less, so my estimation is, pirates got in total something between $80-90 million.
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BIBLIOGRAPHY


Mahan, Alfred Thayer. The Influence of Sea Power upon History 1660-1783. January 1, 1918.


