SOMALI PIRACY AND ANTI-SHIPPING ACTIVITY MESSAGES: LESSONS FOR A SUCCESSFUL COUNTERPIRACY STRATEGY

By

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The purpose of this non-experimental, mixed methods case study is to analyze the reasons for the decline in piracy incidents off the coast of Somalia in order to present an effective counterpiracy template for other piracy prone parts of the world, such as Western Africa and Southeast Asia. The first phase of the study includes a quantitative examination of piracy incident reporting from the National Geospatial-Intelligence Agency's (NGA) Anti-Shipping Activity Messages (ASAM) database. The quantitative strand documents the trend in piracy incidents off the Horn of Africa over a ten-year period between 2003 and 2013. The second phase of the study analyzes qualitative data collected from piracy subject matter experts (SMEs) to determine the most effective counterpiracy actions taken. The qualitative strand identifies and scrutinizes all the major counterpiracy actions. A comparison and contrast against the quantitative data trend reveals which efforts worked best. The insights provided by SMEs, through face-to-face interviews or an online questionnaire provide an increased understanding of the factors contributing to the decline of Somali piracy. The study implies the use of armed security teams (ASTs) on board merchant vessel was the number one factor leading to the decline in Somali piracy. This finding provided the guiding principle for the development of a strategic counterpiracy framework that engages the issue at the political level, the maritime domain security level, and the shipboard security level.

Keywords: Anti-Shipping Activity Messages, armed security teams, counterpiracy, maritime piracy, Somali pirates

DEDICATION

I dedicate this dissertation to my loving husband, Brian S. Walker. Thank you for your willingness to sacrifice both time and resources in order for me to achieve my academic dreams. When I started this journey more than four years ago, the road I planned to travel looked much shorter. My vision was to complete my dissertation while on long-term fulltime training, but that reality never materialized. Thank you for sticking it out with me and for helping me to live the words: ACTA NON VERBA.

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I would like to thank two master mariners who took the time to complete the online questionnaire on Somali piracy. The first goes to CAPT Yuri Oksanenko, master of the CAROLINE SCAN, a UN World Food Program ship making regular runs between Kenya, Somalia, and Djibouti for the last few years. Next, I would like to thank my friend and former Kings Point classmate, CAPT Andrew Kinsey who spent his sailing-career working for Maersk Lines including sailing upon the high-risk waters off the Horn of Africa.

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CHAPTER 1: INTRODUCTION

Trade depends upon the physical movement of goods. Merchant ships carry 90% of the world's trade by volume (OECD, 2013). The U.S. Maritime Administration estimates the volume to be closer to 95% of world trade. Global Insight, a large economic consultancy, values maritime trade to be worth $6 trillion dollars annually (Raffaele, 2007). Global commerce would actually collapse without oceangoing ships to transfer the world's fuel, minerals, and bulk commodities (Raffaele, 2007). The National Strategy for Maritime Security (2005) clearly states the United States has a vital national interest in maritime security. The safety and economic security of the United States depends on the secure use of the world's oceans (NSMS, 2005).

Background of the Problem

Nothing brings home an awareness of the maritime dimension to international security than acts of piracy at sea. In many ways, this is because piracy is resistant to traditional defenses used by states to protect territory and populations. The threat to maritime security mounted by Somali pirates is arguably the most substantial challenge to freedom of the seas in fifty years (Murphy, 2012). Maritime piracy is a transnational security challenge that poses serious and dynamic challenges to national, regional, and international stability (Chalk, 2008). The United Nations Security Council (UNSC) has determined that piracy in Somali territorial waters and the high seas off its coast constitutes a threat against international peace and security (S/RES/1816, 2008).

Today billions of dollars go towards countering pirate activity. In 2012, governments and the maritime industry involuntarily spent approximately $6 billion dollars countering pirate activity (Saul, 2013). The proliferation of piracy off the Horn of Africa generates severe economic penalties resulting from stolen cargos, delayed voyages, higher insurance premiums, and the payment of million dollar ransoms. Piracy costs the global economy $18 billion dollars

per year in increased trade costs (Blanc, Do, Kruse, Le, Levchenko, Ma, Mesko, & Ruiz, 2013). The estimated annual cost of maintaining a naval presence around the Horn of Africa is $1.8 billion dollars (Murphy, 2012).

Aside from the financial costs, pirate attacks threaten the lives and welfare of sailors from around the world. Attacks on heavily laden oil tankers also risk triggering a major environmental disaster, particularly in crowded sea-lanes close to shore. The maritime piracy emanating from weak or failed states, like Somalia and Nigeria, destabilizes and weakens a regime's legitimacy by encouraging corruption among elected government officials. All of these factors undermine a maritime state's national security.

The threat and costs associated with Somali piracy make finding an efficient way to counter it an important strategic security concern. National security experts, shipping operators, marine underwriters, and international corporations with deep maritime interests, are all asking the same question. What can dissuade pirates from wanting to attack merchant ships?

Statement of the Problem

While successful pirate hijackings off the coast of Somalia and the Gulf of Aden rapidly decreased in 2012, and flat lined in the first quarter of 2013, other piracy threats continues on the other side of the African continent in the Gulf of Guinea and in Southeast Asia. These threats present a different set of challenges for shipping companies and the international community. Therefore, the focus of this dissertation is twofold. First, to perform a rigorous study of the Somali pirate reports located in the National Geospatial Intelligence Agency's (NGA) Anti-Shipping Activity Messages (ASAM) database. Secondly, to collect data on the variables involved in the successful international response to the Somali piracy crisis. Using this approach, effective tactics, and procedures become apparent to support a strategic counter piracy template, which governments can replicate in other piracy prone areas

of the world.

The causes of Somali piracy draw a lot of attention in the literature on modern piracy (Ong, 2007; Lehr, 2007; Murphy, 2007; Chalk, 2008). Since 2005, the Horn of Africa (HOA), and more particularly Somalia, has risen to prominence as the hotspot for maritime piracy, particularly ship hijackings and kidnappings for ransom. Piracy is a symptom of persistent maritime disorder. This disorder stems from the interplay of factors grouped under the wide-ranging headings of governance, society, and economy (Smallman, 2011). State weakness, state failure, economic dislocation, and poverty, neatly sum up the majority of factors associated with the causes of Somalia piracy (Hastings, 2012).

Purpose of the Study

The purpose of this non-experimental, mixed methods case study is to analyze the reasons for the decline in piracy incidents off the coast of Somalia in order to present an effective counterpiracy template for other piracy prone parts of the world, such as Western Africa and Southeast Asia. The first phase of the study includes a quantitative examination of piracy incident reporting from the NGA's ASAM database. The quantitative strand documents the trend in piracy incidents off the Horn of Africa over a ten-year period between 2003 and 2013. The second phase of the study analyses qualitative data collected from piracy subject matter experts (SMEs) to determine the most effective counterpiracy actions taken. In this qualitative strand, all the major counterpiracy actions taken are identified and scrutinized. A contrast and comparison against the quantitative data trend reveals which efforts worked best. The insights provided by the industry and government SMEs, through face-to-face interviews and an online questionnaire provides an increased understanding of the factors contributing to the decline of Somali piracy documented in this study.

Significance of the Study

The majority of literature surrounding Somali piracy explores the dramatic rise of the

phenomenon in the waters off the Horn of Africa and offer potential solutions for how to avoid or to counter it. Researchers have not yet begun to study or understand the reasons and causes for the recent decline in Somali piracy. Therefore, a gap exists in the literature that requires a new perspective.

This study is significant in that it uses quantitative piracy data exclusively from NGA's ASAM database. This is unique in the literature, which predominantly favors piracy data from the International Maritime Organization (IMO) and the International Maritime Bureau (IMB). The study demonstrates the value and potential that lies within the ASAM database, which is freely available to researchers via the internet.

The results of this study contribute to the body of knowledge on Somali maritime piracy, particularly in regards to maritime counterpiracy strategy and protecting merchant vessels against Somali pirate attacks. The research provides significant insights to constructing a strategic counterpiracy framework that builds off the lessons learned from the Somali piracy experience.

Significance to Strategic Security

Academic research focused on Somalia piracy is significant to the field of strategic security because the issues involved in this transnational maritime threat cross so many contentious security problems. These issues include poverty, failed states, weak states, regional security, linkages to terrorism, arms smuggling, narcotics smuggling, hijackings, kidnapping for ransom, freedom of the sea, international law, law enforcement, coalitions, rules of engagement, and others. The emergence of Somali based maritime piracy has produced a renewed interest in the subject across a number of different academic disciplines, including law, history, and security studies.

Maritime piracy threatens shipping, places mariners in grave danger, and costs businesses and governments billions of dollars in ransoms, insurance, and protective measures.

U.S. counterpiracy efforts involve multiple agencies from the Department of Defense, Homeland Security, Justice, State, Transportation, and Treasury and are coordinated with international and industry partners. Estimated at $18 billion dollars (US), the annual negative financial impact clearly warrants finding a solution to the Somali piracy problem (Blanc et al., 2013).

Nature of the Study

The general problem in this mixed-method case study was determining which actions deserve the credit for the decline in Somali piracy incidents. The international community, along with their militaries, and shipping industries succeeded in turning the tide against Somali pirates. Understanding which actions stopped Somali pirates from attacking and hijacking ships has important ramifications for protecting ships from piracy in other parts of the world.

The researcher looked at the NGA ASAM database to mark the mid 2003 through mid-2013 trend in Somali piracy. Then the researcher recruited piracy subject matter experts from the intelligence community to identify the most significant counterpiracy events and actions taken during the ten-year period. Overlaying the counterpiracy events over the piracy trend reveals the correlation between them.

Therefore, the two principal sources of information for analysis in this dissertation are interviews of Somalia piracy SME's and ASAM piracy incident reports. The information derived from the collection and analysis of the interviews questions encompasses the qualitative strand in this study. The information derived from the collection and analysis of the ASAM data encompasses the quantitative strand in this mixed method convergent parallel design case study. ASAM incident reports include the locations and descriptive accounts of specific hostile acts against ships and mariners. These were collected using an online query application via the NGA website. The qualitative data collection comes from SMEs from the intelligence community's piracy community of interest (COI); and from licensed master

mariners with experience sailing off the Horn of Africa; by using an interview or questionnaire reporting technique.

Research Questions

How can the data located in NGA's ASAM database support the development of a strategic counterpiracy template? This is the guiding research question for this dissertation. Other questions include:

- How can governments and the shipping industry prevent pirates from wanting to attack merchant vessels?
- How can an analysis of the ASAMs database provide insight into counterpiracy strategies in other parts of the world?
- How do the counterpiracy actions taken by the international community relate to the trends identified in the ASAMs analysis?

Theoretical Framework

Understanding past counterpiracy actions helps in determining what actions to take against piracy in the future. When incidents of Somali piracy began to overwhelm the safe transit of merchant vessels in the strategic sea-lanes off the Horn of Africa, the international community initiated a series of actions in order to address the issue. A study of the effectiveness of these actions on the rate of piracy can help shape the direction of counterpiracy strategy in other piracy-prone areas of the world. The most notable counterpiracy events, actions, or themes from the Somali piracy experience include actions by the United Nations (UN), naval deployments, the establishment of the International Recognized Transit Corridor (IRTC), the use of armed embarked security teams on board merchant ships, and the application of the best management practices used by the shipping industry off the coast of Somalia. Measuring the effectiveness of these efforts is critical to building a strategic

counterpiracy framework. The researcher uses the terms *armed embarked security teams* (AESTs) and *armed security teams* (ASTs) interchangeably in this study as they share the same meaning.

Assumptions

The purpose of the research is to analyze the reasons for the decline in piracy incidents off the coast of Somalia in order to present an effective counterpiracy template for other piracy prone parts of the world. The analysis explores both quantitative and qualitative data. Despite the universal acknowledgement that a high number of piracy incidents go unreported each year, the researcher assumed the piracy trends revealed in the quantitative examination of the ASAM database is representative of the overall piracy phenomenon off the Horn of Africa between 2003 and 2013.

The researcher recruited piracy subject matter experts from the intelligence community's Somali piracy community of interest in addition to experienced master mariners to generate the qualitative data in the study. All of the intelligence community participants had experience in working the Somali piracy portfolio. The master mariners were either currently sailing off the coast of Somalia or had experience sailing in these high risk waters in the past. The research assumed all the participant were honest and provided honest answers.

Limitations

This dissertation is not without limitations. There are certain aspects of the study the researcher could not control. The quantitative data was limited to piracy incidents reporting between 2003 and 2013 from NGA's ASAM database for geographical regions 61, 62, and 63, the maritime areas surrounding the Horn of Africa from which Somali based pirates operate. Therefore the validity and reliability of the quantitative phase of the study is only as reliable and valid as the individual piracy reports collected for these areas for the period given.

The ASAMs database only contains self-reported incidents from merchant vessels or

those reports passed to or discovered by NGA. The real number of ships attacked by pirates each year is unknown. Numerous attacks on all types of vessels go unreported. Somali pirates also attack and hijack fishing vessels and dhows, often to use as mother ships for launching attacks further off the coast. Dhows are traditional trading vessels used to carry small cargoes along the coasts of the Arabian Peninsula, and East Africa.

Ship owners and masters have no incentive to report pirate attacks. Fearing delays to their liner schedules they choose not to report (Kontorovich and Art, 2010; Murphy, 2010). The International Maritime Bureau (IMB) estimates that half of all attacks go unreported; other analysts have put the number even higher (Siebels, 2013). This limitation, the weakness of the figures, is surmountable because statistically there are a sufficient number of reported incidents to make the study reliable, even if the real number of attacks can never be determined.

Additionally, the number of participants interviewed during the qualitative phase of the study was limited to those who were willing to submit to questioning. The sample size for the qualitative data collection is 10 interviews/questionnaire responses from subject matter experts on Somali piracy. For most qualitative studies, 10 participants are sufficient (Lichtman, 2012, Pitney & Parker, 2009, Rogers, 2009).

Delimitations

While piracy occurs around the world, the researcher has limited the quantitative research in this study to only Somali piracy. The fight against Somali piracy is unique in many ways. Studying the rise and fall of Somali piracy incidents should translate to counterpiracy lessons for other parts of the world.

The researcher purposely limited the number of participants and respondents for the qualitative data collection to 10 subject matter experts. Since the subject matter experts participating in the study are all familiar with the details of Somali piracy, saturation will occur

quickly. The researcher set the duration of the qualitative data collection to no more than 30 days in order to reduce the amount of time to complete the study.

Summary

This chapter introduced the dissertation topic. It explains how the majority of world trade is carried by merchant ships and how the U.S. has a vital interest in freedom of navigation and maritime security. The chapter explains the financial and human costs associated with Somali piracy, which are steep, and asks what can dissuade pirates from attacking merchant ships off the Horn of Africa. Finding the answer to this question is significant to the study of strategic security.

While the literature contains much in the way of theories and discussions on the causes of Somali piracy, there is a gap exploring the reasons for the sudden decline in piracy incidents. Understanding the counterpiracy efforts that suppressed attacks off the Horn of Africa is important when dealing with piracy in other high-risk areas. The chapter briefly outlines the purpose and nature of this non-experimental and mixed methods case study, which is to conduct research that provide significant insights into constructing a strategic counterpiracy framework that builds off the lessons learned from the Somali piracy experience.

The researcher assumes that the piracy trends revealed in the quantitative examination of the ASAM database is representative of the overall piracy phenomenon off the Horn of Africa regardless of the assumed underreporting. He also assumes the participants or subject matter experts involved in the qualitative data collections provided knowledgeable and honest answers. The chapter notes the limitations regarding the overall quality and accuracy of piracy incident reporting. Lastly, the researcher explains how piracy is not a problem unique to the Horn of Africa, but limits the research in this study to this specific area of the world because of the recent decline seen in this region.

CHAPTER 2: LITERATURE REVIEW

Introduction

The analysis for this dissertation will suggest the tide has shifted against Somali pirates and now favors merchant vessels for three reasons. The first reason is the move by maritime nations to deploy naval vessels around the Horn of Africa (HOA) to conduct counterpiracy operations. Figure 1 depicts the location of the Horn of Africa in relation to the rest of the African continent. The second is the implementation and use of Best Management Practices by merchant vessels. The third reason for the ultimate fall in Somali piracy is the use of armed embarked security teams by merchant ships while transiting high-risk areas. This chapter provides an overview of piracy studies conducted over the past decade that used piracy-reporting databases as a basis for their research into various aspects of the modern piracy phenomenon. The study introduces quantitative statistics of modern day piracy; the epistemology of maritime Asia with trend analysis for piracy during the early, late, and postmodern periods; the variance of piracy behavior between weak states and failed states; the effects of preventative actions on piracy trends; and the incidence of universal prosecution for the international crime of piracy.

Figure 1 An annotated map of the Horn of Africa.[1]

[1] Adapted from Wikipedia and retrieved from http://en.wikipedia.org/wiki/Horn_of_Africa

Documentation

There is a paucity of research pertaining to the analysis of maritime piracy reporting databases; not just for piracy events emanating from Somalia, but for piracy events in general as these event still occur on a regular basis around the world. *Piracy* and *Somali piracy* are commonly addressed topics in the literature. A search of scholarly, peer-reviewed journal articles in the ProQuest database with the keyword *piracy* revealed over 7,400 articles; but only two of the first 20 articles displayed pertained to maritime piracy as opposed to software, movie, music, or other digital piracy or illegal copyright activities. Adding the keyword *maritime piracy* revealed almost 1,400 documents. Using the keyword *Somali piracy* revealed 242 peer-reviewed journal articles. A search of the ProQuest Dissertations and Theses database produced equally barren results, with only 31 dissertations or theses associated with the topic of *maritime piracy*, none of which pertained to modern maritime piracy off the Horn of Africa.

Still, the literature on maritime piracy has expanded significantly over the last ten years. Much of this new literature explores the causes of maritime piracy, either in general, or in specific parts of the world (Hastings, 2012). Few studies actually look at the original piracy reporting data, though many studies mention piracy-reporting organizations such as the IMB and IMO. There is a stark absence of studies in the literature exclusively using NGA's ASAMs database for statistical analysis on piracy.

Literature Review

The most important themes warranting literature review compose the two major components of this maritime piracy dissertation. The first theme explored is the analysis of piracy reporting databases and the types of piracy research conducted by exploiting them. The second theme focuses on the effectiveness of major counter piracy actions taken by the international community and the maritime industry. These actions include the establishment of the internationally recognized transit corridor (IRTC), the creation and deployment of

combined and unilateral anti-piracy task forces, the United Nations authorizations to use force in fighting Somali piracy; and the development, standardization, and implementation of Best Management Practices (BMP4) employed by merchant vessels transiting high-risk areas. By concentrating on these themes, this literature review hopes to expose how the previous research intertwines with the dissertation research. The review starts by evaluating a select body of knowledge on the use of piracy incident databases in the study of modern piracy.

Research Using Piracy Reporting Databases

This review will provide an overview of scholarship by Bruyneel; Ong-Webb; Psarros, Christiansen, Skjong, and Gravir; Hastings; and Kontorovich and Art to gain understanding on how piracy reporting databases can be analyzed to reveal trends, themes, understandings, and other phenomenon. These studies coincide with the period under consideration for the original research conducted in this dissertation, roughly a ten-year period from June 2003 to June 2013. Of particular interest are the methodologies used for analysis of the piracy reporting databases and the choice of which organization's piracy reporting data to use.

Modern Day Piracy Statistics and Piracy Reports

One of the first researchers to take a statistical look at piracy incident reporting was Bruyneel (2001; 2003; and 2005), who compiled three short works on piracy, all of which have the analysis of piracy reporting data at their core. When looking at these studies chronologically, it is easy to see the author's methodologies progress in sophistication; from mere data collection, to comparison of databases, and finally to more advanced analysis in 2005. Although these self-published works have not appeared in peer-reviewed journals, they are still important to understanding research into piracy incident databases.

In his first work, Bruyneel (2001) performs a frequency analysis of worldwide piracy incidents from 1979 to 2000, a twenty-year period that he refers to as "modern day" in his title. Ong-Webb (2006) carries the moniker *modern day* piracy forward in his work dealing with

piracy incidents over the last few decades. Bruyneel (2001) also lays the groundwork for follow-on studies. In his second work, Bruyneel (2003) states, "if the piracy problem is ever to be analyzed…the collection of data is of the utmost importance" (p. 3). The collection of piracy data is exactly where Bruyneel begins his scholarship. Bruyneel's (2001) goal is to find the best data available, going as far back in time as possible. In order to fill gaps in piracy reporting incidents from 1978 to 1990, Bruyneel (2001) generated his own piracy incidents database using two sources. The first source was a book by Villar (1985) titled "Piracy at Sea: Robbery and Violence at Sea since 1980." The second source of piracy reports were from NGA's ASAM database (Murphy, 2010). After 1991, Bruyneel (2001) adds UN piracy statistics into his datasets. Refer to Figure 2 for Bruyneel's graph of modern day piracy statistics, which include these various datasets.

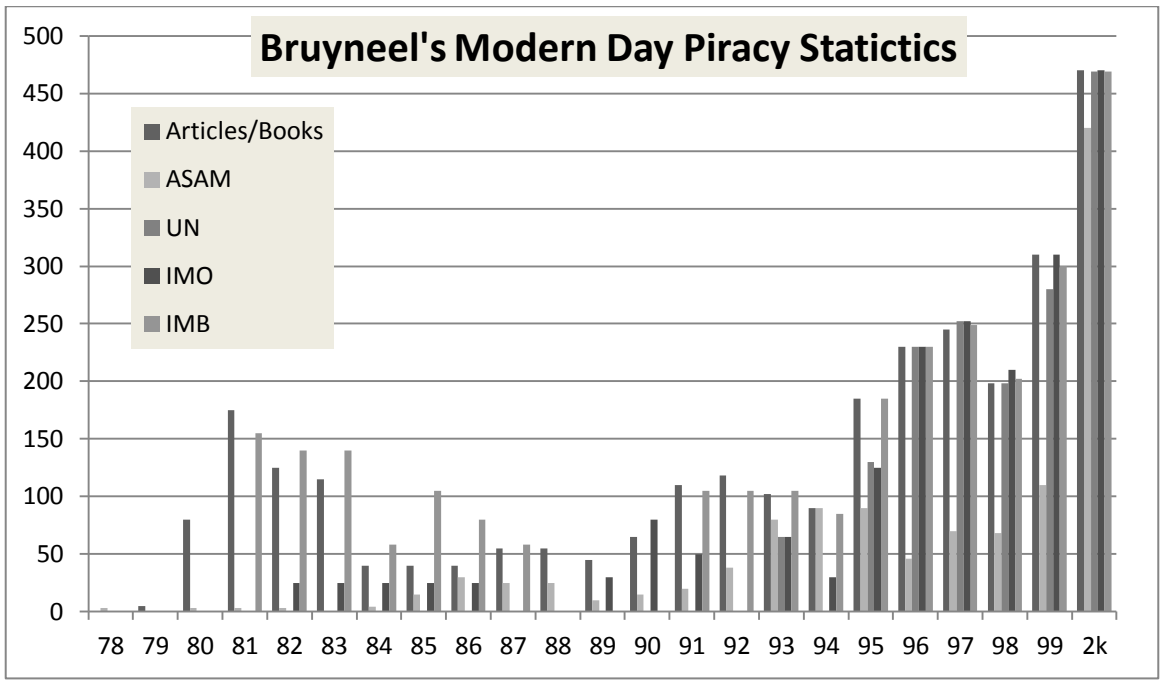

Figure 2. Bar graph depicting piracy incidents statistics from various sources including NGA, the UN, the IMO, the IMB, and others.[2]

In his 2003 work, Bruyneel delves into a comparative analysis of the two most popular piracy incident databases. What is so helpful with Bruyneel's (2003) comparison study, and the reason why his scholarship leads off this literature review, is the excellent history offered of the origins of piracy incident reporting by the IMO and the IMB. This subject is worth exploring further.

The International Maritime Organization (IMO) is a specialized agency of the United Nations that is responsible for the safety and security of merchant shipping worldwide (IMO, 2013). The organization develops and maintains a comprehensive international regulatory framework for shipping, including safety, environmental concerns, legal matters, technical co-operation, maritime security, and creating efficiencies. The IMO first began compiling

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[2] Adapted from "Modern Day Piracy Statistics," by M. Bruyneel, 2001. Copyright 2001 by M. Bruyneel and reprinted with permission.

statistics on piracy acts in 1984 as part of its safety mission (Bruyneel, 2001).

The International Maritime Bureau (IMB) is a specialized division of the International Chamber of Commerce (ICC). Established in 1981, the IMB is a focal point in fighting all types of maritime crime and malpractice (IMB, 2013). The IMB has a memorandum of understanding with the World Customs Organization (WCO) and has observer status with Interpol. The IMB began systematically collecting and distributing piracy information with the establishment of the Piracy Reporting Centre in Kuala Lumpur, Malaysia in 1992 (Bruyneel, 2003).

Bruyneel (2003) presented a four-page review and comparison of piracy reports from the IMO and IMB at the Centre for Maritime Research conference in Amsterdam on September 5, 2003. The paper highlights differences in reporting numbers by the two organizations and provides explanations for those differences (Bruyneel, 2003). For data, the author compares IMO and IMB annual reports published from 1998 to 2002. His first comparison shows incident totals year by year. The paper reveals that the IMO consistently has more reports than the IMB for each year in the study. Next, a more detailed analysis of both organizations' annual piracy reports shows more differences in the number of incidents captured. Refer to *Table 1* for additional details on the specific differences in reporting. Bruyneel without bias concludes that both organizations capture the vast majority of piracy incidents with lag times in reporting by ship-owner and the disparate definitions of piracy creating the minor differences between the annual reports of the two organizations. It would be most interesting to run the analysis again with the inclusion of ASAM reporting numbers alongside the IMO and IMB statistics from 1998 to 2002 as an additional comparison.

Table 1

Specific Differences in Piracy Incident Reporting Totals

Reporting Agency	1998	1999	2000	2001	2002
Reported by both IMB and IMO	182	277	456	323	357
Reported by IMB only	9	6	13	12	13
Reported by IMO only	28	27	15	43	26
IMB annual report	191	283	469	335	370
IMO annual report	210	304	471	366	383
All incidents in annual reports	219	310	484	378	396

[3]

In his third work on piracy, Bruyneel (2005) conducts a mixed method study of pirate reports for the year 2004. In this report, the author's interest has clearly shifted away from data collection and now focuses on the interpretation of piracy incidents data. Bruyneel (2005) contends that attacks are increasing on smaller vessels. Unfortunately, the author does not reveal his methodology for how he sorted the data by ship sizes. Bruyneel (2005) concludes that smaller vessels cannot afford the same security protection as larger vessels and therefore make easier targets. Interestingly, Bruyneel (2005) suggests hiring private security companies to provide added security to smaller vessels, but admits the issue is controversial. The comment foreshadows the move towards Best Management Practices by the maritime industry to combat piracy and the use of armed security teams.

Bruyneel (2005) analyzes piracy incidents in Asia and breaks them out by eleven different regions including the Malacca Strait and South China Sea. He also calculates the frequency of attacks by the flag state of the vessel. The author concedes that there is not much

[3] Adapted from "Current Report on Piracy by the IMO and the IMB" by M. Bruyneel, 2003. Reprinted with permission.

relevance in his statistics for attacks by flag state because their movements are heavily influence by trade developments. Similarly, the largest merchant flag fleets, such a Panama and Liberia, would statistically have a proportionally higher number of attacks against them.

Bruyneel (2005) investigates whether pirates target certain shipping companies. To do this he searches outside of the incident databases. He admits the task is difficult and the results are disappointing, nothing more than a listing the countries of vessel ownership. No actual shipping lines or ship operators make the list. The study continues with a highlight of several notable piracy attacks. These give the reader an understanding about the type of incident and other details similar to that found in the narrative sections of piracy incident reports. It is interesting that Bruyneel (2005) includes in this grouping one incident found only in the ASAMs database.

The study includes a section on counterpiracy measures taken in the Far East. These include the use of tracking devices, employing surveillance systems, giving international aid to coastal states, bi-lateral security arrangements, conducting limited counterpiracy operations, joint operations, setting up marine police tactical units, the use of aircraft over the Strait of Malacca, and the Maritime Electronic Highway Development Project funded by the World Bank (Bruyneel, 2005). Bruyneel (2005) provides exposure to counterpiracy measures, which is helpful to those interested in finding what techniques work best in certain areas of the world. The study concludes with two counterpiracy success stories leading to arrests.

Unfortunately, none of the Bruyneel studies appears in peer-reviewed journals and they are not without weaknesses. For example, Bruyneel (2003) incorrectly states that the only two organizations that collect information on piracy attacks are the IMO and the IMB. Not only is the statement wrong, the author clearly identifies NGA's ASAM records as a source of piracy incidents reporting. Additionally, several of the footnotes in Bruyneel's (2003) comparison article are confusing, particularly when attempting to explain his figures for yearly totals.

Bruyneel's (2005) study *Piracy Reports in 2005* uses a misleading title because some of his research covers piracy incident reporting analysis going back to 2000. As mentioned before, Bruyneel (2005) does not explain the methodology he employed to conclude that attacks against smaller vessels were increasing. This is a critical missing factor, as the tonnages of individual vessels are not readily available in the incident reporting databases. The author does not explain why hiring private security for merchant vessels is controversial. Perhaps he wrongly believes this aspect of international law is common knowledge. Adding the private security context would benefit his study.

In another oversight, Bruyneel (2005) provides a comparison graph of weekly attack numbers marking 2004 against 2005, but he fails to mention the graph in his paper. Bruyneel (2005) methodology and analysis for pirate attacks on specific shipping company ships lacks details. As written, this section is confusing. Is the author suggesting insurance fraud as a factor in some attacks? If so, Bruyneel (2005) should state this theory.

Overall, Bruyneel's selection of sources is good. Trade publications, international news reporting, and journal articles, from the US Naval Institute, Reuters News Service, the Piracy Reporting Centre, and NGA, demonstrate the caliber and reliability of his references. However, the real strength of the Bruyneel trilogy lies in the developmental journey he undergoes while uncovering the world of piracy incident reporting and what lies within them. Each study build upon the next one and when taken together mitigates the amateurishness of his original 2001 study on modern day piracy statistics. Bruyneel expands his knowledge and builds upon his discoveries. In his last study, Bruyneel (2005) offers an excellent idea for setting up a single organization to collect information on piracy incidents. The organization would then send reports to both the IMO and IMB, solving the differences found in each organization's reporting. This suggestion seems valid and demonstrates an unbiased approach.

The studies reveal much of the content researchers need to become familiar with when analyzing piracy incident reports.

Piracy in Maritime Asia: Current Trends

In his work on current piracy trends in Asia, published in Peter Lehr's (2006) book Violence at Sea: Piracy in the Age of Global Terrorism, Ong-Webb (2006) starts his treatise with great bravado claiming that qualitative and quantitative pirate research has been stunted, repetitive, and superficial. He goes further to say that even the use of rudimentary statistics on the subject lacks powerful synthesis and is problematic. The author therefore leaves expectations high for his own research methodology, depth of analysis, and synthesis; however, some readers of the study are left disappointed.

Ong-Webb's (2006) methodology is nothing more than "aggregating and disaggregating" IMB data. The technique involves taking IMB incident reports from 1991 through 2004, already listed under three regional titles: Southeast Asia, South Asian subcontinent, and the Far East; and then forming a new grouping called *Maritime Asia* with near identical headings – Southeast Asia, South Asia, and Northeast Asia. Once renamed, the new grouping serves the author's purpose, which is to align the geographical makeup closer to the conventionally understanding of the area. Ong-Webb (2006) calls this task a simple ground-clearing exercise, but the methodology is not difficult and nothing more than cutting the same deck of cards a little differently. The letdown in expectations results in credibility issues, and thus a possible weakness in the study. Regardless, any studies involving piracy incident reporting can benefit from Ong-Webb's perspectives.

The study is significant in that it led directly to new research by other authors such as Psarros, Christiansen, Skjong, and Gravir (2011), who answered Ong-Webb's (2006) call for greater understanding of pirate behavior involving their modus operandi:

> Further study and advanced statistical methods such as regression analyses can tell us to what extent an independent variable can explain the rise in the use of violence against seafarers and to concretely verify the underlying causes that can explain the rise and fall of phenomena. Regression analyses could be obtained by disaggregating the independent variable for use of arms and the dependent variable for violence against crew and testing specific cases in which guns were used against cases in which violence occurred such as assaults and guns were present. This endeavor would involve studying each incident such as those found in the narration of attacks in the annual IMB reports, which was out of scope for his study (Ong-Webb, 2006, p. 40).

Here we have evidence of Ong-Webb's influence in planting the seed to advance the body of knowledge on piracy. Perhaps this achievement moderates expectation disappointment leveled at the author's own less than powerful methodology.

Ong-Webb (2006) uses a qualitative and quantitative framework similar to this dissertation. Another similarity is the quantitative data source, which comes from piracy incident reporting. Ong-Webb (2006) uses data from the International Chamber of Commerce's International Maritime Bureau (IMB) to reveal piracy trends. Qualitatively, the author targets reports from 1981 until the middle of 2005, a period he generically calls "modern piracy." The period is further broken down into three sub periods: early modern - 1970's to 1991, late modern - 1991 to 2000, and postmodern - 2001 to the present. The divisions serve as reference points for each section of the analysis presented. The majority of the analysis focuses on "late modern" and "postmodern" piracy events in a region the author coins as *maritime Asia*.

Ong-Webb (2006) deliberately moves away from what he calls the "standard analyses"

of narrative sections of piracy reports, because he feels that others already accomplished this analysis, including Chalk (2000). Perhaps, this shows a degree of bias against the usefulness of the information found in the narrative sections on the author's part. Perhaps Ong-Webb cannot imagine new or other ways to look at the narrative sections of piracy incident reports. It is disappointing that Ong-Webb (2006) did not at least attempt to look at the data rich narrative sections. By not considering them, the author displays just another "rudimentary statistical analysis," which is exactly what he disparaged against in his introduction, by only aggregating and disaggregating data sets. The resultant analysis is just trend analysis for the various periods in the new geographic sub regions of the author's invention. The author however does add some historical context to his trend analysis to capture the mood of the period in time, which is helpful.

Similar to Bruyneel (2001), Ong-Webb (2006) agrees the IMB data sets are not free from debate and criticism, yet claims the reports provide the only consistent and reliable set of figures to make some sense out of current piracy attacks. The author gives examples of some of the criticisms against the IMB reports, such as the perception of inflated number, however he never discusses what is wrong with IMO reporting or the ASAMs database. Including a critique for the other datasets that exist would be helpful to other researchers interested in studying these datasets. Furthermore, the author eventually points out all kinds of inconsistencies with the IMB data. For example, Ong-Webb (2006) mentioned that after 2002 the IMB dropped the category of *unarmed attacks* from their reporting. He is also critical of the absence of kidnapping statistics until after 2003. Still, the Ong-Webb (2006) study offers a fascinating panorama of piracy in maritime Asia and widely referenced in the literature on piracy.

Geographies of State Failure and Sophistication in Maritime Piracy Hijackings

Hastings' (2009) study on the geography of state failures and the sophistication of

maritime piracy hijackings marks a different approach to using piracy incident reports. Hastings (2009) explores the political and economic landscapes of failed and weak states to determine the particulars on how they influence these different types of piracy patterns in their waters. In this study, Hastings (2009) contends that the economic health and governing health of coastal states determine the kinds of piracy acts committed off their shores. In other words, failed states and weakened states generate different types of piracy acts and piracy networks in their territorial seas and the seas beyond. Furthermore, Hastings (2009) insists the variation in types of maritime pirate hijackings indicates how pirate syndicates operate within the different political and economic landscapes of failed and weak states.

The two types of piracy Hastings (2009) looks at are *kidnapping for ransom* versus *ship and cargo seizures*. The author proposes the political landscape that characterizes failed states influences the time the pirates can take to carry out their operations, thereby making kidnapping for ransom acts easier to conduct. Conversely, the economic landscape of weak states influences the pirates' ability to dispose of ships and cargo, thereby making ship and cargo seizures easier to conduct. For the most part Hasting (2009) is looking at both Somali piracy and Southeast Asia piracy.

Hastings (2009, 2012) conducted two separate piracy studies using piracy incident reports. Like Ong-Webb and others, Hastings (2009) uses IMO and IMB reporting for creating his data sets. Hastings (2009) then uses logistic regression analysis to reveal that state failure is associated with less sophisticated attacks, while state weakness encourages attacks that are more sophisticated.

This analysis matches conclusions reached by others whereby piracy off the Horn of Africa is clearly associated with failed state piracy operations and piracy in the Gulf of Guinea is associated with weak state piracy operations (Nelson & Ware, 2012). Hastings (2009) maintains failed states produce piracy incidents characterized by time-intensive kidnappings

for ransom. In addition, weak states provide the markets and transportation infrastructure necessary for ships and cargo seizure, where pirates sell both items for profit. Hastings' (2009) study suggests that weak states might actually be more problematic for international security in some respects than failed states. This is an important observation particularly when developing a strategic framework for fighting piracy. In other words, what worked in the fight against piracy in Somalia, which is a failed state, may not work in the fight against piracy in the Gulf of Guinea where there are several weak states.

Hastings (2009) along with Bruyneel (2003) and Ong-Webb (2006) notes maritime piracy research suffers from informational problems. This is a universal theme among researchers using piracy incident reporting information. Hastings (2009) divides these problems into two parts. First, the main agencies that report on pirate attacks have differing definitions of both piracy and hijacking. For example, the IMO uses a two-boat definition, and the attack must occur in international waters to qualify as a pirate attack. The IMB's definition of piracy is more inclusive. The second problem is underreporting. Reporting minor pirate attacks usually raises a shipping company's insurance premiums and slows down a ship's voyage (Ong-Webb, 2006). Many companies prefer to absorb the costs of attacks rather than report them as long as the financial or human losses are not severe (Hastings, 2009). The result is that pirate attacks are almost certainly underreported. Given the relatively small number of articles using quantitative data on piracy (Ong-Webb, 2007; Peet, 2007), Hastings (2009), like Bruyneel and Ong-Webb, constructed his own dataset drawn from information released by the IMO and IMB (Hastings, 2009).

Hastings (2009) follows two propositions:

- The waters in or around *failed states* are disproportionately characterized by hijackings whose aim is exacting a ransom for the ship or crewmembers without disposing of the ship or its cargo;

- The waters in or around *weak states* are disproportionately characterized by hijackings whose aim is to seize the ship and cargo themselves.

The author sets out to explain these behaviors through an analysis of piracy incident datasets. Hastings (2009) defends it is the dissimilarities in political and economic landscapes that influence how pirates implant their operation across territory and thus how they carry out their operations.

To test the propositions Hastings (2009) first had to create his a dataset by going through a tedious incident-by-incident selection process from reports between 2000 and 2007 adding only cases with kidnapping of crewmembers, taking hostages for ransom and/or hijacking ships and their cargo. To determine linkages between state failure and variation in the sophistication of pirate hijackings, Hastings (2009) ran two logistical regressions, making the type of hijacking a binary dependent variable (*y*). For the independent variable (*x*), Hastings (2009) used World Bank governance indicators (percentile rank) for state failure. In his second model, Hastings (2009) made the primary independent variable (*x*) state failure with a binary value of 0 indicating no failure and 1 indicating state failure. To take into account the possibility of a region-wide effect Hastings (2009) included regional dummy variables for two other models. Hastings chooses a conflict measure, coastline length, population, and population density as control variables. From his analysis, Hastings (2009) proves there is a statistically significant relationship between governance and the probability of ship and cargo seizures. He calculates that the risk of a hijacking being a ship/cargo seizure is more than five times as high in a non-failed state as a failed state. After reaching this conclusion, Hastings (2009) explores case studies of piracy in East Africa and Southeast Asia to determine how hijackers operate and to determine the sophistication of those attacks in relation to the political-economic landscapes of those regions.

The Hastings (2009) study is simple and powerful. Borrowing methodologies used to

measure terrorism and state failure Hastings (2009) successfully applies the same logic to maritime piracy. He uses piracy incident reports to prove his hypothesis. This dissertation also uses incident reports to show support for the hypothesis.

Hastings is certainly aware of NGA's ASAMs database. He references the agency twice in his study. The first reference involves a specific piracy incident with a fishing vessel hijacked off Vietnam and the second appears as an endnote citing the author's source for attack coordinates appearing on a graphic in the study (Hastings, 2009). Nevertheless, we do not see the author exploring the usefulness of the ASAMs data. It would be interesting to see if the regression models would have the same results using exclusively the ASAMs database of piracy incident reports. I would argue that the results would be the same.

An Empirical Examination of Universal Jurisdiction for Piracy

Employing a cogent study design, Kontorovich and Art (2010) use piracy-reporting databases to observe prosecutions rates under the legal concept of *universal jurisdiction*. The study is similar to the research conducted in this dissertation, where pirate incident reports validate a hypothesis. Bringing pirates to justice is an important counterpiracy function.

Piracy is a jurisdictionally problematic offense (Ong-Webb, 2007). To assist in bringing pirates to justice, the concept of universal jurisdiction originated as a means of prosecuting acts of piracy on the high seas where national jurisdiction is unclear (Kontorovich & Art, 2010). Universal jurisdiction serves as an enforcement proxy for states not directly connected to the act, such as by a vessel's flag, or by the nationality of the defendant or the victim, or by other traditional grounds. In other words, universal jurisdiction is a legal avenue used to prosecute criminals by states without a nexus to the offenses. In the twentieth century, the prosecution of human rights cases can also fall under the universal jurisdiction.

The authors applied the following methodology in their study. To establish the rate of universal jurisdiction piracy prosecutions over time, Kontorovich and Art (2010) needed to

know how many piracy cases were tried under the statute and the total number of piracy incidents that qualified for universal jurisdiction prosecution. To find this information the researchers looked at piracy incident databases similar to NGA's ASAMs database. Kontorovich and Art (2010) analyzed a twelve-year period of piracy incident data, in addition to piracy prosecutions, from 1998 through 2009, which they obtained from the same sources as most of other authors included in this literature review. These sources include piracy datasets generated by the Office of Naval Intelligence (ONI), the IMO, the IMB, and other reporting by government law-enforcement agencies, academia, and news accounts. A specific reference to NGA's ASAMs database is conspicuously absent from the Kontorovich and Art (2010) study, and likewise from the Ong-Webb (2006) and Psarros et al (2011) studies also referenced in the literature review. This observation poses an important question.

Why are researchers choosing IMO and IMB piracy incident reports over the piracy reports found in the ASAMs database? Is it because researchers are unaware of the data or is it because the IMO and IMB provide better information? This could be an area for further study. Still, there is a nexus to NGA in the study. The ONI piracy datasets came directly from NGA's maritime safety information website as indicated by the reference to it. This connection highlights the importance the Navy places on NGA's website, as a destination for open source geospatial intelligence for the government and public users to exploit.

To determine the number of piracy cases eligible for prosecution under universal jurisdiction, Kontorovich and Art (2010) conducted a systematic examination of over four thousand incidents reports. From those records more than one thousand cases qualified, meaning the pirate attacks selected occurred outside of territorial waters and on the high seas or upon international waters. Another important qualifier was indication that a law enforcement investigation commenced. Additional examination of the narrative sections of incident reports, combined with other reporting including interviews with maritime sources, revealed if court

prosecution used universal jurisdiction in the case.

The Kontorovich and Art (2010) study implies that the explosion of piracy off the Horn of Africa led to a rise in the use of universal jurisdiction to prosecute this maritime crime. While this assessment proved minutely true, the study's results are still surprising. Of all clear cases of piracy, punishable under universal jurisdiction, prosecution occurred in less than 1.5% of those cases (Kontorovich & Art, 2010). The prosecution rate is surprisingly low. The study reveals there a very few states that are willing to prosecute pirates based on universal jurisdiction. Kenya accounted for all but four cases over the twelve's year period of the study. Kontorovich and Art (2010) distinguished the last full year of data in their study, from 2008-2009 where the rate was 3.22%, from the previous ten years of data 1998-2007 where the rate was 0.53%. Worldwide, there were only four piracy cases tried between 1998 and 2007 under universal jurisdiction. This distinction showed that the actual rate of prosecution under universal jurisdiction increased during 2008-2009 by a factor of six (Kontorovich and Art, 2010). The researchers illustrate their findings using several tables. Refer to *Table 2* for a listing of international court dockets applying universal jurisdiction between November 2008 and November 2009. Refer to

Table 3 for a comparison of international prosecution rates between 1998 and 2009 using universal jurisdiction.

Table 2

Universal Jurisdiction Dockets 2008 - 2009

	Date of Handover	Apprehending Nation	Number of Alleged Pirates	Prosecuting Nation	Date of Attack	Flag of Vessel
1	Nov. 19, 2008	United Kingdom	8	Kenya	-	Yemen
2	Mar. 5, 2009	USA	7	Kenya	Feb. 11, 2009	Marshall Is.
3	Mar. 11, 2009	Germany	9	Kenya	Mar. 3, 2009	Germany
4	Mar. 11, 2009	Russia	10	Kenya	Feb. 12, 2009	Iran
5	Apr. 8, 2009	Germany	7	Kenya	-	Germany
6	Apr. 22, 2009	France	11	Kenya	Apr. 15, 2009	Liberia
7	May 8, 2009	France	11	Kenya	May 3, 2009	France
8	May 16, 2009	Spain	7	Kenya	May 6, 2009	Panama
9	May 16, 2009	Spain	7	Kenya	May 7, 2009	Malta
10	June 25, 2009	Italy	9	Kenya	May 22, 2009	Denmark
11	June 8, 2009	Sweden	7	Kenya	May 26, 2009	Greece
12	June 10, 2009	USA	17	Kenya	May 13, 2009	Egypt
13	Nov. 9, 2009	Germany	7	Kenya	Oct. 27, 2009	France

[4]

Table 3

Universal Jurisdiction Prosecution Rates Compared

	1998-2009	1998-2007	2008-2009
Prosecutions	17	4	13
Incidents of Piracy	1158	754	404
Prosecution Rate	1.47%	0.53%	3.22%

[5]

[4] Adapted from "An Empirical Examination of Universal Jurisdiction for Piracy," by E. Kontotovich and S. Art, 2010, *The American Journal of International Law,* p. 445.

The study proves that the adoption of universal jurisdiction treaties do not in themselves translate into more piracy prosecutions. If anything, the study demonstrates the need for even more prosecutions using universal jurisdiction (Kontorovich & Art, 2010). Still, the small increase suggests the existence of factors contributing to the expanded use of universal jurisdiction between 2008 and 2009. One of these factors was the major powers devoting considerable enforcement resources to apprehend pirates, which is critical to applying universal jurisdiction. This finding, expanded prosecutions of piracy, is important to know when exploring lessons for a successful counterpiracy strategy. Any successful counterpiracy strategy must include robust prosecutions of captured suspects. Another factor contributing to the expanded use of universal jurisdiction is that Somali pirates hail from a truly failed state with limited ability to prosecute or to oppose judicial intervention by outside states. In fact, Somalia asked the international community for help in countering piracy.

The low number of universal jurisdiction cases correlates with the willingness of countries to engage in extraterritorial apprehension (Kontorovich and Art, 2010). Even under universal jurisdiction, the prosecution of pirates is cumbersome. Coalition navies routinely releases many of the suspected pirates they captures, citing evidentiary difficulties, the cost of prolonged incarceration, and other factors when explaining their release policies. Even in the most obvious open-and-shut cases, there are few nations willing to prosecute captured suspects. This may explain why developing countries account for all universal jurisdiction piracy cases. It is because Kenya has lower costs of prosecution and detention as opposed to sending suspects to NATO or EU countries for trial.

It would be interesting to revisit the Kontorovich and Art (2010) study using the very

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[5] Research shows a marked increase in piracy prosecution rates using Universal Jurisdiction for the years 2008 and 2009, coincident to the steep rise in Somali piracy (see footnote 9).

latest piracy data. Indeed, the authors consider the delay of bringing criminals to court as a consideration affecting the results of their study. The rate of prosecution under universal jurisdiction is likely higher today - based on actions taken by the international community after 2009 including a number of UN resolutions. This is an important point and again highlights the importance of more current research on Somalia piracy. The existing research studies on Somali piracy are not capturing the peak levels of activity, which occurred in late 2010 and early 2011. The Kontorovich and Art study also demonstrates the versatility of piracy reporting databases to prove or disprove research hypotheses.

On the Success Rates of Maritime Piracy Attacks

Psarros, Christiansen, Skjong, and Graver (2011) published a study investigating worldwide piracy trends and analyzing the International Maritime Organization's (IMO) monthly piracy reports from the period 2000 to 2009. Exploring the authors' methodology for the analysis of piracy reporting is the primary reason for including the study in the literature review. The statistical analysis in the study is helpful because it both describes and helps the reader to understand the numerical relationships within the IMO piracy database (Sanders & Smidt, 2000). This understanding helps strategic security experts make informed decisions regarding maritime piracy.

Psarros et al (2011) perform a qualitative analysis of the incident descriptions, or narrative sections, of the IMO piracy reports in order to find trends for the "classification of maritime piracy" (modi) and "pirate capabilities." Part of the methodology is for the authors to group the classifications of maritime piracy into five modes. These are:

- Piracy modus 1: Simple robbery of ship stores and valuables from vessels at anchor/ moored at a buoy/berthed alongside;
- Piracy modus 2: Armed/violent robbery against vessels at anchor/moored at a buoy/ berthed alongside;

- Piracy modus 3: Armed/violent robbery against vessels underway or making way;
- Piracy modus 4: Armed attacks against ships underway or making way for purposes of hostage-taking and ransom demand;
- Piracy modus 5: Deliberate vessel hijacking and devolution—"Phantom ship" operations.

Refer to Figure 3 for a summary of the analysis by Psarros et al (2011).

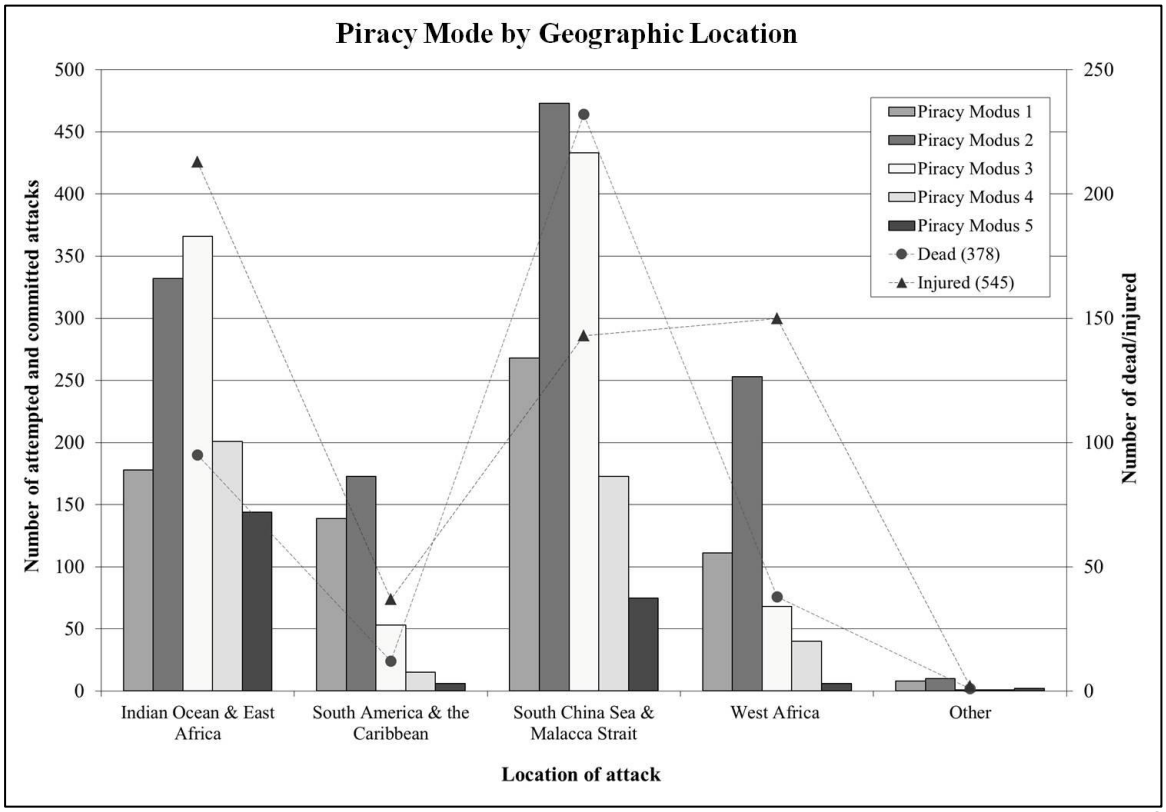

Figure 3. A bar graph depicting type of piracy modus used in various geographic regions.[6]

The study proves that piracy modes vary between geographic areas. Results of the modus analysis are important to remember when attempting to build a strategic counter piracy

[6] Adapted from "On the Success Rates of Maritime Piracy Attacks," by G.A. Psarros, A.F. Christiansen, R. Skjong, & G. Gravir, 2011, *Journal of Transportation Security*, p.313. Copyright 2011 by Springer Science + Business Media. Reprinted with permission.

template out of piracy data focused on one particular area like Somalia. In other words, what worked well in the fight against Somali piracy may not work as well in the fight against Gulf of Guinea or Southeast Asian piracy. The piracy modus may be completely different and therefore may require a different approach to counter.

Regarding pirate capabilities, Psarros et al (2011) again reach into the description sections of the IMO incident reports looking for weapon types and numbers of pirates used in each attack, which they then group into four categories or *capability levels* to generate further qualitative data for analysis. Refer to *Table 4* for a description of each capability level. The results of the capabilities analysis provide a quick reference to the capability levels used by pirates in each geographical area of the world as well as the capability levels displayed for each piracy modus.

Table 4

Pirate Capability Levels

Psarros et al (2011) - Pirate Capability Levels	
Capability Level 1	Individuals operating alone or in pairs (1 to 5 persons) searching for opportunities of occasional removal of items, who are usually armed with simple boarding equipment (i.e. knives, metal bars, hooks, axes)
Capability Level 2	Individuals organized in small groups (less than10 persons) looking for action and removal of valuable items and/or equipment, who are usually armed with light weapons (i.e. pistols, rifles, machine guns), as well as boarding equipment
Capability Level 3	Individuals organized in gangs (more than 10 persons) with the aim to obtain control of the ship and are equipped with heavy weaponry (i.e. Rocket Propelled Grenades—RPGs) as well as light weapons and boarding equipment
Capability Level 0	No information available

[7]

The study then shifts to a qualitative analysis of counterpiracy actions. Again, an analysis of the descriptive sections of the IMO piracy incident-reports reveals groupings of preventative actions taken by any particular vessel. These groupings range from a low activity level to increasing levels of vigilance and readiness. See *Table* 5 for the coding of these preventative counterpiracy actions.

[7] Adapted from "On the Success Rates of Maritime Piracy Attacks," by G.A. Psarros, A.F. Christiansen, R. Skjong, & G. Gravir, 2011, *Journal of Transportation Security,* p. 313. Copyright 2011 by Springer Science + Business Media. Reprinted with permission.

Table 5

Preventative Counterpiracy Actions

Psarros et al (2011) – Preventative Counterpiracy Actions	
Code 1	No action
Code 2	Alarm raised, Ship Security Alert System (SSAS) engaged, crew mustered and being vigilant
Code 3	Passive anti-piracy measures (hoses, lights, flares)—In addition to previous
Code 4	Active anti-piracy measures (evasive maneuvers and increasing speed)—In addition to previous

[8]

Here the result is rather conclusive. Vigilant crews acting quickly have a much higher likelihood of successfully deterring pirates from boarding their vessels (Psarros et al. 2011). This is important to know and provides an easy counterpiracy action for crews to take. Essentially, merchant crews must remain vigilant while sailing through known high-risk piracy areas of the world to reduce their vulnerability to pirate attacks.

The last section of qualitative analysis focuses on trends in maritime piracy. Psarros et al (2011) uses time series analysis to investigate trends. Annual totals of attempted and committed attacks are graphed for a ten year period with 2-year and 4-year moving averages lines included, in addition to a polynomial regression line. The analysis shows the number of pirate attacks around the world steadily decreasing, from a high in 2000 to a nadir in 2006 when the numbers begin to increase dramatically once again. See Figure 4 for the results. The authors broke out the global piracy trends to confirm that the Indian Ocean and East African piracy

[8] Adapted from "On the Success Rates of Maritime Piracy Attacks," by G.A. Psarros, A.F. Christiansen, R. Skjong, & G. Gravir, 2011, *Journal of Transportation Security,* p. 315. Copyright 2011 by Springer Science + Business Media. Reprinted with permission.

numbers were rising. By separating the trends by regions, the authors eliminate generalizations in the regression analysis thereby taking into account domestic and international efforts to combat piracy in particular areas (Psarros et al, 2011).

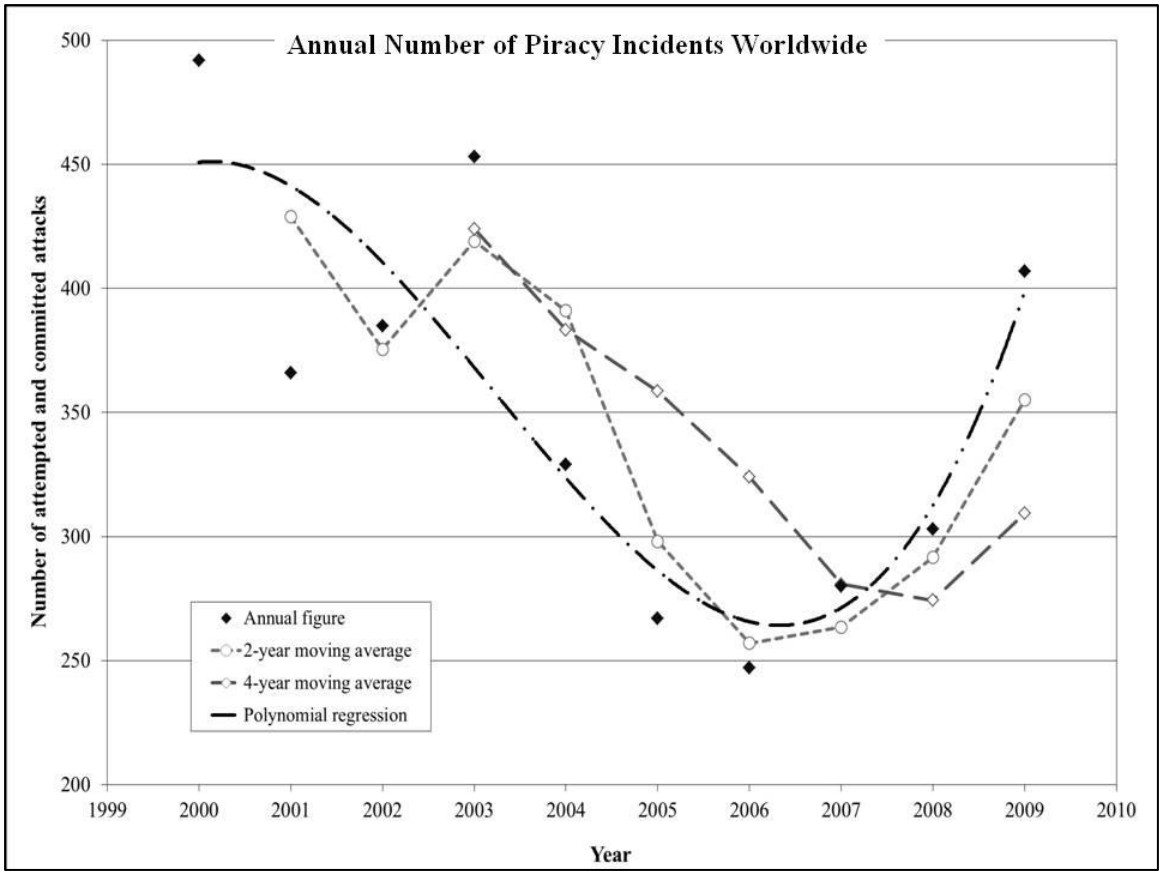

Figure 4. A line graph depicting annual worldwide piracy incidents and their trends from 2000 through 2009.[9]

The second half of the Psarros et al (2011) study uses a quantitative assessment of the data to provide estimates of *success probability* of an attack for the most favorable targets. The methodology used takes into account esoteric formulas that perhaps only advanced statisticians

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[9] The graph includes moving averages and a polynomial regression. Adapted from "On the Success Rates of Maritime Piracy Attacks," by G.A. Psarros, A.F. Christiansen, R. Skjong, & G. Gravir, 2011, *Journal of Transportation Security*, p.319. Copyright 2011 by Springer Science + Business Media. Reprinted with permission.

are comfortable explaining. The literature review highlights the calculus used by Psarros et al (2011) to demonstrate the complexity of the formulas.

The authors use generalized linear models (GLM) to calculate their estimates. Readers benefit from the authors listing four other maritime piracy studies, which used GLM models as part of the research. The list included a study by Hastings (2009) which is also included in this literature review.

A GLM is a method used to generalize linear regression analysis. Regression analysis is a statistical method used to describe the relationship between two variables and to predict one variable from another (MedCalc, 2013). In other words, if you know one variable, then how well can you predict a second variable? GLMs are binary models where the outcomes are either success or failure, and therefore given values of 0 and 1 respectively.

The authors related committed piracy attacks as having successful outcomes and then tested these attacks against other factors, or regressor variables, which are also located within the piracy incident record, such as tonnage of the vessel attacked, what location the vessel was in, the pirate's modus and capability levels, and so forth. This is an excellent research method and appropriate for discovering and understanding the many relationships between the variables located in piracy incident reports.

To accomplish this analysis Psarros et al (2011) uses the following equation to test for probability: Let $p(x_i)$ be the probability that *y* equals 1 (committed) against a set of regressor variables x_i. For regressor variables, the authors use *vessel size, geographical area, piracy modus, capability level*, *action by crew,* and *external interference*. Here you see the authors using their homegrown qualitative data sets for piracy modus and capability levels, to produce new quantitative data.

$$p(x_i) = \frac{\exp(\beta_0 + \beta_1 x_{1i} + \ldots + \beta_{ki} x_{ki})}{1 + \exp(\beta_0 + \beta_1 x_{1i} + \ldots + \beta_{ki} x_{ki})}$$

The authors exchange terms and take the natural logarithms from the first equation to yield a logistic regression model to accommodate the ratio of the probability that an event happens to the probability that it does not happen (odds ratio):

$$Ln\left[\frac{p(x_i)}{1 - p(x_i)}\right] = \beta_0 + \beta_1 x_{1i} + \ldots + \beta_{ki} x_{ki}$$

Consequently, the log-odds ratio is viewed by a multiple linear regression contribution subject to $n_i \geq 1$ observations giving rise to r_i successes at a given value of i. The sample proportion of successes provides the estimate the author expected:

$$\hat{p}(x_i) = r_i/n_i \qquad (i = 1, 2, \ldots, s)$$

Estimates for the regression coefficients listed below are calculated using maximum likelihood (Psarros et all, 2011).

$$\hat{\beta}_1, \hat{\beta}_2, \ldots, \hat{\beta}_k$$

Despite the complex formulas and data produced, the graphical results are rather telling. When testing for success probability as a function of vessel size it becomes obvious that the smaller the vessel the greater the chance for a successful boarding. In other words, the probability of a successful attack decreases as the size of the vessel increases. See Figure 5 for a summary of this analysis. Again, this is important information, which shipping companies and naval units can use for decision making such as increasing security measures for smaller vessels where the risk of successful attack is greater. The analysis makes perfect sense

particularly when viewing the ease at which a pirate can board a ship with a small freeboard, which is the distance from the waterline to the deck of the ship, as opposed to the difficulties in boarding a moving vessel with a very large freeboard such as a 900' containership.

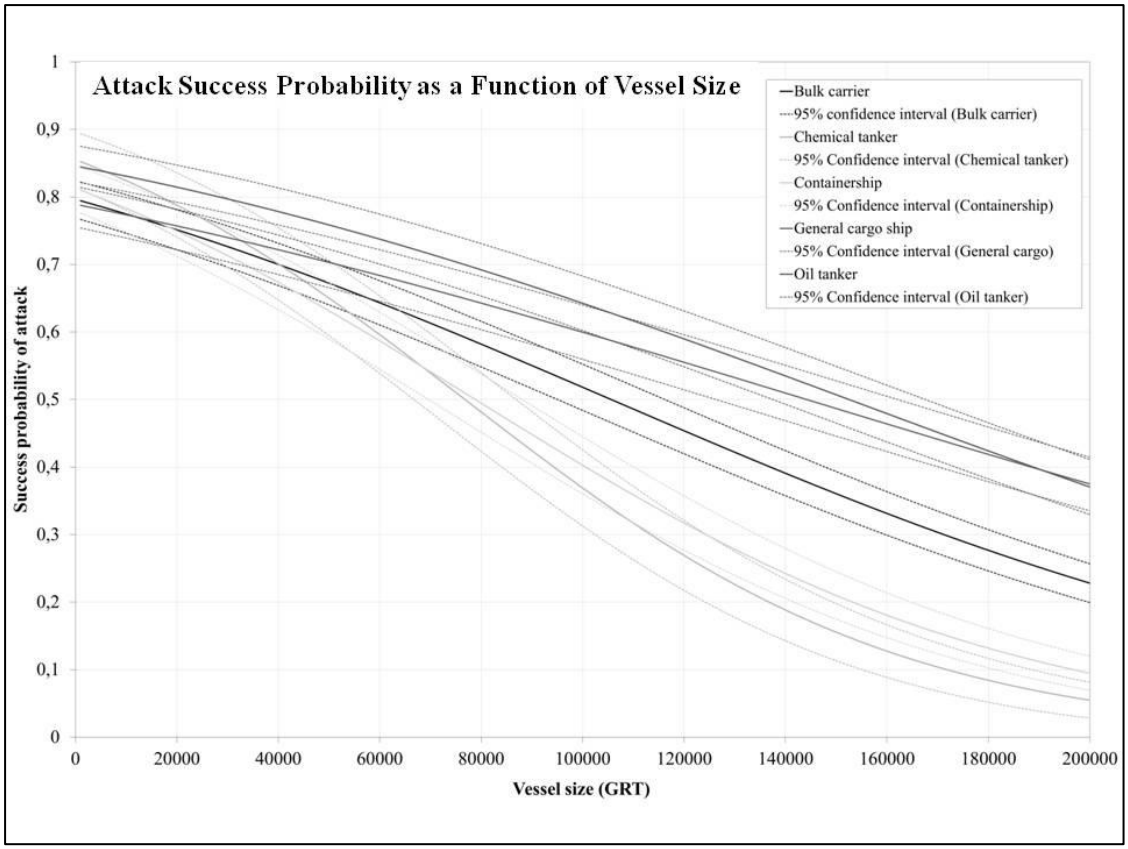

Figure 5. A line graph depicting the probability of a successful pirate attack as a function of vessel size.[10]

The Psarros et al (2011) study is the best work to-date identifying modern piracy trends and the effects of preventive actions taken by the crews. The study proves the value of the IMO

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[10] The graph shows probabilities for different type of vessels such as Bulk carriers, Chemical tankers, Containerships, General cargo vessels, and Oil tankers. The graph is adapted from "On the Success Rates of Maritime Piracy Attacks," by G.A. Psarros, A.F. Christiansen, R. Skjong, & G. Gravir, 2011, *Journal of Transportation Security*, p.325. Copyright 2011 by Springer Science + Business Media. Reprinted with permission.

piracy-reporting database by exposing the trends and probabilities lying within. Trends and probabilities that would be invisible to the world, unless someone were to take the time to conduct the sophisticated analysis required to exploit the data. Still, the study is not without criticisms.

Missing from the study is the methodology on how the authors extracted the piracy modi or the piracy capabilities assessments from the IMO incidents reports. In other words, what tools did the authors use to extract the ungrouped data? This methodology is important for researchers who want to replicate the process.

The authors' descriptions of their qualitative findings, for the piracy modi and capability levels, are difficult to understand. It takes the reader time to digest the meaning of each level and modus. Without memorizing the details of each modus and level, it takes time to digest the meaning of the authors' results tables. Regardless, once having achieved an understanding, the findings are very telling and prove that larger vessels take a higher capability level to attack successfully. To get around the knowledge gap, the authors could inform the readers of their findings in text format, instead of leaving it up to the reader to interpret the graphs for themselves.

Some of the terminology used in the study seems inaccurate. Psarros et al (2011) describe the use of fire hoses and distress flares as passive anti-piracy measures. Flooding skiffs with water from fire hoses or shooting a flare gun directly at oncoming pirates is not a passive anti-piracy measure. Perhaps a better term is *non-lethal* piracy measures. The inaccuracy does not, however, take away from the astute methodology or the interesting results of the analysis.

The study attempts to discern which types of vessels are more susceptible to attacks. Psarros et al (2011) speculate that different pirate groups have different capabilities and

therefore target different ships for varying reasons. This may be true of Southeast Asian pirate attacks, but for Somali piracy, the theory has not proven to be true. In actuality, Psarros et al (2011) findings gives Somali pirates far more credit than they deserve for their planning and procedures, especially when operating far at sea without mothership support. In these situations, pirates are more likely to attack the first ship they come across, as opposed to waiting for a chemical tanker or some other particular type or class of ship. The results of this portion of the study are therefore unimportant to the Somali pirate experience and demonstrate the difficulty and utility in developing a strategic counter-piracy template that will fit every high-risk pirate region on the planet.

Conclusion

The studies included in this literature review reveal numerous examples where researchers delved into piracy reporting databases to gain understanding on how reporting can be analyzed to reveal trends, themes, understandings, and other phenomenon. Bruyneel (2001) (2003) (2005) exposed much of the content researchers need to become familiar with when conducting analyses of piracy incident reports. Over time, Bruyneel's interest shifts away from data collection to focus more on the interpretation of piracy incidents data to answer some basic research questions such as whether attacks on smaller vessels are increasing relative to larger tonnage vessels or whether pirates are specifically targeting certain country's ships or specific shipping. The Ong-Webb (2006) mixed methods study on piracy in maritime Asia pushes the envelope on the analysis of piracy incident reporting by call*i*ng for further research and advanced statistical analysis, including regression analyses.

Hastings' (2009) study on the geography of state failures and the sophistication of maritime piracy hijackings marks a different approach to using piracy incident reports. Hastings (2009) uses logistic regression analysis to reveal that state failure is associated with less sophisticated attacks, while state weakness encourages attacks that are more sophisticated.

Hastings' (2009) study suggests that weak states might actually be more problematic for international security in some respects than failed states.

Psarros et al. (2011) perform a qualitative analysis in their study of incident-report descriptions, or narrative sections, of the IMO piracy reports in order to find trends for the classification of maritime piracy and pirate capabilities. Psarros et al (2011) use time series analysis to investigate trends. The study proves that piracy modes vary between geographic areas. The second half of the Psarros et al (2011) study uses a quantitative assessment of the data to provide estimates of *success probability* of an attack for the most favorable targets. The study proves the probability of a successful attack decreases as the size of the vessel increases.

Kontorovich and Art (2010) use piracy-reporting databases to observe prosecutions rates under the legal concept of universal jurisdiction. To establish the rate of universal jurisdiction piracy prosecutions over time Kontorovich and Art (2010) looked at piracy incident databases similar to NGA's ASAMs database. To determine which case qualified under universal jurisdiction the researchers conducted a systematic examination of over four thousand incidents reports. Quite surprisingly, of all clear cases of piracy, punishable under universal jurisdiction, prosecution occurred in less than 1.5% of those cases (Kontorovich & Art, 2010).

This literature review provides a brief historical background to the transnational security issue of Somali piracy and the reasons why countering it successfully is relevant to the field of strategic security. There is consensus that any lasting solution must be land-based within Somalia. Until that time, the best result the international maritime forces can achieve at sea is containment of the piracy problem (Smallman, 2011). This review acknowledges to the shallow pool of research about the reasons contributing to the successful counter piracy efforts achieved off the Horn of Africa in the last two years and highlights the utility of analyzing piracy reporting databases to provide empirical evidence to validate hypothesis and gain better

understanding of the problem.

From the research presented in this literature review, we see how the analysis of piracy incident reporting has progress from basic frequency analysis to very complex regression analysis. The methodologies used in these studies will prove helpful when attempting a thorough analysis of NGA's ASAM piracy incident database. The literature review failed to explain why researchers are choosing IMO and IMB data over the ASAM database as their primary source of piracy data. This dissertation seeks to answer this question in the conclusion section of the last Chapter.

CHAPTER 3 METHODOLOGY

Introduction

This dissertation is an instrumental case study on Somali piracy. The study provides insight into the reasons for the recent decline in Somali piracy. The researcher seeks to demonstrate how the counterpiracy success off the Horn of Africa can contribute to building a strategic framework for counterpiracy in other parts of the world. An instrumental case study is a study that provides insight into a particular issue, or in other words, facilitates an understanding of something else (Mills, Durepos, & Wiebe, 2010). This dissertation utilizes a paradigm based upon pragmatism to view the Somali piracy phenomenon and its recent decline. Finding a framework or a workable solution focused on the problem of transnational maritime piracy is the most important aspect of this research.

Non-experimental Research

The study focuses on five actions taken by the international community and shipping industry that logically had some effect on the decline in Somali piracy. In non-experimental research, where there is no experimental manipulation, the independent variable is the variable that *logically* has some effect on a dependent variable. Using this type of research, the researcher studies what has already occurred and how the variables relate to the occurrence (Kerlinger, 1986). Since this case study encompasses non-experimental research there is no further discussion of variables in order to avoid confusion with experimental research. Despite its limitations, when compared to strong experimental research, non-experimental research is still very important (Johnson & Christensen, 2004).

Qualitative and Quantitative Research Methodologies

This work on Somali piracy uses both qualitative and quantitative research methodologies. Research methodology as the name suggests, illustrates, or describes the strategy that would be adapted by the researcher in conducting research. Research

methodology is a combination of research paradigm and research approach (DeMarrais & Lapan, 2004). Research paradigm or the method of research is of two types. These are *positivism* and *interpretivism* (Berg, 2003). Positivism is objective in nature. On the other hand, interpretivism is subjective in nature. This study makes use of both positivism and interpretivism.

Research approaches are again of two types. They are qualitative as well as quantitative research approaches respectively (Shank, 2002). Qualitative research is one of the greatly used types of scientific research. This research investigates answers to questions. Qualitative research collects evidence and finds information that was not determined already (Patton, 2001). Qualitative research is a technique that helps researchers understand and explore people's experiences, behavior, beliefs, interactions, and attitudes, and it generates non-numerical data according to their views. Qualitative research finds what is best or worst. It is a technique, which generates findings of information from the field research. This approach generates the non-numerical data (Steinhauer, 2002). Qualitative research collects and analyzes unstructured information such as survey responses, interview transcripts, emails, feedback forms, notes, videos, and photos. The qualitative research inquires and gathers some uncollected information from people about their concerns, culture, aspirations, value systems, lifestyles, and motivations. Qualitative research informs policy formation, business decisions, other research, and communication.

On the other hand, quantitative research finds relationships within a population (Steinhauer, 2001). Quantitative research classifies features, numbering them, and constructs them as statistical models. This approach generates numerical data. Quantitative research is an approach of planned and ordered empirical investigation of some issues via computational, mathematical, and statistical techniques.

Positivist research uses quantitative research approaches and interpretive research uses

qualitative research approaches (Tsui, 2004). Since the research in this dissertation follows both positivist and interpretive approaches, it also makes use of both qualitative and quantitative research approaches. In other words, this dissertation makes use of a mixed approach. Klandermans, Staggenborg, and Tarro (2002) suggest mixed method studies provide a considerable advantage in social movement research.

Mixed Method Study

This dissertation on Somali counterpiracy efforts will employ a mixed methods approach using a convergent parallel design. In convergent designs, the quantitative and qualitative strands proceed separately yet concurrently and ultimately merge at the point of interpretation (Teddlie & Tashakkori, 2009). Each strand holds the same priority. Convergent parallel designs use merged data analysis for purposes of comparing results (Angell & Townsend, 2011). Convergent designs assist in forming a more complete understanding of the topic (Creswell & Plano Clark, 2011). By using this convergent design, the dissertation will provide a holistic analysis of the decline in Somali piracy. See Figure 6 for a diagram depicting the convergent parallel design concept.

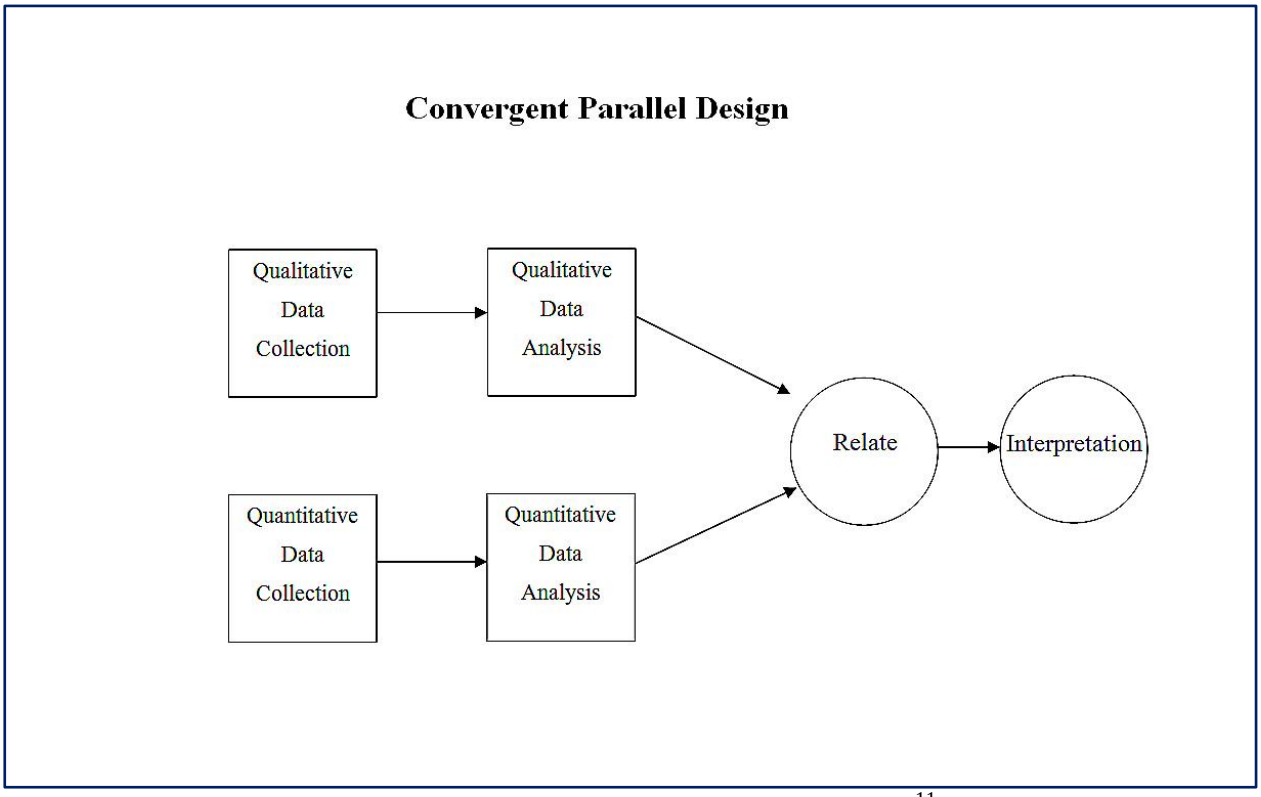

Figure 6. This flow chart depicts a convergent parallel research design.[11]

Research Questions

In this dissertation, the researcher posits that certain actions or events are responsible for the substantial decline in piracy incidents off the Horn of Africa, beginning in 2011 as reflected in the National Geospatial-Intelligence Agency's (NGA) Anti-Shipping Activity Messages (ASAM) incidents database. To understand the effects of these actions and events, the researcher has formulated eight questions, which he intends to answer in the study. Research questions in a traditional mixed-method study include aspects from both quantitative

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[11] The qualitative and quantitative strands are concurrent yet separate for both data collection and data analysis. How the strands relate to each other forms the basis for the interpretation and results of the study. Adapted from "Designing and Conducting Mixed Methods Studies," by B. Angell and L. Townsend, 2011, *Workshop for the 2011 Society for Social Work and Research annual meeting*, slide 17.

and qualitative inquiries (Creswell, 2005). The quantitative question concerns NGA's ASAM database and the qualitative questions concern the actions taken by the shipping industry, governments, and the international community, as they started responding to the Somali piracy threat. The questions seek to answer whether or not certain counterpiracy actions were directly responsible for a decrease in the number of piracy incidents off the Horn of Africa.

The guiding question in this case study is: How can the data located in the NGA's ASAMs database support the development of a strategic counterpiracy template? Sub questions include:

- How can governments and the shipping industry prevent pirates from wanting to attack merchant vessels?
- How can the analysis of the decline in Somali piracy provide insight into creating counterpiracy strategies in other parts of the world?
- How do the counterpiracy actions taken by the international community relate to the trends identified in the ASAMs analysis?
- What effects did United Nations Security Council (UNSC) resolutions have on the piracy rate off the Horn of Africa?
- What effect did the deployment of naval task forces to the waters off the Horn of Africa have on the number of piracy incidents in the region?
- Did piracy events increase or decrease immediately after the international recognized transit corridor (IRTC) was established?
- What effect did the use of armed embarked security teams have on the rate of Somali piracy?
- What effect, if any, did the shipping industry publishing of the Best Management Practices Guide (2011) have on hijacking rates?

Knowing the answers to these questions is important and this study seeks to answer these questions in order to construct a strategic counterpiracy framework. Having a framework to follow at a strategic and operational level is beneficial to authorities needing to address other active piracy areas of the world.

Research Design

The intent of the research in this study is to provide insight into counterpiracy successes off the Horn of Africa, which can contribute to building a strategic framework for counterpiracy efforts in other parts of the world. In order to provide the necessary insight the study must employ an appropriate research design. Research design is a blue print that provides structure and direction to the research. In other words, it is one of the procedures and methods for obtaining the needed information. It provides the overall operational pattern of the research that specify how and what information to collect and from what procedures (Haig-Brown, 2003).

A research design makes up the heart of most research plans by determining and providing a statement to the particular project, a strategy, and if nothing else a general research approach. The research design is a plan, structure, and strategy, to conduct a research project (Chen and Hirschheim, 2004). The quality of the research obtained in a study is contingent upon a sound understanding of the research design. The design comprises the foundation for the project, and helps to identify any problems in the research.

This dissertation includes a *descriptive research design.* Descriptive research collects data that describes events by tabulating, organizing, describing, and depicting these events. It also uses visual aids such as graphs and charts to depict the events. Descriptive research describes the nature of the research question, the research design, and the data analysis. Descriptive research may be either qualitative or quantitative (Pfeffers and Ya, 2003). Since this study involves a mixed approach, both the qualitative and quantitative strands use

descriptive research designs.

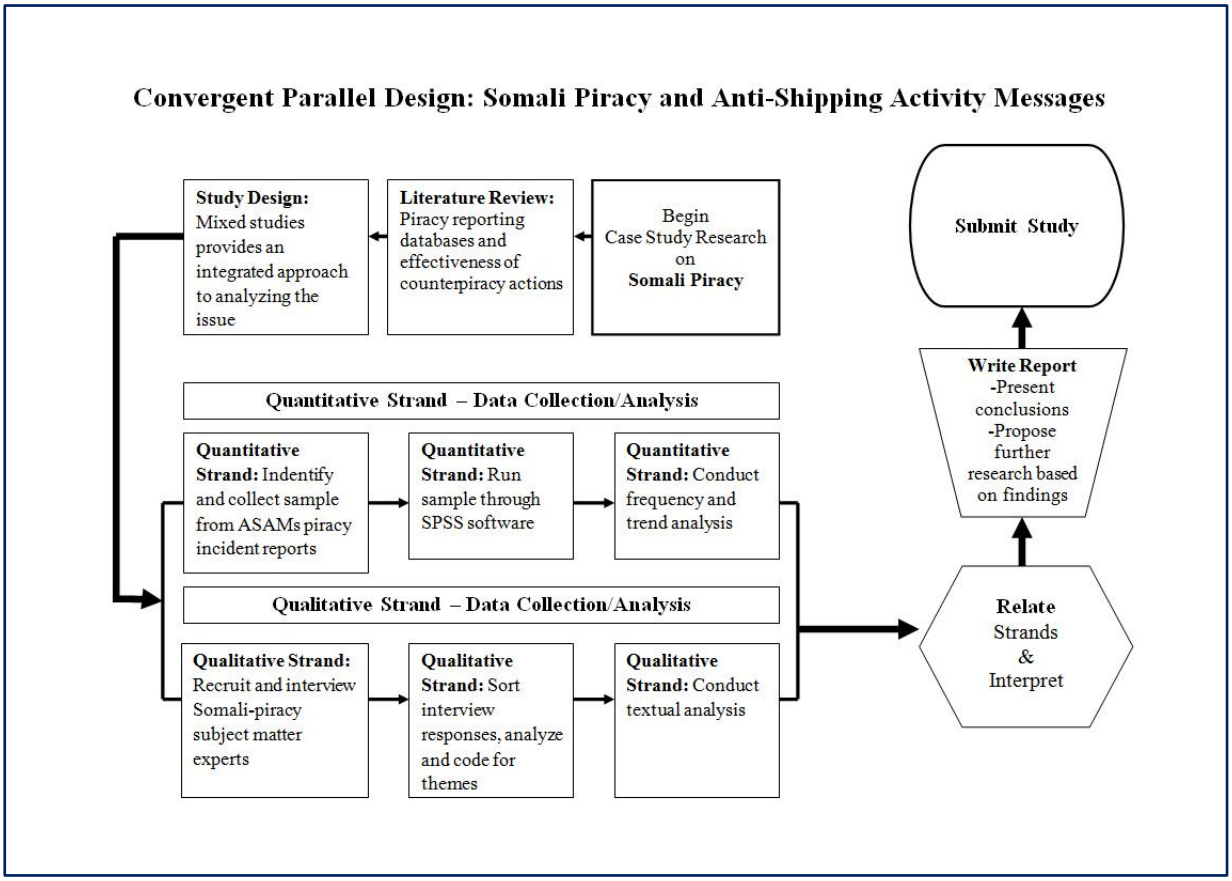

Figure 7. A flow chart depicting the convergent parallel design used in this study on Somali piracy.[12]

The purpose of this mixed methods case study is to analyze the reasons for the decline in piracy incidents off the coast of Somalia, as evidenced within the ASAM database, and to present an effective counterpiracy template for other piracy prone parts of the world; such as Western Africa or Southeast Asia. With this goal in mind, the qualitative strand will identify and collect data on the counterpiracy actions used in the successful international response to

[12] The qualitative and quantitative strands are concurrent yet separate for both data collection and data analysis. How the strands relate to each other forms the basis for the interpretation and results of the study.

the Somali piracy crisis. The quantitative strand will collect data and analyze the Somali pirate incident reports located in the ASAM database. Using this parallel and convergent approach, the researcher will match effective counterpiracy strategies to trends and themes exposed in the analysis of the ASAM database. The results of the analysis will support the development of a strategic counterpiracy template from which authorities can draw upon or replicate in other piracy prone areas of the world. See Figure 7 for the research process design used in this study.

The researcher postulates the tide has shifted against Somali pirates and the sea state or environment now favors merchant vessels as a direct result of five actions. The first action or event is the authorization of the use of force against Somali pirates by the United Nations Security Council in 2008. The second event is the move by maritime nations to deploy naval vessels around the Horn of Africa (HOA) to conduct counterpiracy operations. The third action is the implementation of the Internationally Recognized Transit Corridor (IRTC). The forth action is the adoption and widespread use of Best Management Practices (BMPs) by merchant vessels. Finally, the fifth action or event influencing the ultimate fall in Somali piracy is the use of armed embarked security teams (AESTs) by merchant ships while transiting in high-risk areas. Consult Table 6 for a list of both quantitative and qualitative counterpiracy events and actions analyzed during the study. Figure 8 depicts a modified piracy frequency chart showing piracy trends versus counterpiracy actions.

Table 6

Events and Actions in Somali Counterpiracy

Events and Actions in Somali Counterpiracy	
Quantitative Events	
Individual Anti-Shipping Activity Messages (1,625 in total)	1 June 2003 to 31 June 2013
Qualitative Actions	
First UN Security Council Resolution on Somalia Piracy	June 2008
First Naval Task Forces Deploy to the Horn of Africa	December 2008
The Internationally Recognized Transit Corridor Established	February 2009
Armed Embarked Security Teams Endorsed by IMO	May 2011
Best Management Practices Guide – Volume 4. Published	August 2011

[13]

[13] NGA's Anti-Shipping Activity Messages include detailed piracy incident reporting. For the period included in this study, the ASAM messages include 1,625 individual piracy reports. Because of the variances in piracy definitions, mostly revolving around attacks that occur within territorial waters versus those that occur on the "high seas," some reporting agencies use broader categories for piracy incidents such as maritime crime and in NGA's case, *anti-shipping* activities.

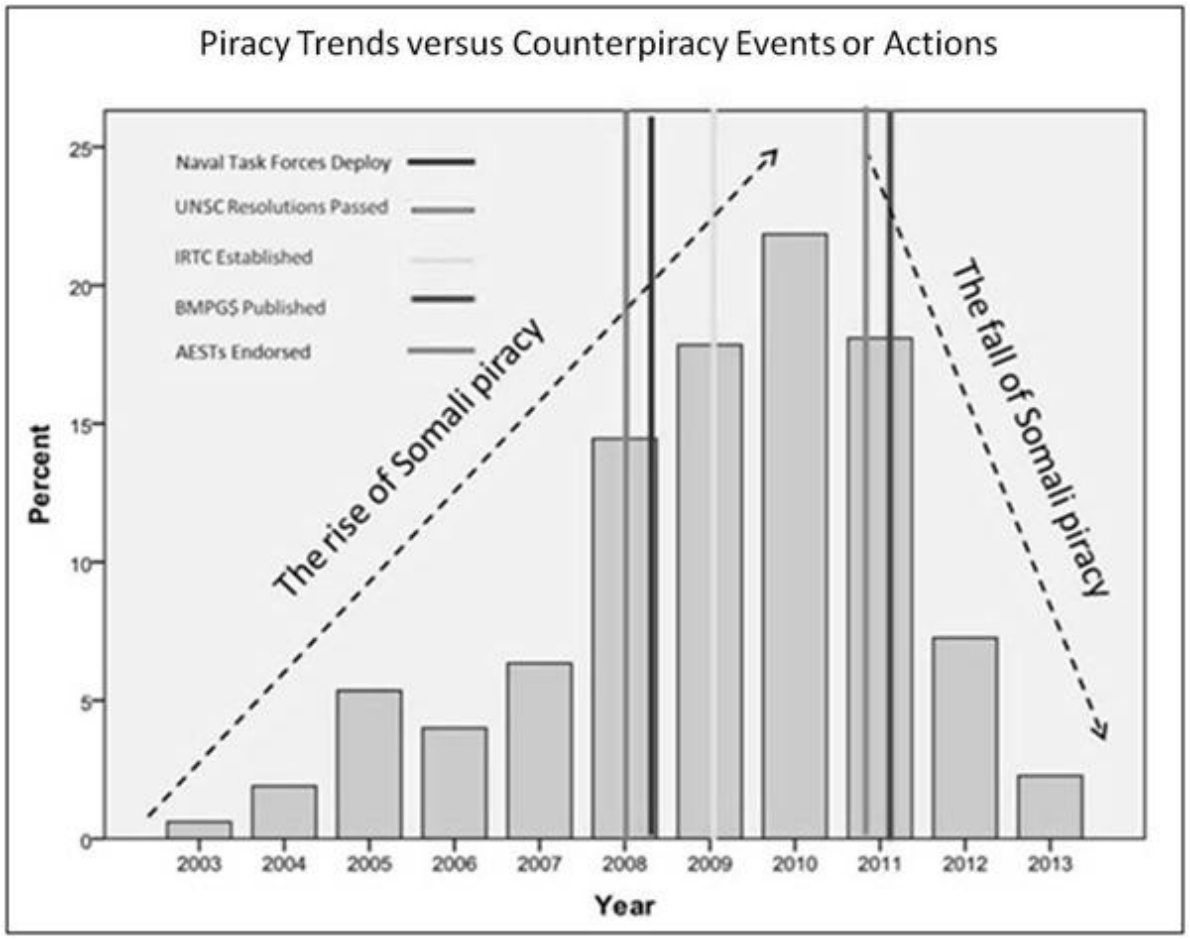

Figure 8. A graphical depiction of the yearly percentages of Somali pirate incidents over the period of interest (2003 – 2013) as drawn from the ASAM database with a timeline overlay marking the five major counterpiracy events or actions employed by the international community and shipping industry.

Sampling Design

This research study on the decline in Somali piracy makes use of convenience sampling for collecting qualitative data and *purposive sampling* for collecting quantitative data. Convenience sampling is a technique where the selected units are easy to access. The study uses adapted convenience sampling since the primary respondents are subject matter experts on Somali piracy and chosen based on convenience by the researcher. In other words, the convenience sampling is an approach to collect the information from the people of the population in a manner that they can provide it conveniently. The sampling design gives

detailed information of who the sample respondents are and how to approach them. Convenience sampling is a *non-probability sampling method (*Reiter, 1998). The researcher uses thematic content analysis to explore the qualitative data.

Since the purpose of the study is to analyze Somali piracy between 2003 and 2013, the quantitative data in pulled from incidents in the ASAM database that meet these criteria. There are approximately 1,625 incident reports that make up the purposive sample. Purposive sampling is a technique, where the sample selection basis is on the knowledge of a population and the purpose of the study (Babbie, 2001). The researcher uses frequency analysis to explore the quantitative data.

Target Population

The target population for collecting qualitative data in this study is 10 subject matter experts on Somalia piracy. The researcher is a civilian counterpiracy all-source intelligence analyst at the Office of Naval Intelligence, and considered by the US Government and the US Navy to be a subject matter expert on Somali piracy. He recruited participants directly via email, telephone, or face-to-face, at their places of employment. The participants are individuals known to the researcher and work counterpiracy issues for the US government, the US military, or currently serve as master mariners with sea time transiting high-risk areas and practical knowledge regarding the implementation of best management practices onboard ships. The qualitative data collected will reflect how governments and the shipping industry attempted to prevent pirates from wanting to attack merchant vessels and which events have had the most impact on reducing attacks off the coast of Somalia.

The quantitative data in this study comes from the ASAM piracy incidents database. Figure 9 shows three typical ASAM piracy incident reports queried from the NGA website. Anti-Shipping Activity Messages include the locations and descriptive accounts of specific hostile acts against ships and mariners. The reports may be useful for recognition, prevention

and avoidance of potential hostile activity (NGA, 2013).

Date of Occurrence:	04/30/2011	Reference Number:	2011-222
Geographical Subregion:	61	Geographical Location:	7° 00' 00" S 41° 22' 00" E
Aggressor:	PIRATES	Victim:	CHEMICAL TANKER
Description:	INDIAN OCEAN: Chemical tanker (GEMINI) was hijacked 30 April at 0430 UTC while underway in position 07-01S 041-22E, 140NM southeast of Zanzibar, Tanzania. Pirates attacked from two skiffs. (IMB, UKMTO)		
Date of Occurrence:	04/27/2011	Reference Number:	2011-223
Geographical Subregion:	61	Geographical Location:	10° 44' 00" S 41° 25' 00" E
Aggressor:	PIRATES	Victim:	RESEARCH VESSEL
Description:	AROUND 115 MILES OFF COMOROS: Pirates in two skiffs approached a reserch vessel underway towing. Vessel raised alarm and the Mozambique military onboard the vessel went to standby.		
Date of Occurrence:	04/24/2011	Reference Number:	2011-214
Geographical Subregion:	61	Geographical Location:	4° 09' 48" S 47° 43' 00" E
Aggressor:	PIRATES	Victim:	CHEMICAL TANKER
Description:	INDIAN OCEAN: Oil products/chemical tanker (PORT UNION) was fired upon 24 April at 0300 UTC while underway in position 04-09.8S 047-43.0E, approximately 484NM east of Mombasa, Kenya. Pirates chased the vessel in two skiffs, one of which had five pirates in it, the other was unknown; and one pirate mothership. The armed guards onboard the PORT UNION fired four warning shots at the pirates from 0.5NM away; the pirates fired back and aborted the attack. (IMB, Operator, Commercial Sources)		

Figure 9. Three typical ASAM piracy report entries.[14]

The ASAM database contains piracy reports from around the world, however, for this study the events collected are limited to the waters around the Horn of Africa to include the Red Sea, Gulf of Aden, Gulf of Oman, Arabian Sea, and the Indian Ocean, or in other words, those ASAM reports which occurred in geographical subregions 61, 62, & 63. The population

[14] From NGA, Maritime Safety information, Anti-Shipping Activity Messages website: http://msi.nga.mil/NGAPortal/MSI.portal?_nfpb=true&_pageLabel=msi_portal_page_65

excludes pirate reports located to the East of 80 degrees East longitude in subregion 63. The region East of 80 degrees East longitude is outside of the known operating area of Somali pirates. Collectively, the reports from these three subregions make up the quantitative data collected for this study.

Sample Size

The sample size for the qualitative data collection is 10 interviews/questionnaire responses from subject matter experts on Somali piracy. The sample size for the quantitative data is composed of 1,625 incident reports. Since the subject matter experts participating in the study are all familiar with the details of Somali piracy, saturation will occur quickly. For most qualitative studies, 10 participants are sufficient (Lichtman, 2012, Pitney & Parker, 2009, Rogers, 2009). The sample size for the quantitative data comprises all of the piracy incidents found in the ASAM database for geographical regions 61, 62, and 63, from 1 June 2003 to 31 June 2013. The three geographical regions represent the areas at risk to Somali pirate attacks.

Confidentiality

Participants received a link via email to the qualitative questionnaire hosted in Google Docs. Participants choose whether to identify themselves or to remain anonymous either on the questionnaire or in person at the beginning of the interview. By coding the questionnaires and/or interview responses, only the researcher knows the identity of the participants. Access to completed questionnaires is password protected in Google. Coded questionnaire results and coded interview responses were collected via an excel spreadsheet and emailed to a statistical consultant to assist with presenting the analysis. The researcher shall keep the completed questionnaires and interview responses for 5 years and then permanently delete them.

Informed Consent

The researcher obtained informed consent before each participant filled out the questions section of the questionnaire or verbally before the start of the interview questions. If

using the questionnaire, the participants indicated their informed consent by selecting the appropriate radio button. The participant's indication of informed consent in both instances follows a narrative explaining the following:

- the purpose of the study
- what they are being asked to do
- what the risks and benefits are
- and, how their confidentiality will be protected.

Participants had from the time they receive the questionnaire until the time that the researcher received the first 10 completed questionnaires from the participant pool, to decide whether to participate in the study. Interviewees had the option to decline participation before, during, and after each interview.

Data Collection

This study on Somali piracy collected the qualitative data from subject matter experts within the combined US Department of Defense and Intelligence Community's piracy community of interest (COI); and from licensed master mariners with experience sailing off the Horn of Africa; by using an interview or questionnaire reporting technique. The interview questions focus on counterpiracy actions taken by both the international community and the shipping industry. An optional web-based questionnaire presents the same interview questions. Both methods allow the respondents to present their ideas descriptively on the Somali piracy phenomenon. Responses are interpreted using simple textual or thematic content analysis. The interview questions seek opinions concerning which counterpiracy actions or events had the greatest impact on the decline in Somali piracy incidents. This qualitative information is important in determining where to expend time and resources countering piracy in other parts of the world. Knowing which actions work and which do not is critical information to have

when building a strategic counterpiracy framework.

In this study, the quantitative data collection comes from NGA's ASAM database. The researcher downloaded or obtained the subset directly from NGA's Maritime Safety Information website. It contains the 1,625 piracy incidents, which occurred in subregions 61, 62, and 63 from June 1, 2003 to June 30, 2013. Applying statistical tools using Statistical Package for the Social Sciences (SPSS) software helps to organize the collected quantitative data for further analysis.

Data Analysis

The quantitative data analysis follows a descriptive strategy to summarize the ASAM data, looking for trends, patterns, frequencies, and measures of variability. A research consultant, Statistics Consultation, assisted the researcher with the quantitative data analysis by using SPSS data collection software. Statistics Consultation is a subsidiary of ELK Education Consultants. The researcher employed a contextualizing strategy for the qualitative data analysis, which interpreted the narrative data on the Somali piracy phenomenon by focusing on interconnections between the literature, SME statements, and major counterpiracy events (Creswell, 2007). The researcher coded the qualitative data for themes and presented them to Statistical Consultation to assist with the presentation of the data.

Summary

This dissertation uses two principal sources of information for analysis, interviews of Somalia piracy SME's and ASAMs piracy reports. The information derived from the collection and analysis of the interviews questions encompasses the qualitative strand in this study. The information derived from the collection and analysis of the ASAM data encompasses the quantitative strand in this mixed method convergent parallel design case study. Proving which event or actions were responsible for the fall in Somali piracy is the first purpose of this dissertation. The second purpose is to construct a strategic counterpiracy framework based

upon the findings of the analysis.

A literature review supplements the dissertation to demonstrate the significance of maritime piracy within the field of strategic security. It also summarizes previous investigations into piracy reporting trends to inform the reader of the state of the current research. The literature review identifies relationships, contradictions, gaps, and inconsistencies in the literature as well as suggesting steps in solving the problem of maritime piracy around the world (Association, 2010).

Piracy in general has seen an uptick in interest within the strategic security community over the past decade, fueled mainly by the rise of hijacked merchant vessels off the Horn of Africa. Most of the studies addressing Somali piracy focus on the causes such as state failure, poverty, and lawlessness. This study looks at the problem of piracy from the seafarer's, ship owner's, and maritime state's perspectives by attempting to identify the counterpiracy techniques that are working.

Exploring the latest ASAMs data is critical to marking the success of counterpiracy operations off Somalia. The data in the Psarros et al., (2011) study does not capture the apex, the peak, and the decreasing trend, of merchant ship hijackings off Somalia. Moreover, the Psarros (2011) study only looked at piracy between the years 2000 and 2009. This dissertation attempts to identify which factors contributed to the fall of Somalia piracy. Identifying the factors leading to the success in fighting piracy off Somalia advances the understanding of counterpiracy operations. Understanding which events or actions worked in Somalia will help in formulating a successful counterpiracy template for other parts of the world.

The expected result of the analysis of ASAMs reports and SME interviews is the identification of factors that were effective against piracy off the Horn of Africa. Expectantly, the use of armed embarked security teams is 100% effective in preventing ship hijackings by pirate attack groups. The dissertation will conclude that the use of armed embarked security

teams has a potential to be 100% effective in other high-risk piracy areas of the world. Contracting security to small teams of professionals, who ride merchant vessels during high-risk transits, eliminates the need for the extensive international naval presence around the Horn of Africa. By solving the piracy problem off the coast of Somalia, the international community may devote their limited national resources to other strategic security issues at home and in other parts of the world.

CHAPTER 4: RESULTS AND DISCUSSION

The purpose of this mixed methods case study is to analyze the reasons responsible for the recent decline in piracy incidents off the coast of Somalia. To measure the decline in piracy the researcher looked within the Anti-Shipping Activity Messages (ASAM) database. Interviews of subject matter experts (SME) provided testimony concerning the counterpiracy events and actions responsible for the decline. The research produced by this study will form the basis of a strategic counterpiracy template, which is capable of addressing other piracy prone areas of the world.

This chapter reports the results or findings from the ASAMs data and SME interviews analysis. The study used a convergent parallel design that merges analysis of both the quantitative and qualitative strands and then interprets them together. The quantitative strand provides the magnitude and frequency of the Somali piracy phenomenon over the ten-year period of the study. The qualitative strand consists of interview and questionnaire responses from the 10 subject matter experts who agreed to share their counterpiracy knowledge and experience. The interview questions focus on the effectiveness of the major counterpiracy actions and events involving the international community and shipping industry during the period of the study.

Piracy Databases

Excellent data exist in maritime piracy databases (Kontorovich and Art, 2010). However, the literature review reveals researchers are finding some degree of dissatisfaction with piracy reporting databases. Though not an exhaustive listing, all of the following entities publish piracy incident reports and maintain some form of piracy statistics:

- The International Maritime Organization
- The International Maritime Bureau

- The National Geospatial-Intelligence Agency
- The Office of Naval Intelligence
- The NATO Shipping Centre
- EU NAVFOR Somalia

From the literature review, one observes the IMO and IMB piracy reports were the most popular. Reports vary by publisher in details with some lacking information regarding time, consequences, tactics, and capabilities. Some researchers find particular databases confusing. A common concern was the lack of distinctions between committed and attempted attacks in post-incident reporting. Most piracy reports lack specific voyage details such as whether the pirated vessel was in ballast or loaded and what the destination and port of origin were. Some researchers are critical of reporting delays between the date of an occurrence and the date of publication in a piracy report (Psarros et al, 2011).

Researchers find the collation and standardization of piracy reports into a common database challenging due to the differing definitions of *piracy* used by reporting agencies when collecting the data. This stems from varying definitions that use the *high seas* as the dividing line between maritime crime and piracy (UNCLOS, 1982). The use of differing definitions among the key disseminators of piracy information contributes to ongoing confusion over what counts an act of piracy (Walker, 2014).

Bruyneel (2005) offers an excellent idea for setting up a single organization, to collect information on piracy incidents, which would then report to both the IMO and IMB. This would solve the differences between the two organizations' reporting, but he offers no suggestion as to who that organization should be. Standardization is beneficial, but many agencies are at the mercy of those individuals, usually mariners, who report or chose not to report the original incident. These reports are only as good as their original authors. This

problem will continue no matter how the issue of consistency or lack of consistency evolves.

Since their involvement with naval task forces off the coast of Somalia, NATO and EU NAVFOR are now collecting and publishing piracy statistics. Countries like the United States covet their independence from foreign piracy reporting and therefore follow ONI's Worldwide Threat to Shipping and NGA's ASAM reporting. ONI is consistently viewed by the DoD and the IC as the U.S. authority on piracy statistics; however, ONI does not maintain a public web portal. Therefore, NGA hosts ONI weekly Worldwide Threats to Shipping reports on its Maritime Safety Information web portal along with the ASAM search interface. This dissertation relied exclusively upon the ASAM database for its primary source of quantitative piracy data.

Quantitative Data Collection

The researcher collected the quantitative data for this study directly from NGA's Maritime Safety Information web portal by first selecting the Anti-Shipping Activity Messages (ASAM) search tab. The complete ASAM database is available via the World Wide Web to anyone with internet access and does not discriminate nor ask users to establish an account or to create a password. The ASAM database contains *global* piracy data. For this study, the researcher was only interested in incidents occurring off the Horn of Africa. The area of interest includes the Red Sea, Gulf of Aden, Gulf of Oman, Arabian Sea, and the Indian Ocean. These bodies of water correspond to NGA's geographical subregions 61, 62, & 63. The shaded area in *Figure 10* depicts these three subregions.

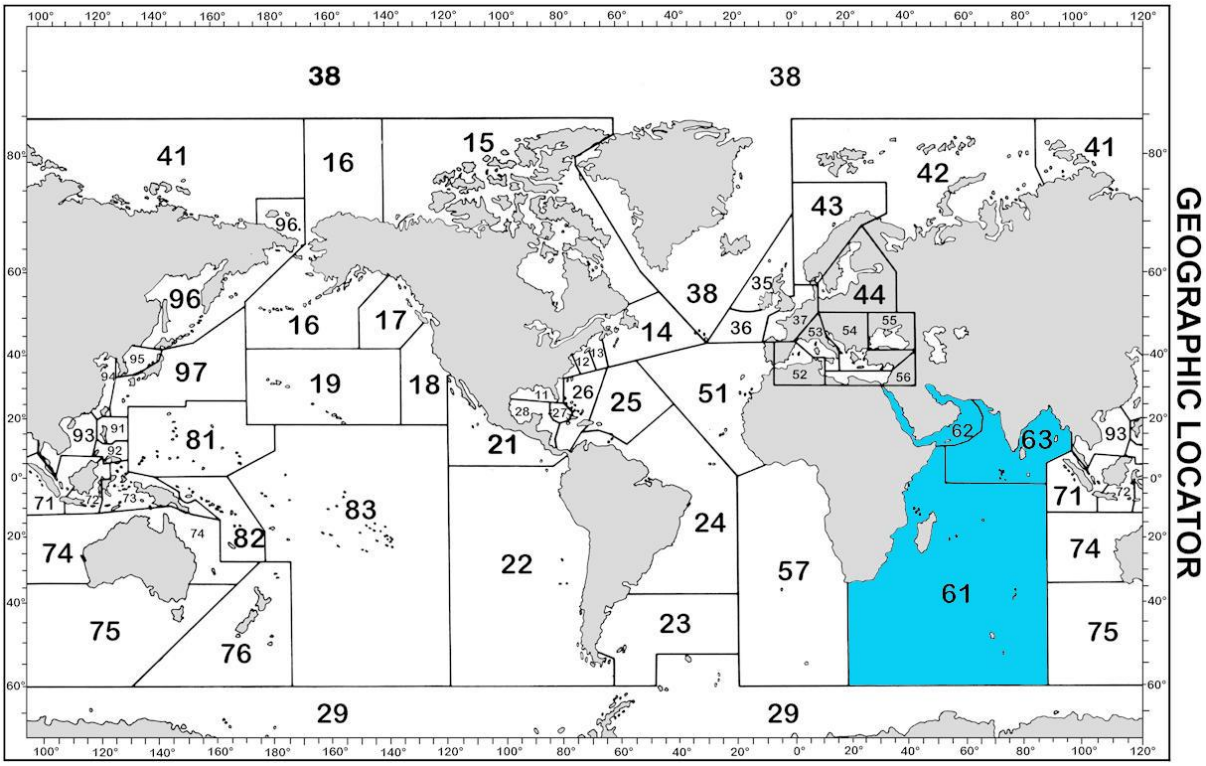

Figure 10. Geographic locator annotating subregions 61, 62, & 63.[15]

By selecting the ASAM search tab on the web portal, users can then set up the parameters of queries they wish to run on the database. For this study, the ASAM queries were set up to retrieve incidents by subregion and a date range between June 1, 2003 and June 30, 2013. The researcher conducted three separate queries for each of the three subregions corresponding to the waters associated with Somali piracy. Right clicking on each query result creates a Microsoft Excel spreadsheet. The researcher used cut and paste to create a single spreadsheet containing 1,679 piracy incident reports from subregions 61, 62, and 63.

Pirate incidents located to the East of 80 degrees east longitude lie outside of the known operating area of Somali pirates. Therefore, the researcher conducted a quick visual filtering of

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[15] Adapted from NGA's Maritime Safety Information website http://msi.nga.mil/MSISiteContent/StaticFiles/Images/subr_1.jpe

the final spreadsheet and deleted 55 incidents from subregion 63. The remaining 1,625 incidents comprised the quantitative data set for the study. This dataset was emailed as an excel file to Statistics Consultation, a statistical consulting company located in New York, and processed into descriptive statistics using SPSS data collection software.

Findings: Quantitative Statistics

The period selected for the quantitative analysis captures the rise and fall of piracy incidents attributed to Somali pirates. From the 1,625 piracy incidents analyzed falling between June 2003 and July 2013 and corresponding to NGA geographical subregions 61, 62, and 63 or the known geographical extent of Somali pirate activity; we can see that the heyday of Somali piracy peaked in 2010. After 2010, Somali piracy starts a dramatic decline. Discovering the causes for the decline in piracy is the purpose of this research. According to the ASAM database, Somali piracy is currently at an eight year low. This finding is in line with other piracy reporting databases such as the IMO, IMB, and NATO shipping center.

Frequency Analysis of Somali Pirate Incidents over the Past Decade

From Table 7 we can observe that 21.8% of the total Somali pirate incidents occurred in the year 2010. This finding indicates that Somali piracy peaked in 2010 with 355 Somali pirate incidents logged into the ASAM database for that year. Figure 11 also shows a bar graph corresponding to the same.

Table 7

Frequency of Somali Piracy by Year 2003 - 2013

Year		Frequency	Percent
Valid	2003	10	.6
	2004	31	1.9
	2005	87	5.4
	2006	65	4.0
	2007	103	6.3
	2008	235	14.5
	2009	290	17.8
	2010	355	21.8
	2011	294	18.1
	2012	118	7.3
	2013	37	2.3
	Total	1625	100.0

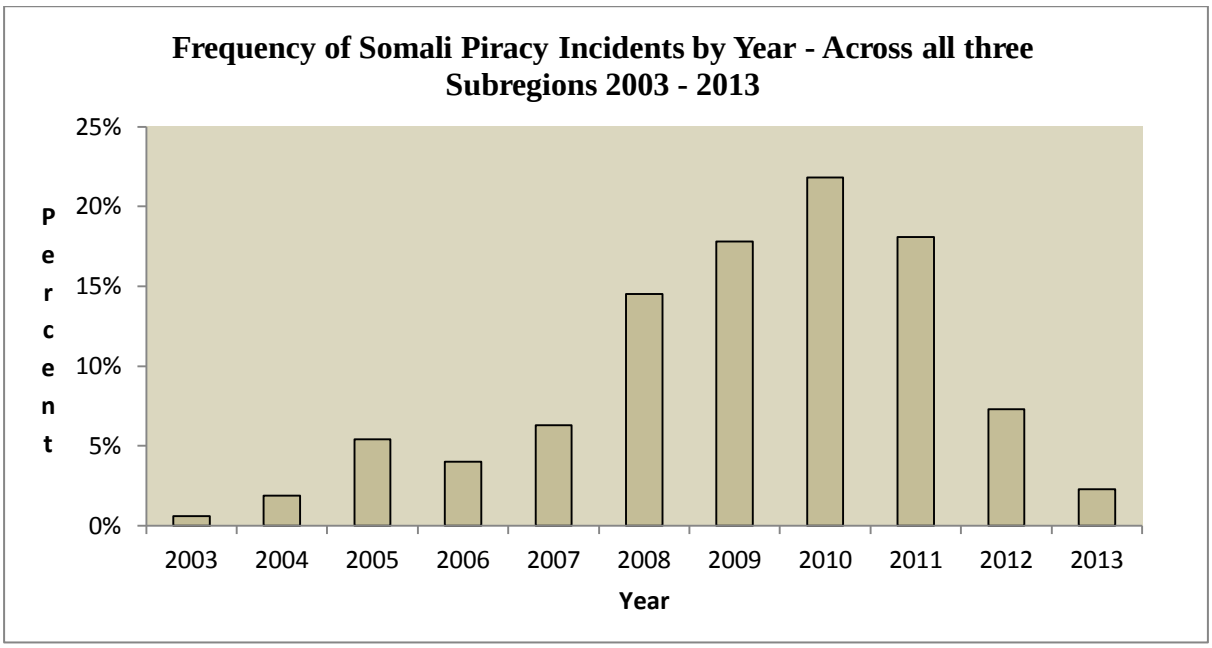


Figure 11. A bar chart depicting the frequency of Somali piracy incidents (as percentages) by year across all three subregions over the period of the study.

For the second half of 2003, the frequency rate of piracy was 10 incidents, which equates to 0.6% of the totals found in the three ASAM subregions over the ten-year period analyzed. The frequency rate went up in 2004 and 2005 to 1.9% and 5.4% respectively and then it went down to 4.0% in the following year. Credit for the reduction in 2006 is associated with the strong, yet short-lived, governing period by the Islamic Counts Union (Rohrer, 2011). The Transitional Federal Government (TFG) with the help of Ethiopia unseated the Islamic Counts Union in December 2006 and the piracy rate increased to 6.3% in 2007. In 2008, the incident rate more than doubled to 14.5%, increasing to 17.8% in 2009, and peaking to 21.8% in 2010.

The ASAMs data clearly indicates that things changed after 2010. The rate of Somali piracy (or the per-year percentage of the total incidents collected across the three subregions 61, 62, & 63, over the ten-year period) went down to 18.1% in 2011, 7.3% in 2012, and 2.3% in 2013. The coordinated action by international naval task forces, independent naval

deployments, and the enlistment of armed embarked security teams, are given credit for the decrease in the piracy rate (Smith & Chonghaile, 2012). *Figure 12* depicts a bar chart that pinpoints how major counterpiracy actions by the international community and shipping industry correspond to the number of piracy incidents over the period of the study.

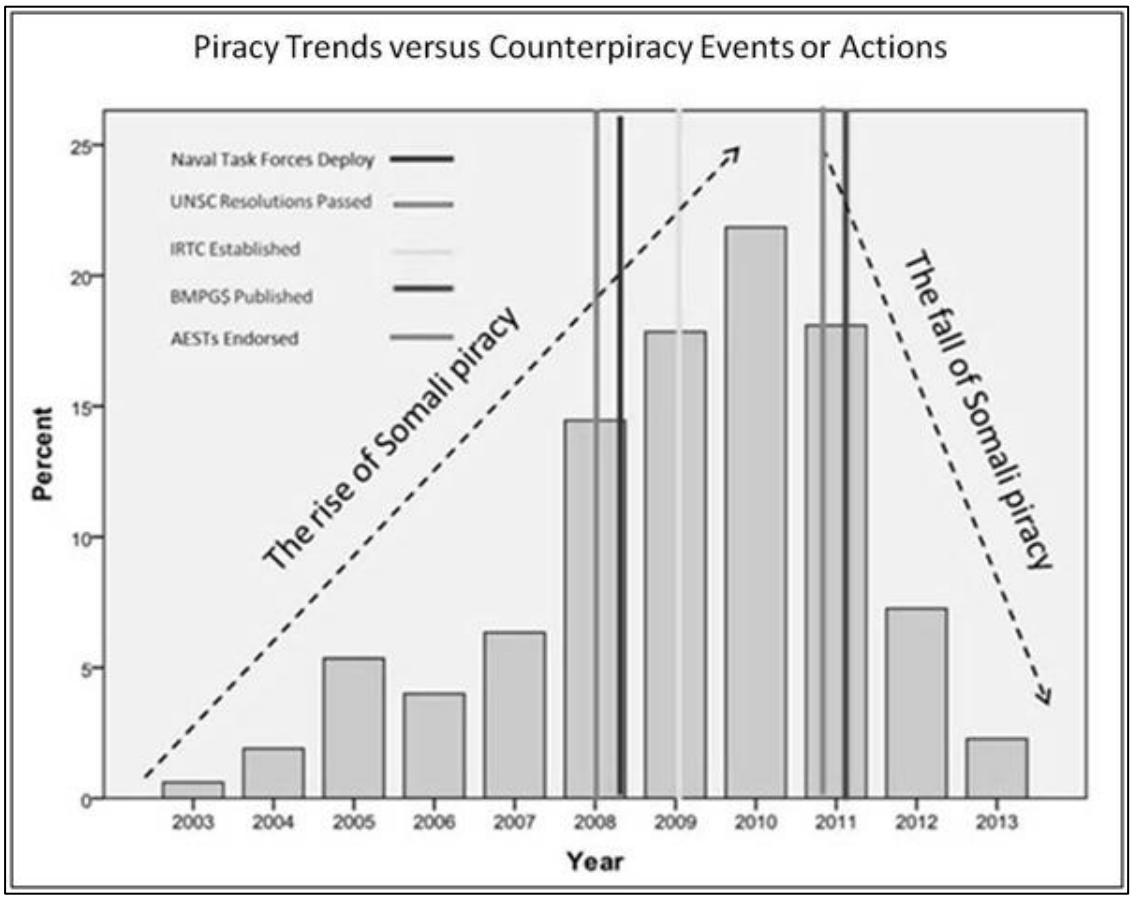


Figure 12. A bar chart depicting the frequency of Somali piracy incidents (as percentages) by year across all three subregions with an overlay pinpointing major counterpiracy events and actions taken by the international community and shipping industry.

Highest Exposure to Somali Piracy by Subregion

Subregions 61, 62, and 63 contain the maximum geographical extent of known Somali pirate operations over the period of this study. From Table 8 we can observe that 55.4% of all Somali piracy incidents occurred within subregion 62, according to the ASAM database. Subregion 61 incurred 29.4% of the incidents, followed by 15.1% in subregion 63. Figure 13

depicts a bar chart corresponding to the same.

This finding indicates that ships sailing through subregion 62 faced the greatest likelihood of Somali pirate attack. Subregion 62 includes two major choke points for international shipping. These choke points include the Strait of Hormuz and the southern approaches to the Suez Canal such as the Gulf of Aden and Red Sea.

The actual number of reported incidents that occurred in subregion 62 was 901 during the ten-year period, whereas the number of incidents that occurred in subregion 61 was 478, and in subregion 63, it was only 246 incidents. Thus, the analysis clearly proves that the subregion with greatest exposure to piracy attacks is 62. Figure 14 depicts the geographical extent of subregion 62.

Table 8

Frequency Totals for Somali Piracy Incidents by Subregions 2003 - 2013

Subregion		Frequency	Percent
Valid	61	478	29.4
	62	901	55.4
	63	246	15.1
	Total	1625	100.0

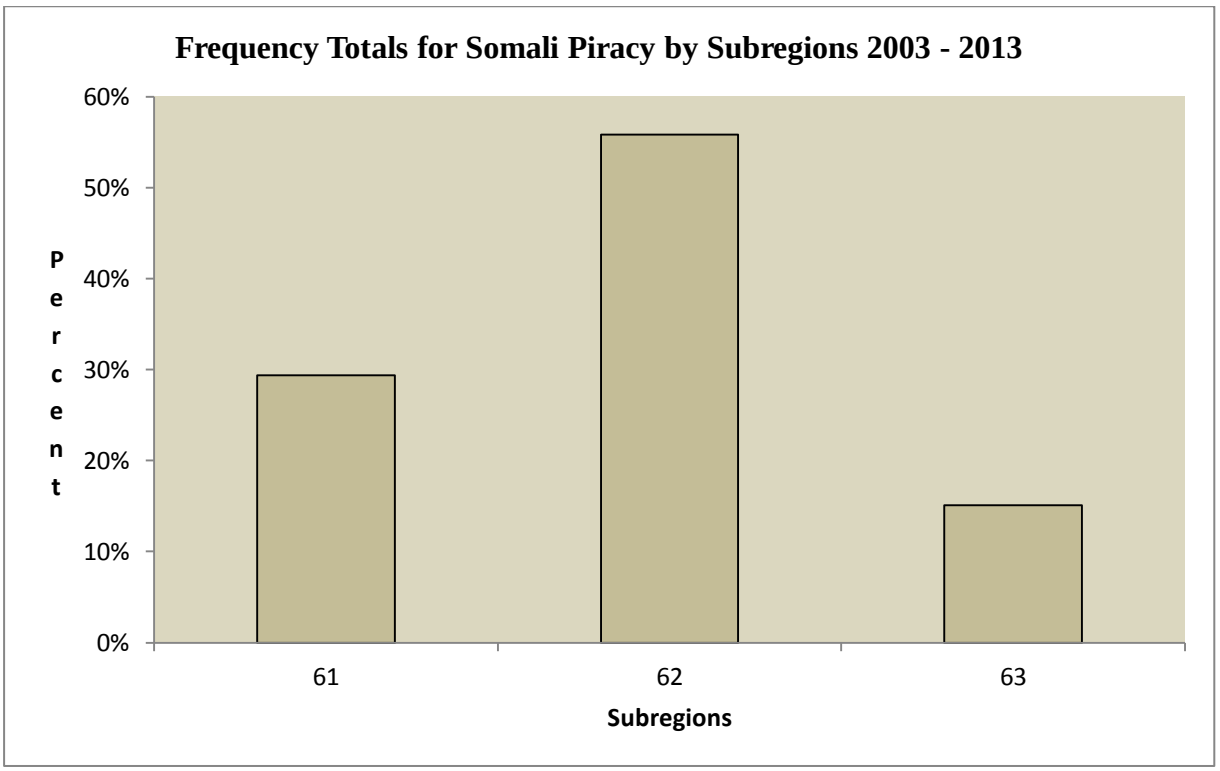


Figure 13. Bar chart depicting the frequency totals of Somali pirate attacks by subregions (as percentages) over the period of the study.

Out of the three geographical subregions, more than half of the piracy incidents in the last ten years occurred in subregion 62. This is an important statistic. Subregion 62 is the smallest of the three subregions by geographical area. Consequentially, naval task forces first deployed to this area (CNN, 2009). This subregion also saw the establishment of the Internationally Recognized Transit Corridor (IRTC) in February 2009.

Subregion 62 encompasses the Red Sea, Gulf of Aden, northern Arabian Sea, Gulf of Oman, and Persian Gulf. The subregion contains two of the world's most strategic choke points, the Strait of Hormuz and the Bab el Mandeb. The Strait of Hormuz leads to the oil rich Persian Gulf, through which 35% of all seaborne traded oil passes (EIA, 2012). The Bab el Mandeb strait translates from Arabic to English as meaning Gate of Grief. Ships have to transit this strait when traveling to and from the Gulf of Aden and the Red Sea. About 8% of seaborne trade transits the Bab el Mandeb strait each year on their way to Suez Canal. (Marroushi,

2013).

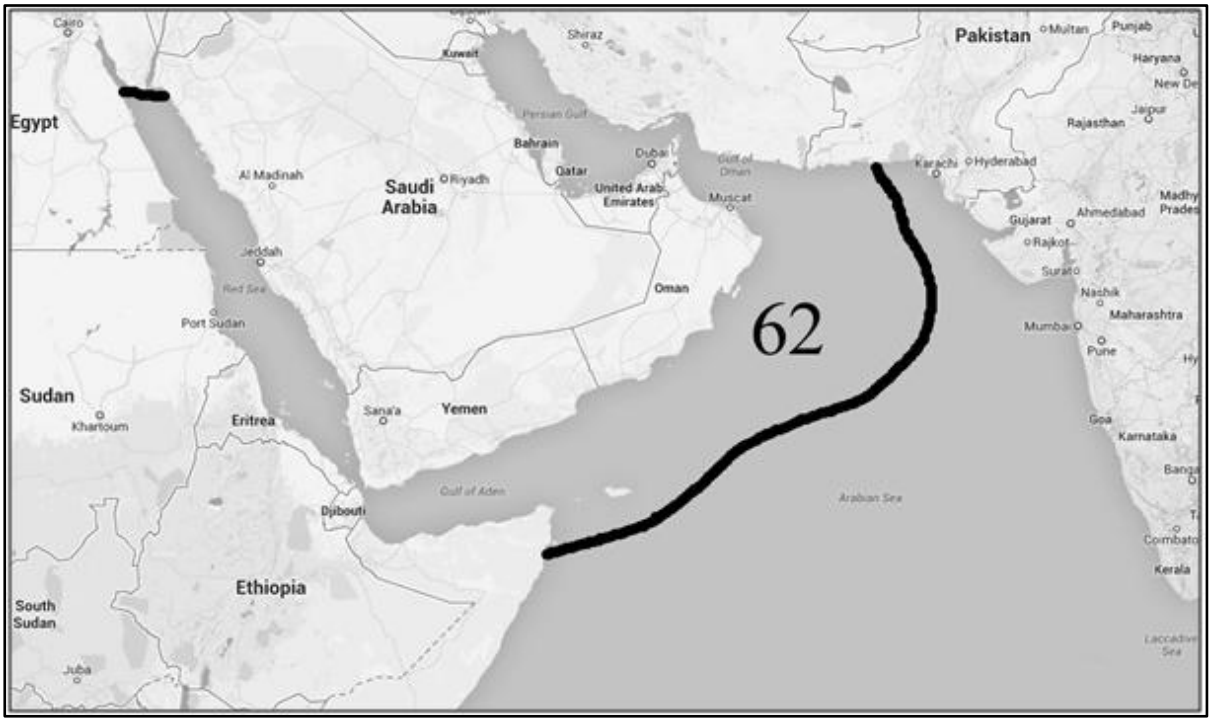


Figure 14. A graphic depicting the extent of ASAM geographical subregion 62, which consists of the Red Sea, Gulf of Aden, a large portion of the Arabian Sea, Gulf of Oman, and Persian Gulf.[16]

Trends in Somali Piracy Incidents by Geographic Subregion

Table 9 depicts 24.7% of the incidents occurred in the year 2010 in subregion 61. Figure 15 depicts a bar chart showing a taller bar corresponding to the same, translating into 110 piracy incidents for 2010. This finding indicates that piracy incidents in subregion 61 followed the overall frequency trend for Somali piracy, which peaked in 2010.

[16] Adapted from Google Maps https://www.google.com/maps/.

Table 9

Pirate Incidents for Subregion 61 by Year

Region 61		Frequency	Percent
Valid	2003	2	.4
	2004	8	1.7
	2005	49	10.3
	2006	26	5.4
	2007	55	11.5
	2008	42	8.8
	2009	104	21.8
	2010	118	24.7
	2011	46	9.6
	2012	21	4.4
	2013	7	1.5
	Total	478	100.0

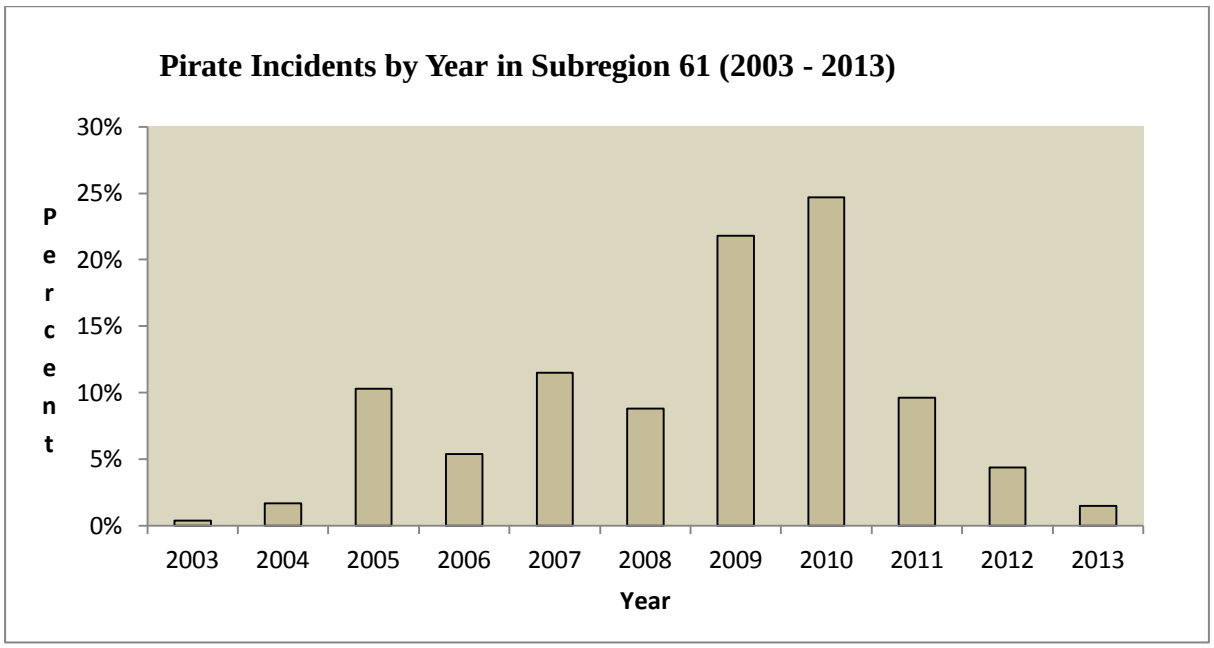


Figure 15. Bar chart of Somali pirate incidents by year for subregion 61 (as percentages) over the period of the study.

Table 10 depicts piracy incidents peaking at 20.3% in 2008 for subregion 62. Figure 16 depicts a bar graph corresponding to the same. From the analysis of the ASAMs data, we see that piracy incidents after 2008 dropped in subregion 62. This is opposite to the overall trend and the other two subregions where piracy incidents continued to rise in 2009 and 2010. This finding provides evidence that naval forces and the establishment of the IRTC helped to reduce piracy incidents within subregion 62.

Table 10

Pirate Incidents for Subregion 62 by Year

Year			Frequency	Percent
62	Valid	2003	8	.9
		2004	21	2.3
		2005	36	4.0
		2006	34	3.8
		2007	40	4.4
		2008	183	20.3
		2009	157	17.4
		2010	142	15.8
		2011	171	19.0
		2012	84	9.3
		2013	25	2.8
		Total	901	100.0

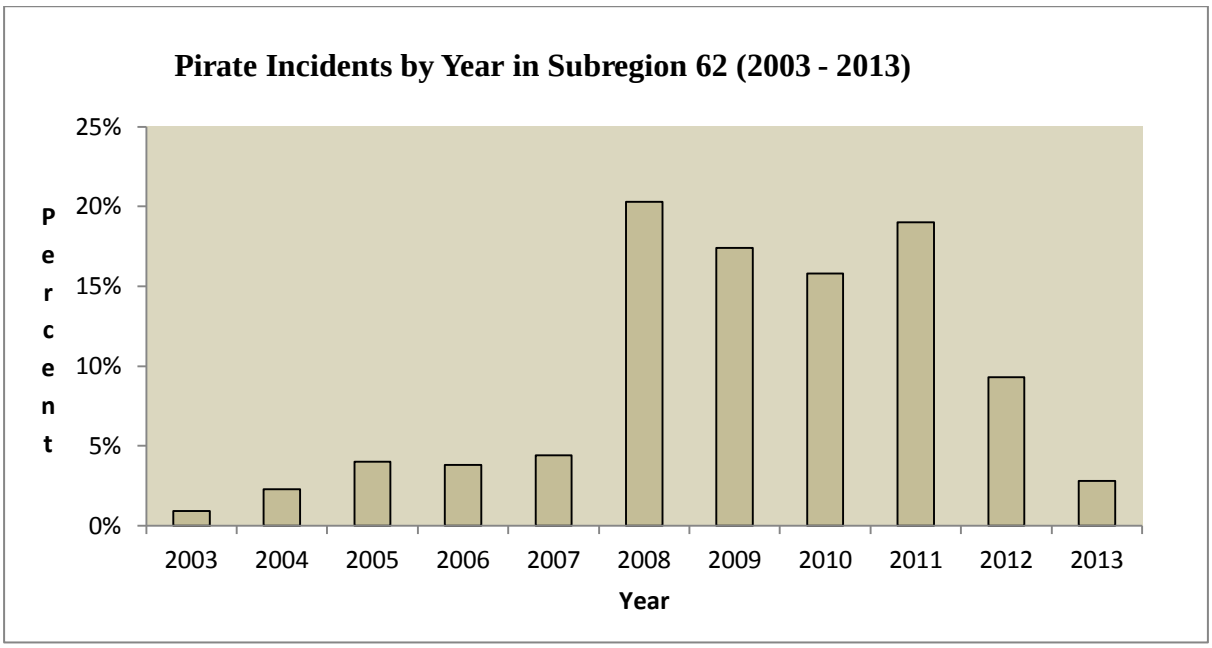


Figure 16. Bar chart of Somali pirate incidents by year for subregion 62 (as percentages) over the period of the study.

Table 11 depicts 38.6% of the incidents occurred in the year 2010 in the subregion 63. Figure 17 depicts a bar graph corresponding to the same. This finding indicates that piracy incidents in subregion 63 followed the overall frequency trend for Somali piracy, which peaked in 2010. Subregion 63 shows the most dramatic rise and fall in piracy incidents between 2008 and 2012. The abrupt rise from 2009 to 2010 could be a result of pirates shifting their operating areas away from subregion 62, where navy task forces were concentrated, and into subregion 63 where the naval presence was less concentrated.

Table 11

Pirate Incidents for Subregion 63 by Year

Year			Frequency	Percent
63	Valid	2004	2	.8
		2005	2	.8
		2006	5	2.0
		2007	8	3.3
		2008	10	4.1
		2009	29	11.8
		2010	95	38.6
		2011	77	31.3
		2012	13	5.3
		2013	5	2.0
		Total	246	100.0

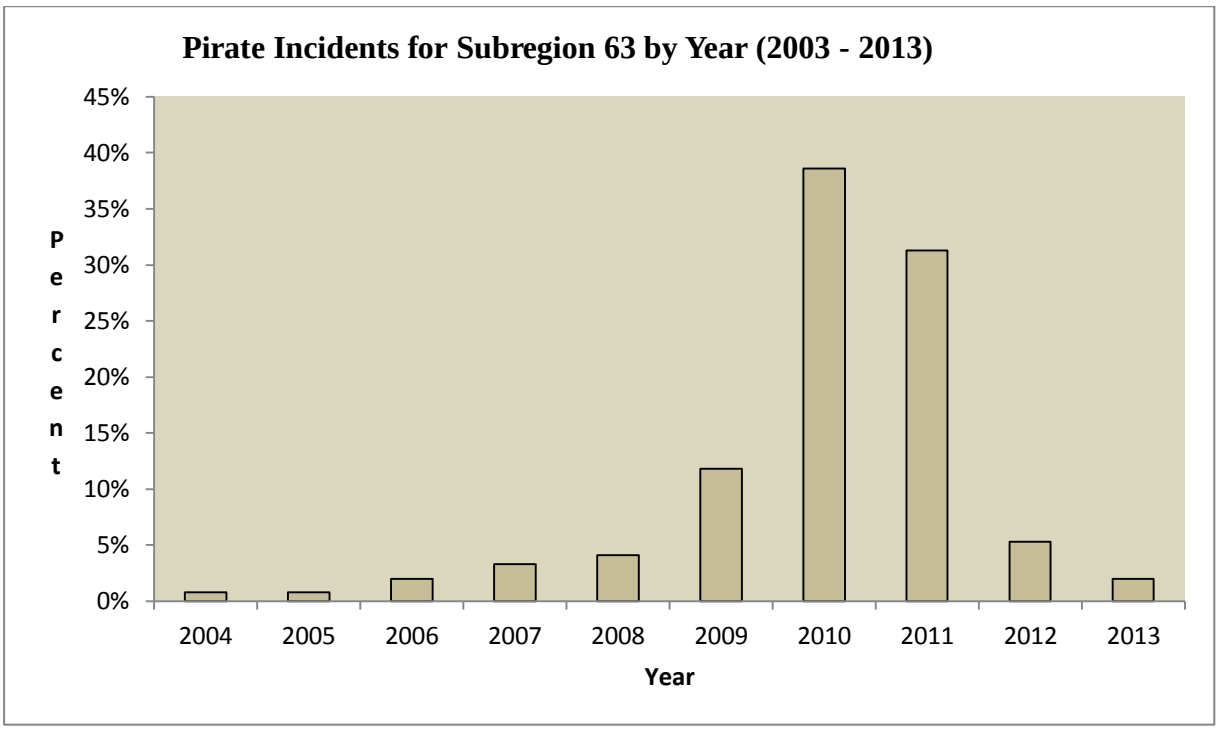


Figure 17. Somali pirate incidents for subregion 63 (as percentages) over the period of the study.

Qualitative Data Collection

For this study, qualitative data was collected using in-depth interviews or an optional online questionnaire. The collection occurred over a two-week period in late September and early October 2013. The interview questions focused on the counterpiracy actions taken by the international community and the shipping industry. The interviews and questionnaire allowed the respondents to present their ideas descriptively on a particular subject. The researcher interpreted and coded the interview responses using simple textual analysis. Henley-Putnam University's Institutional Review Board (IRB) granted the researcher their approvals to conduct interviews and to use an online questionnaire on September 13, 2013.

Qualitative Interviews

The researcher sent links to the online questionnaire to counter piracy subject matter experts (SME) across the DoD/IC counter piracy community of interest (COI) in

mid-September 2013. The online questionnaire was open to the pool of SME's for a period of 30 days. In total, four SMEs opted to use the online questionnaire. Six SMEs employed by the Office of Naval Intelligence (ONI) consented to face-to-face interviews conducted at the National Maritime Intelligence Center (NMIC) in Suitland, Maryland between September 24, 2013 and October 4, 2013.

Demographics

Table 12 depicts 40% of the respondents were aged between 21 and 30 years. Figure 18 depicts a bar graph corresponding to the same. The participants' ages ranged from 25 to 60 years old. The average age of the respondent is 40.7 years of age. The median age is 42.5 years of age.

Table 12

Interview Respondents by Age

Age Group		Frequency	Percent
Valid	21 - 30 years	4	40.0
	31 - 40 years	1	10.0
	41 - 50 years	2	20.0
	51 – 60 years	3	30.0
	Total	11	100.0

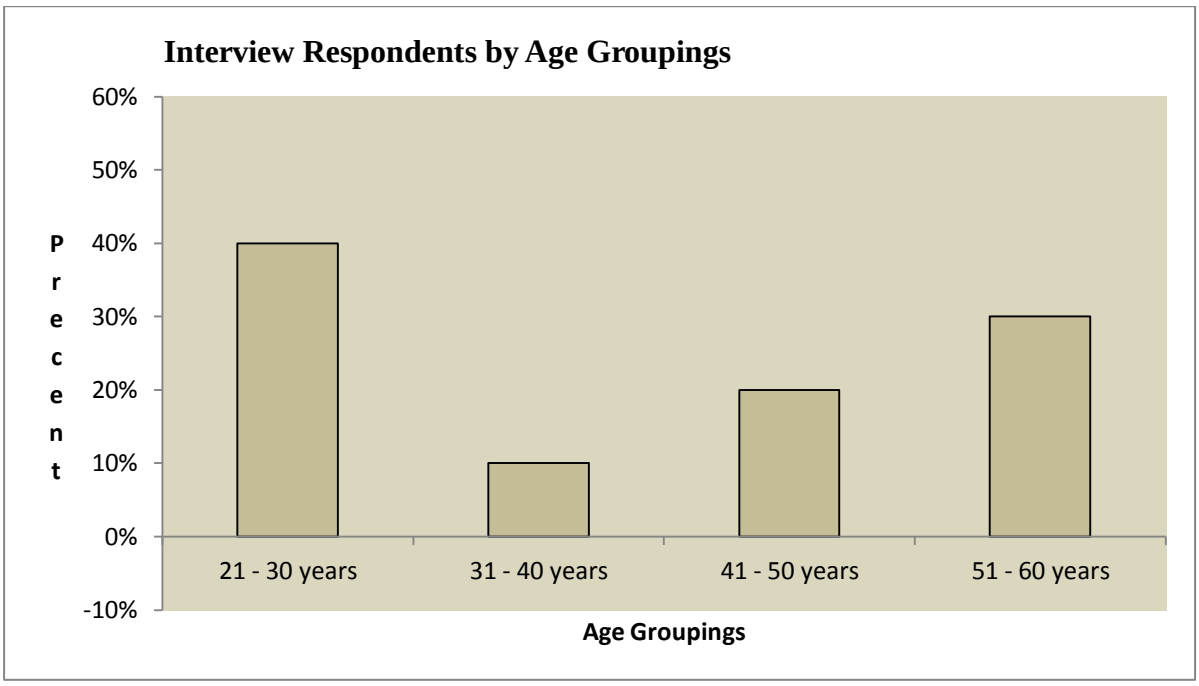


Figure 18. Bar chart depicting the age groups of questionnaire and interview respondents.

Table 13 depicts 80% of the respondents were males. Figure 19 depicts a bar graph corresponding to the same. Women under represent in this study for the SME sample. A report by the U.S. Merit Systems Protection Board published in 2011 indicated women represented about 45% of the Federal workforce in 2009 (Women in the Federal Government, 2011). This deficiency most likely will not negatively influence the outcome of the study. It would be interesting to see what the female representation is across the intelligence community and the Department of Defense to see how closely that figure matches the Merit Board's statistic.

Table 13

Interview Respondents by Gender

Gender		Frequency	Percent
Valid	Female	2	20.0
	Male	8	80.0
	Total	10	100.0

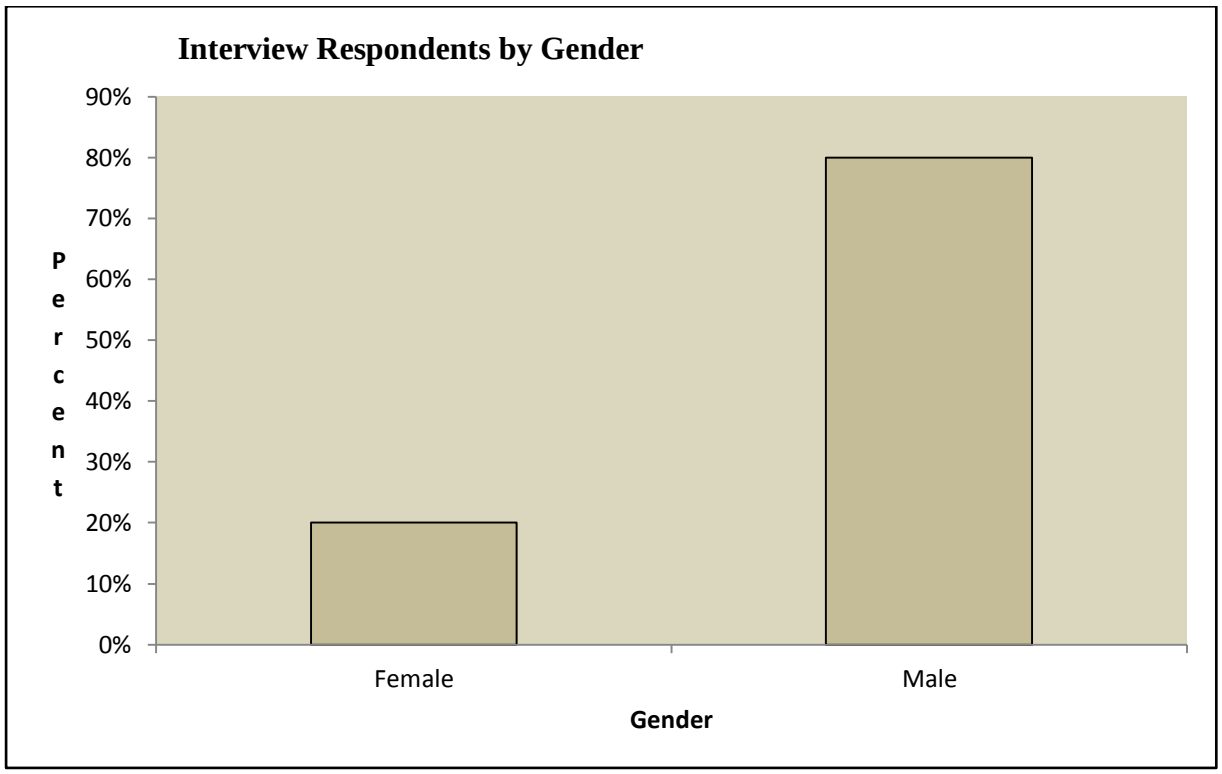


Figure 19. Bar chart depicting the interview and questionnaire respondents by gender.

Table 14 depicts 60% of the respondents were educated up to a master's degree. Figure 20 depicts a bar graph corresponding to the same. From this finding we can infer that intelligence analysts working the counterpiracy mission are well educated.

Table 14

Education Levels of Interview Respondents

Education Level		Frequency	Percent
Valid	Associates Degree	1	10.0
	Bachelors Degree	3	30.0
	Masters Degree	6	60.0
	Total	10	100.0

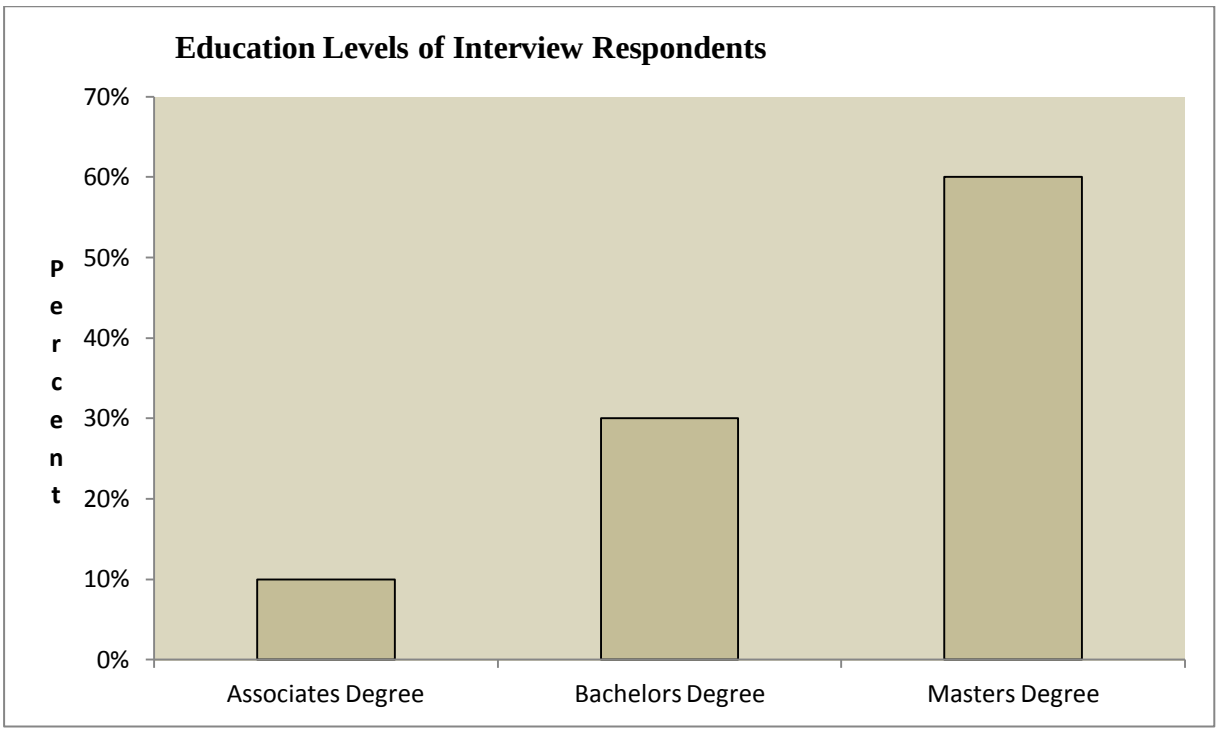


Figure 20. Bar chart depicting the education levels of the interview and questionnaire respondents (as percentages).

Table 15 depicts that 60% of the respondents were Government authorities. Figure 21 depicts a bar graph corresponding to the same. Government authorities in this study include both uniformed service members from U.S. Naval Forces Central Command in Bahrain; and civilian intelligence analysts from the Central Intelligence Agency (CIA) and Office of Naval Intelligence (ONI). Government contractors interviewed included two SAIC analysts who support ONI's counter piracy mission. Two shipmasters responded to the questionnaire. The first master mariner who responded served as captain on the MV CAROLINE SCAN, a World Food Program vessel. The vessel sails on a regular round trip schedule between Djibouti, ports in Somalia, Mombasa-Kenya, and back again. The second master mariner who responded to the questionnaire sailed for 30 years with Maersk Lines. His experience included the same run that the Maersk Alabama sailed when it experienced a hijacking by Somali pirates in April 2009.

Table 15

Professional Designation

Professional Designation		Frequency	Percent
Valid	Gov't Contractor	2	20.0
	Government authority	6	60.0
	Ship Master	2	20.0
	Total	10	100.0

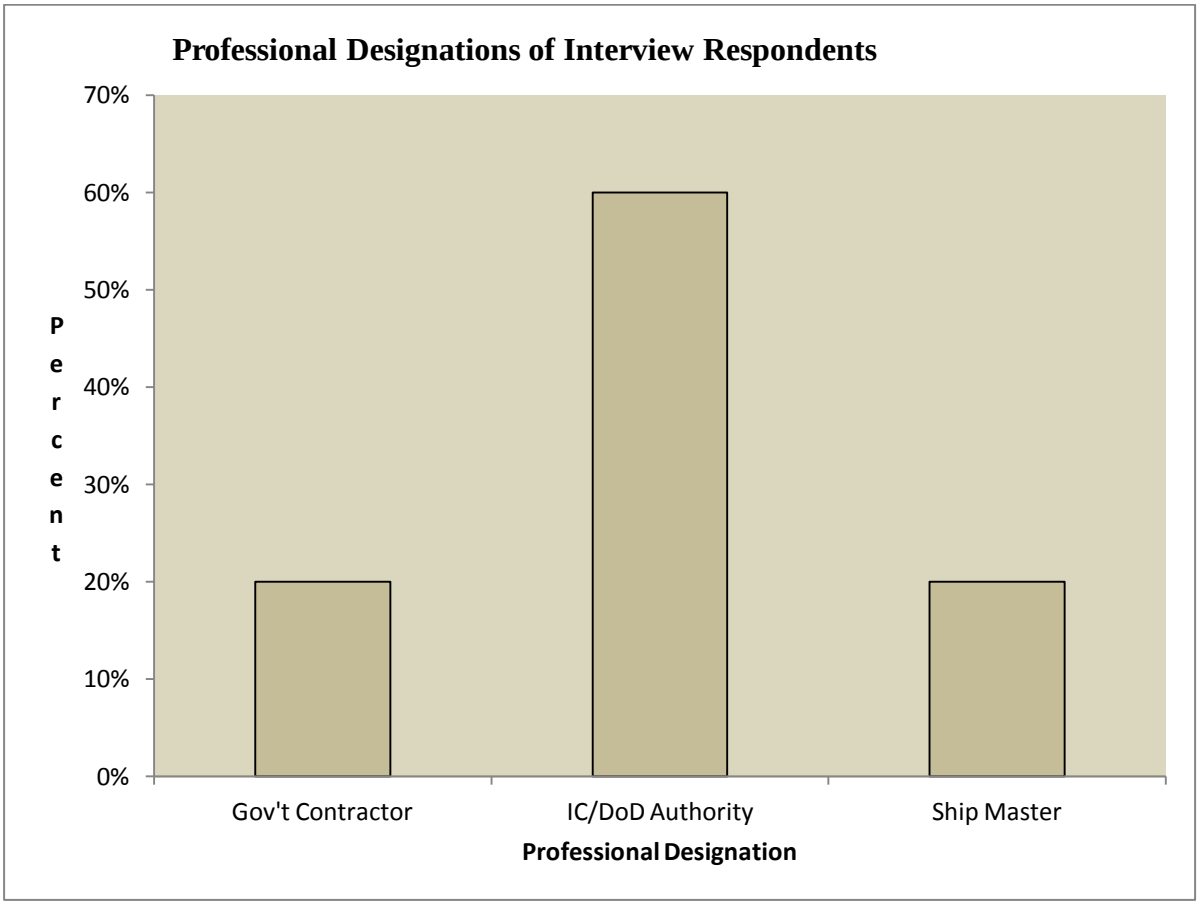


Figure 21. Bar chart depicting the professional designations of the interview and questionnaire respondents (as percentages).

Interview Questions and Objectives

It was the intent of the researcher to use only an online questionnaire to collect the

qualitative data for the study. A shortage of respondents made the researcher take a more direct approach and actively seek out SMEs for face-to-face interviews. The interview questions matched the questionnaire.

A *validated* survey means the researcher has come to the opinion that the survey is measuring as designed (Walonick, 2012). The researcher validated the questionnaire and an associate tested the online version for reliability. Henley-Putnam University's Institutional Review Board approved the content of the questionnaire on 13 September 2013.

The questionnaire and interviews collected a personal profile for each participant. This consisted of name (optional), gender, age, education level, professional designation, date, and the location of the respondent/interviewee. The interviews/questionnaire is composed of eighteen questions, which asked the participants to share their perceptions and opinions regarding particular Somali piracy events. The next section lists each question and its objective.

Interview Question 1

Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way.

Objective: Provided the participant an opportunity to reflect and identify where piracy is the greatest threat.

Interview Question 2

On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks?

Objective: Examines the participant's perception of the piracy threat level against international shipping.

Interview Question 3

On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where

do you feel the threat of Somali piracy against United States shipping ranks?

Objective: Examines the participant's perception of the piracy threat level against U.S. shipping.

Interview Question 4

How has piracy and anti-shipping activities effected the coast of Somalia in the past?

Objective: Provides an opportunity for the participant to reflect upon the consequences of piracy off the coast of Somalia.

Interview Question 5

How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia?

Objective: Provides an opportunity for the participant to identify variables used by the shipping industry to counter piracy events.

Interview Question 6

Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy?

Objective: Provides an opportunity for the participant to identify variables used by the international community and the shipping industry to counter piracy events.

Interview Question 7

Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain.

Objective: Provides an opportunity for the participant to identify or corroborate the piracy trends identified in the quantitative analysis.

Interview Question 8

What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future?

Objective: Provides an opportunity for the participant to identify variables the shipping industry can used to counter piracy off the Horn of Africa.

Interview Question 9

What is the role of government in preventing transnational piracy and anti-shipping activities?

Objective: Provides an opportunity for the participant to reflect upon the role of government in counter piracy operations.

Interview Question 10

What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia?

Objective: Provides an opportunity for the participant to reflect upon the role of the international community in counter piracy operations.

Interview Question 11

Identify some of the most important events responsible for the reduction of pirate attacks on merchant vessels off the coast of Somalia.

Objective: Provides an opportunity for the participant to identify variables that have worked in reducing piracy incidents off the Horn of Africa.

Interview Question 12

Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain.

Objective: Provides an opportunity for the participant to comment on whether the UNSC resolutions on Somali piracy were a factor contributing to the reduction in piracy incidents off the Horn of Africa.

Interview Question 13

Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain.

Objective: Provides an opportunity for the participant to comment on whether the establishment of the IRTC was a factor contributing to the reduction in piracy incidents off the Horn of Africa.

Interview Question 14

What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain.

Objective: Provides an opportunity for the participant to comment on whether the deployment of naval task forces to the region was a factor contributing to the reduction in piracy incidents off the Horn of Africa.

Interview Question 15

Do you think that the publication of the Best Management Practices Guide (BMPG) by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain.

Objective: Provides an opportunity for the participant to comment on whether the publication of the BMPG4 was a factor contributing to the reduction in piracy incidents off the Horn of Africa.

Interview Question 16

What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future?

Objective: Provides an opportunity for the participant to identify other variables responsible for the decline in piracy off the Horn of Africa.

Interview Question 17

What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future?

Objective: Provides an opportunity for the participant to suggest other strategies to counter piracy off the Horn of Africa.

Interview Question 18

Please provide comments here.

Objective: Provides an open-ended question for the participant to comment on the topic of Somali piracy.

Findings: Analysis of Qualitative Data

Table 16 depicts 70% of the respondents rating the Gulf of Guinea as posing the greatest piracy threat. Figure 22 depicts a bar graph corresponding to the same. This finding indicates that Somali piracy in no longer the number one threat to world shipping. More importantly, the finding indicates the international counterpiracy focus and efforts, including the deployment of naval assets, are now out-of-sync with the greatest piracy threat and needs to pivot towards the problem in West Africa.

Presently, Somali piracy incidents are at their lowest levels in more than 8 years. Therefore, it comes as no surprise that experts believe the Gulf of Guinea now poses the greatest threat from piracy. A search of the ASAM database for subregion 57, which includes the Gulf of Guinea, shows a slightly greater number of piracy incidents than Somalia from July 2012 to July 2013. The recent kidnapping of two U.S. crewmembers from the American-flagged merchant vessel C RETRIEVER on October 25, 2013, emphasizes the danger posed in the Gulf of Guinea to U.S. interests (Star & Shoichet, 2013).

Table 16

Question 1 – Where do you feel piracy poses the greatest threat.

Location of Greatest Threat	Frequency	Percent
Gulf of Guinea	7	70.0
Horn of Africa	2	20.0
SE Asia	1	10.0

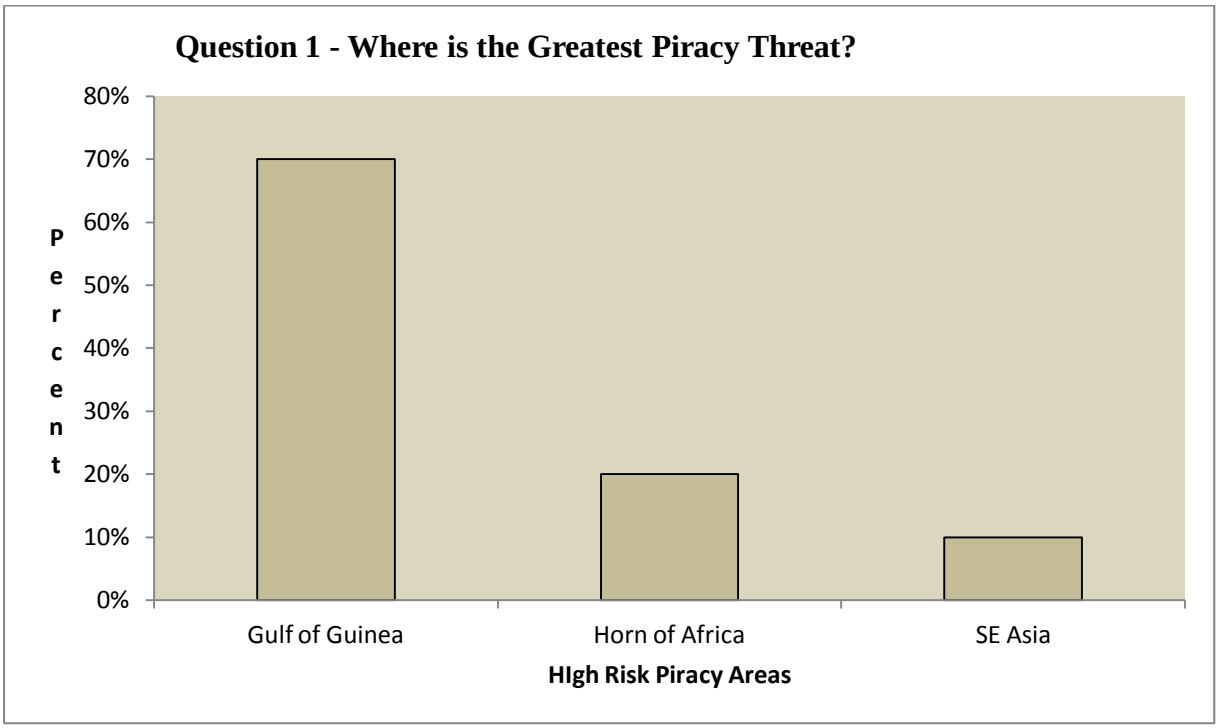


Figure 22. A bar chart depicting the responses to interview Question 1, concerning where the greatest threat to piracy is located.

Table 17 depicts 50% of the respondents rating the threat of Somali piracy against international shipping as a level 2 threat. Figure 23 depicts a bar graph corresponding to the same. No respondents felt the threat level rated a level 4 or level 5. This finding aligns closely with the consensus shown in the responses to Question 1. Somali piracy is no longer a high-level international threat.

With the respondent-ratings averaging 2.1 the researcher may conclude a general agreement that the threat posed to shipping by Somali pirates is low. The researcher posits that if asked the same question three or 4 years ago, during the peak of Somali piracy incidents, the ratings would be very different and reveal a much higher threat to shipping. The researcher concludes the low threat rating correlates to the lower number of piracy incidents occurring in the region presently and the fact that the last ship hijacking by Somali pirates occurred in May 2012 (Associated Press, 2013).

Table 17

Question 2 – On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) where do you feel the threat of Somali piracy against international shipping ranks?

Ranking		Frequency	Percent
Valid	1	2	20.0
	2	5	50.0
	3	3	30.0
	4	0	0.0
	5	0	0.0
	Total	10	100.0

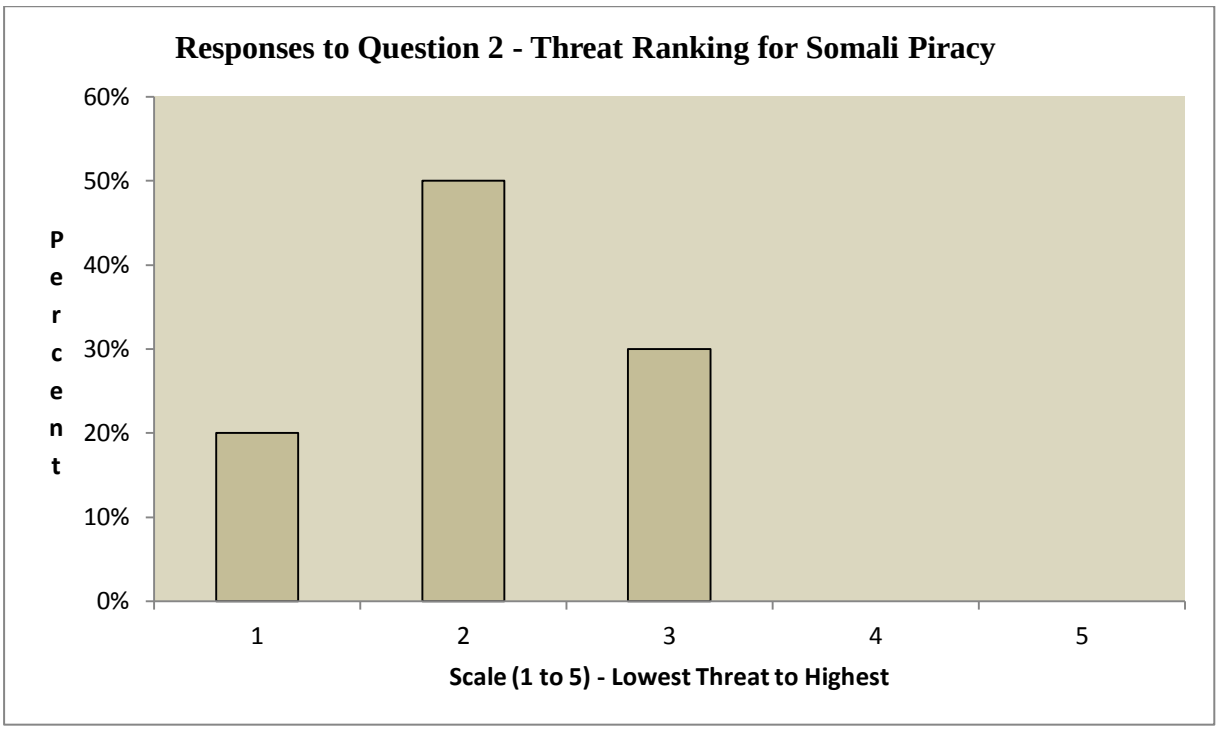


Figure 23. A bar chart depicting the responses to Question 2, concerning where the threat of Somali piracy against international shipping ranks.

Table 18 depicts 40% of the respondents rated the threat of Somali piracy against United States shipping as a level 2 threat. Figure 24 depicts a bar graph corresponding to the same. No respondents felt the threat level rated a level 4 or level 5. This finding aligns closely with the consensus shown in the responses to Questions 1 & 2. Somali piracy is no longer a high-level international shipping threat, including a direct threat against U.S. shipping. We can infer this is because of the effective counterpiracy measure currently in place.

With the respondent-ratings averaging 2.0, the researcher may conclude a general consensus among the SME's that the threat posed to U.S. shipping by Somali pirates is low. Somali pirates have attacked seven U.S. flagged vessels in the last 10 years. Four of the seven vessels were U.S. warships, the USS CAPE ST. GEORGE, the USS NICOLAS, the USS ASHLAND, and the USS GONZALEZ (Schuler, 2013) (USN Public Affairs, 2006). None of these attacks worked out well for the pirates. The U.S. flagged containership MAERSK

ALABAMA and cargo ship LIBERTY SUN sustained attacks in early 2009. In February 2011, Somali pirates hijacked the U.S. flagged sailing vessel QUEST. This hijacking ended with the death of all four crewmembers at the hands of their pirate captors. Though the SME's judge the threat to U.S. shipping as low, the SV QUEST incident indicates how deadly the consequences can be when Somali pirates capture a vessel regardless of threat ranking.

Table 18

Question 3 - On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy ranks against United States shipping?

Ranking		Frequency	Percent
Valid	1	3	30.0
	2	4	40.0
	3	3	30.0
	4	0	0.0
	5	0	0.0
	Total	10	100.0

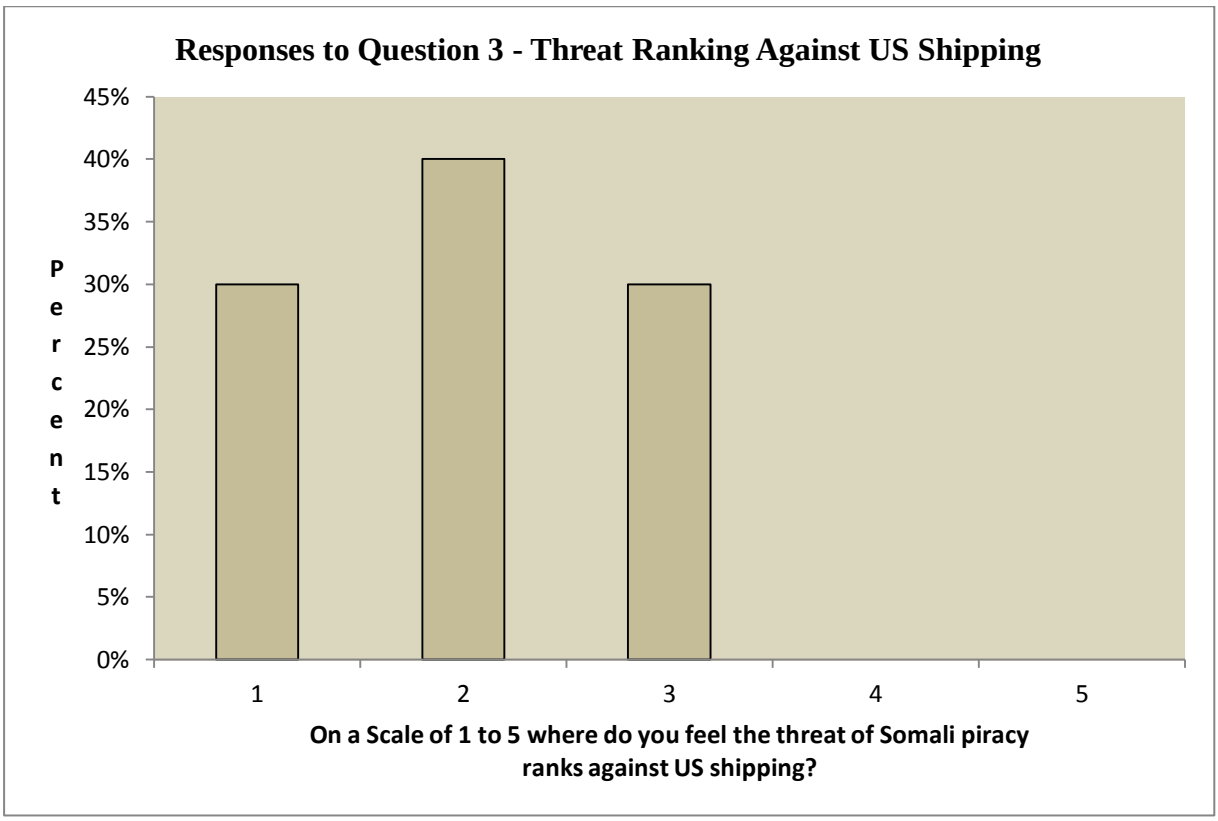


Figure 24. Bar chart depicting the responses to interview Question 3.

Table 19 depicts 60% of the respondents expressing Somali Piracy has made shipping more expensive off the Horn of Africa. Figure 25 depicts a bar graph corresponding to the same. Oceans Beyond Piracy, a counterpiracy NGO, placed the financial cost of Somali piracy on the global economy to be approximately $6 billion in 2012 (Bellish, 2013). The figure incorporates the costs associated with ransoms, military operations, security equipment and guards, ship re-routing, increased ship speeds, labor, prosecutions and imprisonment, insurance, and IGO and NGO counterpiracy efforts.

The qualitative data show that 60% of the respondents believe Somali piracy has made shipping more expensive off the Horn of Africa. Many of the respondents cited the same reasons outlined in the Oceans Beyond Piracy report. Another 30% of the respondents believe the threat has had a negative impact on Somalia, including isolating the country and decreasing the volume of trade entering Somali ports.

Table 19

Question 4 - How has piracy and anti-shipping activities effected the coast of Somalia in the past?

Effects		Frequency	Percent
Valid	Increased costs to governments	1	10.0
	Made shipping more expensive	6	60.0
	Negative impact on sailors	2	20.0
	Negative impact on Somalia	3	30.0
	Negative impact on world economy	1	10.0
	No affect	2	20.0

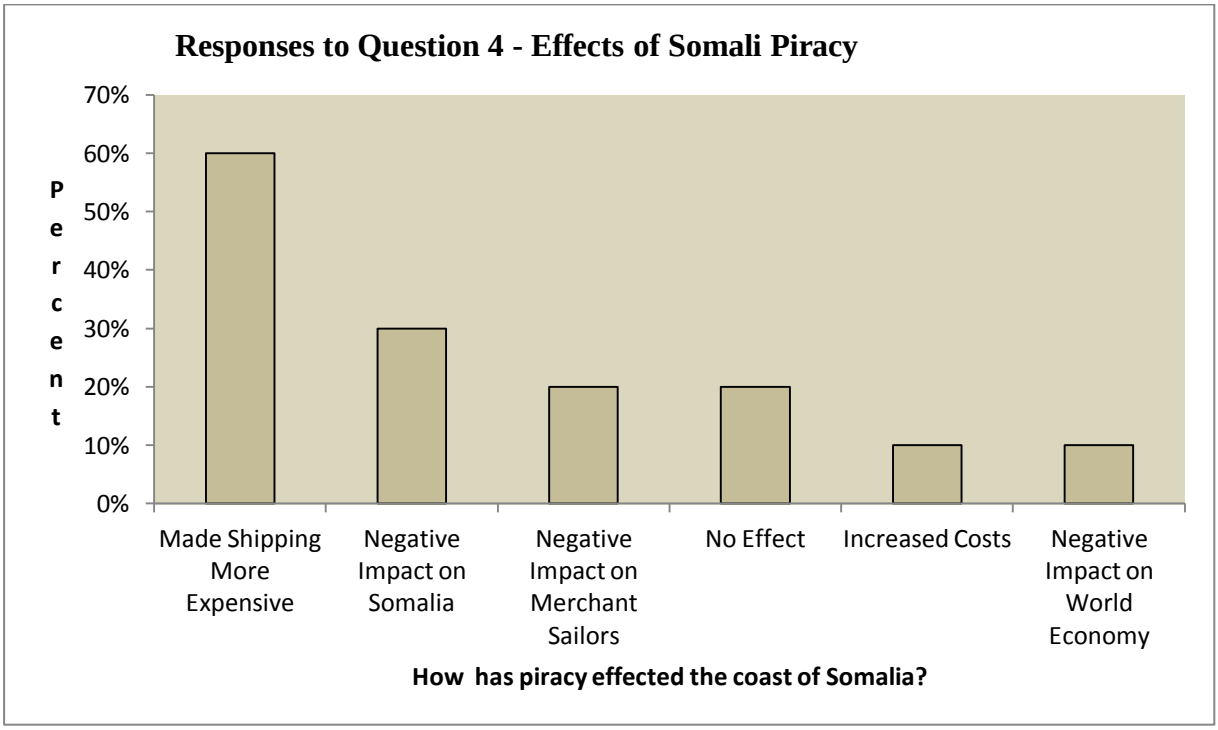


Figure 25. This bar chart depicts the responses to interview Question 4 regarding the effects of piracy on the coast of Somalia.

Table 20 depicts 70% of respondents expressing that using armed security teams (ASTs) on board merchant ships is preventing piracy off the coast of Somalia. Figure 26

depicts a bar graph corresponding to the same. These guards are also known as armed embarked security teams (AESTs). In November 2011, U.S. Assistant Secretary of State Andrew Shapiro stated the United States had established a national policy encouraging countries to allow commercial ships transiting high-risk waters to have armed security on board, highlighting that no ship to date with an armed security team on board has been successfully hijacked (Levin, 2013). This finding infers that armed security teams are a successful and powerful strategy in preventing piracy off the coast of Somalia. Unfortunately, sovereignty issues and international law strictly limit the use of ASTs to international waters. This makes using ASTs in other high-risk areas, like the territorial waters along the Gulf of Guinea, very difficult.

Adherence to the Best Management Practices Guide (BPMG), which advises ships to travel at over 18 knots, fortify access points, and take evasive action when attacked, is mentioned by 50% of the respondents as a way the shipping industry is currently preventing piracy. BMPs include the use of citadels as a safe place for crews to shelter in should pirates attempt to control their ship. Sheltering in a citadel allows naval forces additional time to respond to mayday calls by ships under pirate attack.

Table 20

Question 5 - How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia?

	Actions	Frequency	Percent
Valid	Avoiding the area	1	10.0
	BMPs	5	50.0
	Using armed security	7	70.0

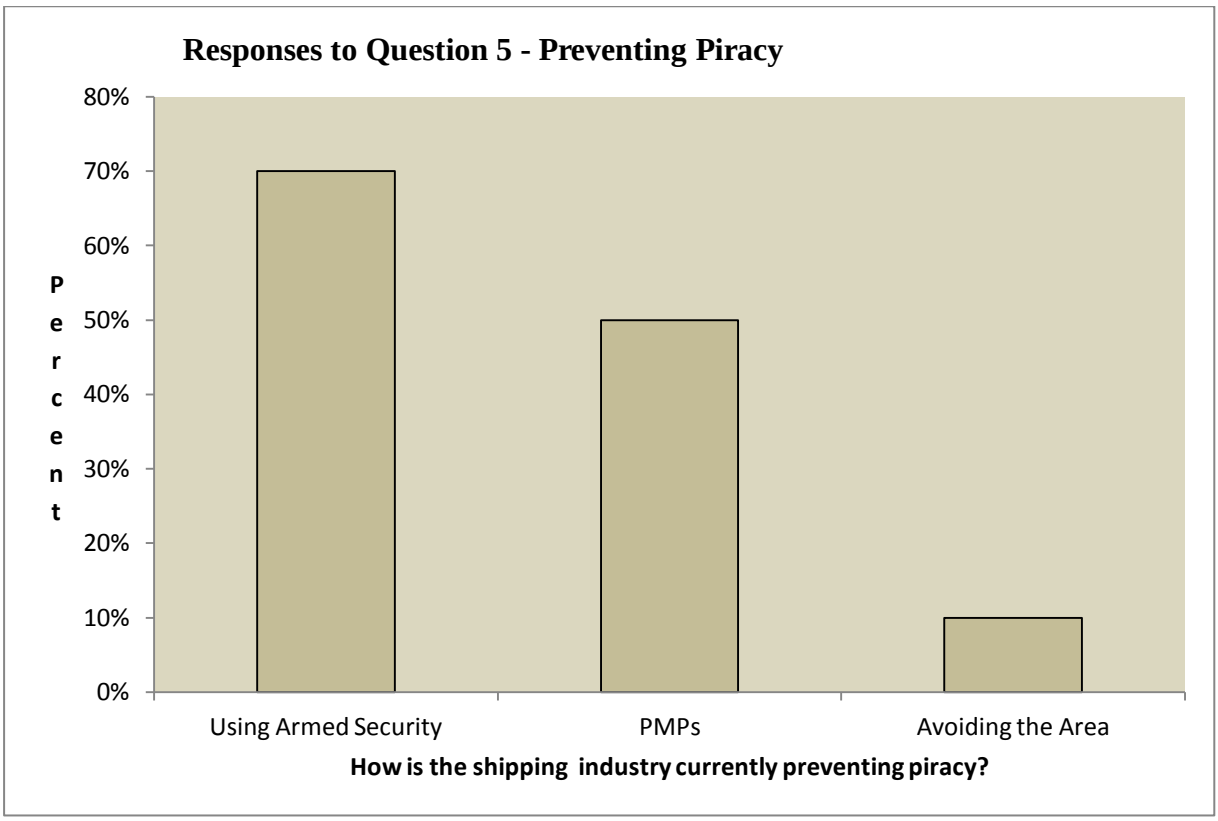


Figure 26. This bar chart depicts the responses to interview Question 5 regarding actions by the shipping industry.

Table 21 depicts the use of armed security teams as the number one response regarding actions implemented by the international community and shipping industry against Somali piracy. Figure 27 depicts a bar graph corresponding to the same. Flag-states must grant their permission or write new statutes for their merchant ships to carry onboard ASTs. The shipping industry pays for the extra security. Many experts believed the use of ASTs would cause an escalation in violence at sea; however, this has not been the case observed.

Seven respondents mentioned Best Management Practices other than avoiding the high-risk area, deploying barbed wire, constructing citadels, transiting at higher rates of speed, or using water cannons, as counterpiracy measures. Respondents mentioned the deployment of naval task forces and nation building as additional measures used against Somali pirates.

Table 21

Question 6 - Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy?

	Counterpiracy Actions	Frequency	Percent
Valid	Armed security teams	9	24.3
	Avoiding the area	2	5.4
	Barbed wire	4	10.8
	Citadels	2	5.4
	Increase speed	4	10.8
	Nation building	2	5.4
	Naval task forces	3	8.1
	Other BMPs	7	18.9
	Water cannons/hoses	4	10.8

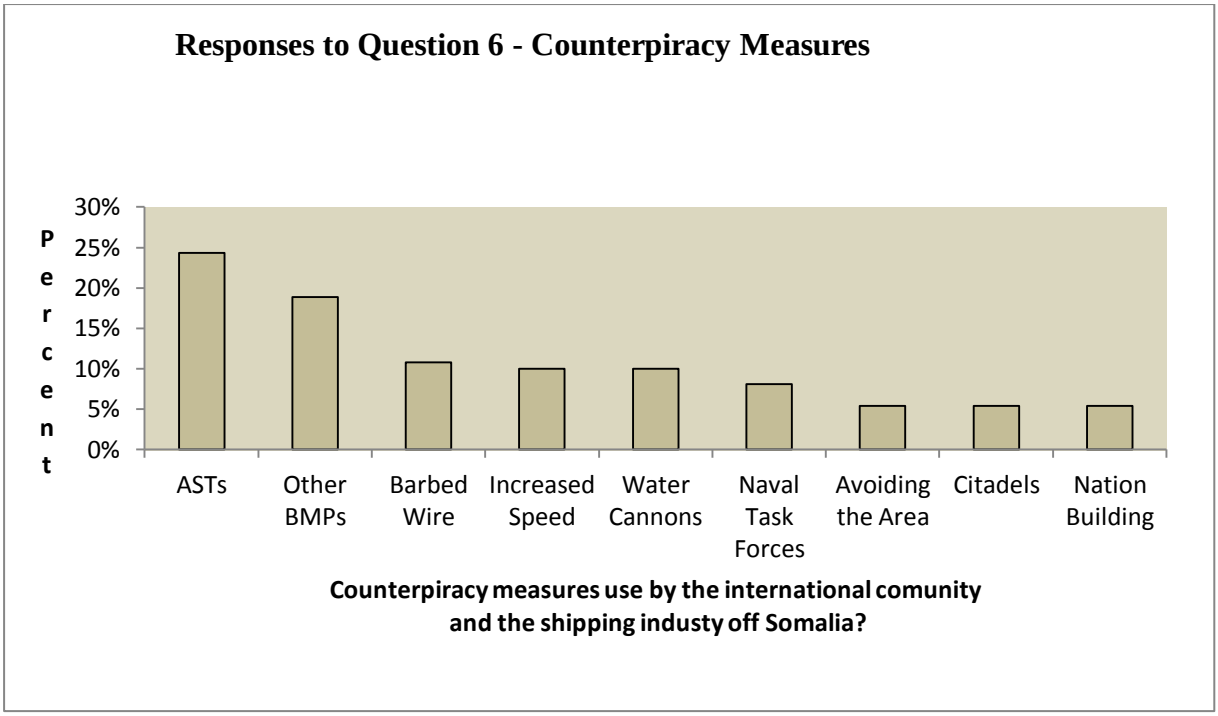


Figure 27. Bar chart depicting the interview responses to interview Question 6.

Table 23 depicts 90% of the respondents stating the rate of hijackings off the Horn of Africa has decreased since 2011. The remaining 10% of respondents believe piracy has not reduced since 2011. Figure 28 depicts a bar graph corresponding to the same.

Many respondents mention ASTs as being 100% effective against pirate hijacking. SMEs suggest naval task forces are another important counterpiracy component particularly in their interdictions and disruptions of suspected pirates. Most of the SME's perceive ASTs and naval forces as contributing factors in the decline of Somali piracy starting in 2011. Several respondents mentioned there were no hijackings at all in 2013. The majority of respondents were basing their answers on statistics kept by their organizations or those published by other reporting agencies. See Figure 29 for a graph of vessel hijackings based upon the ASAM database. See Table 22 for the terminology associated with the various piracy incident types.

Figure 29 and Figure 30 deserve closer examination and reveal a very interesting finding. When we look only at ship hijackings, incidents where pirates took control of the ship and sailed it back into Somali territorial waters, there is a much stronger correlation between the major counterpiracy actions & event dates and a marked decline in the number of hijackings. In Figure 29, we see hijackings start to fall in mid-2008 for Region 62, in mid-2009 for Region 61, and mid-2010 for Region 63. In Figure 30, we observe overall piracy incidents continuing to increase into 2010, but hijacking incidents begin to level off in 2008 and finally begin to fall in 2011. From this analysis, we can determine that despite the increase in overall incidents between 2008 and 2010, the number of successful hijacking did not rise proportionally and in some regions began to fall beginning in 2008. From this finding, we can infer that UNSC resolutions, the deployment of naval assets, and the establishment of the IRTC had a near immediate impact on countering the growing trend in ship hijackings by Somali pirates.

Table 22

Terminology Used to Describe Various Types of Piracy Incidents

Incident Type	Description
Attempted Boarding	Close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat.
Boarding	Unauthorized boarding of a vessel by persons not part of its complement without successfully taking control of the vessel.
Firing Upon	Weapons discharged at or toward a vessel.
Hijacking	Unauthorized seizure and retention of a vessel by persons not part of its complement.
Robbery	Theft from a vessel or from persons on board the vessel.
Kidnapping	Unauthorized forcible removal of persons belonging to the vessel from it.
Suspicious Approach	All other unexplained close proximity of an unknown vessel

Table 23

Question 7 - Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011?

Answer		Frequency	Percent
Valid	No	1	10.0
	Yes	9	90.0
	Total	10	100.0

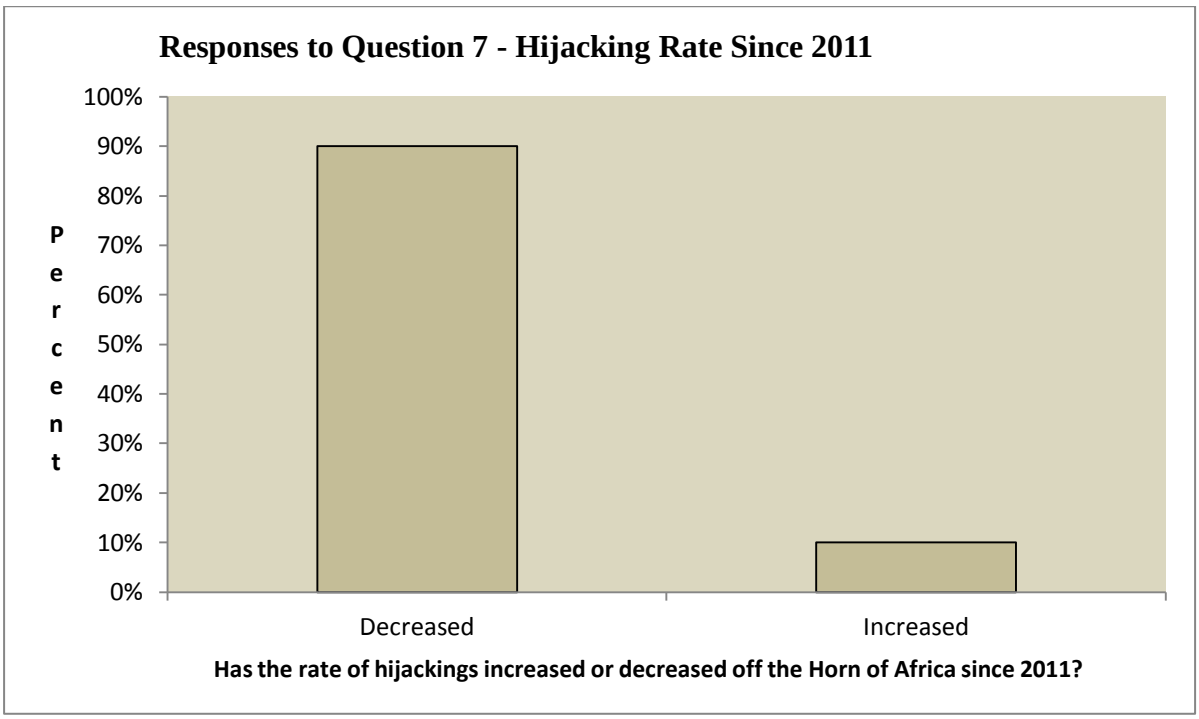


Figure 28. Bar chart depicting the answers to interview Question 7.

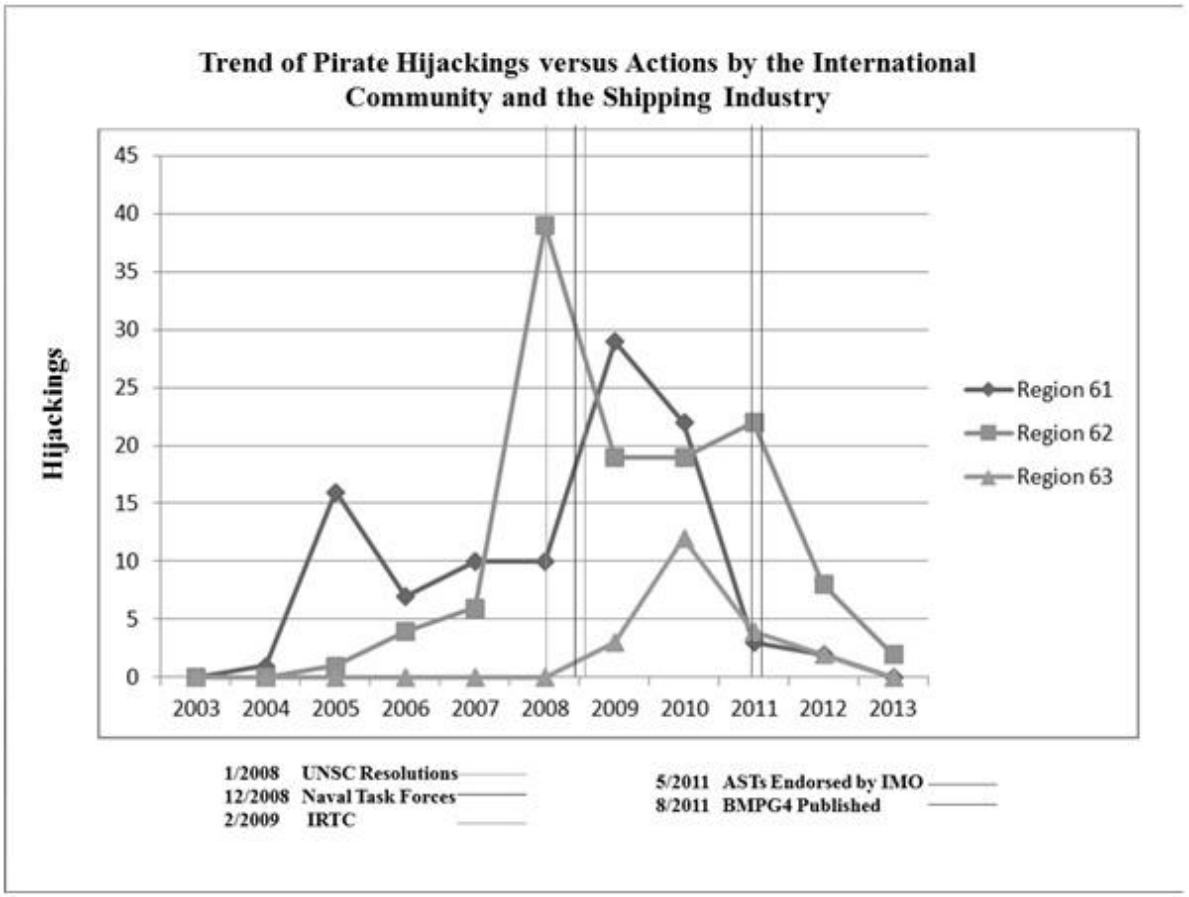


Figure 29. Line chart depicting hijacking incidents found in the ASAMs database across the three geographical regions from June 2003 to July 2013.[17]

[17] The vertical date lines bisecting the hijacking trends represent the implementation dates of major counterpiracy actions taken by the international community and shipping industry. The data proves the number of hijacking have decreased since 2011.

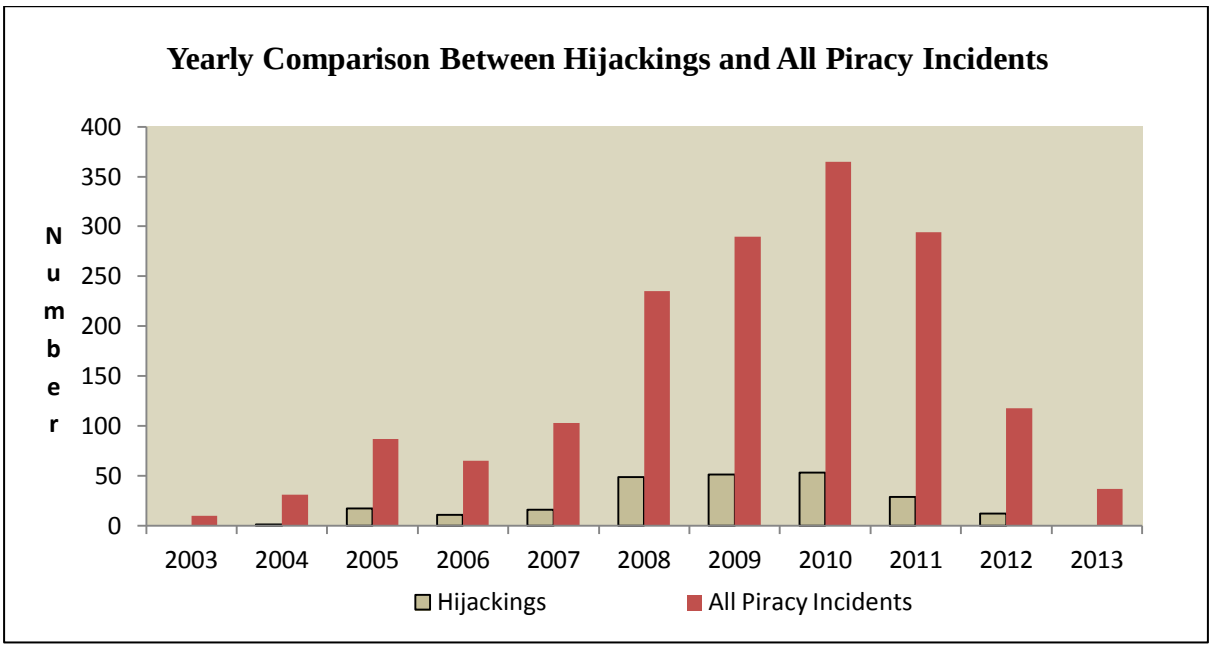


Figure 30. Bar chart depicting Somali pirate hijackings as compared to the total of all piracy incidents over the period of the study.[18]

Table 24 depicts 80% of respondents believing the shipping industry should continue to use armed security teams in order to reduce the rate of Somali piracy incidents in future. Figure 31 depicts a bar graph corresponding to the same. Four respondents mention BMPs as something that should continue, and three respondents believe merchant ships should avoid the area all together. One can infer that by adopting these measures the shipping industry can help reduce the number of pirate attacks off the coast of Somalia.

[18] The chart uses total numbers of hijackings and incidents as opposed to percentages.

Table 24

Question 8 – What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in the future?

Actions		Frequency	Percent
Valid	Avoiding the area	3	30.0
	Ship Construction	1	10.0
	ASTs	8	80.0
	BMPs	4	40.0

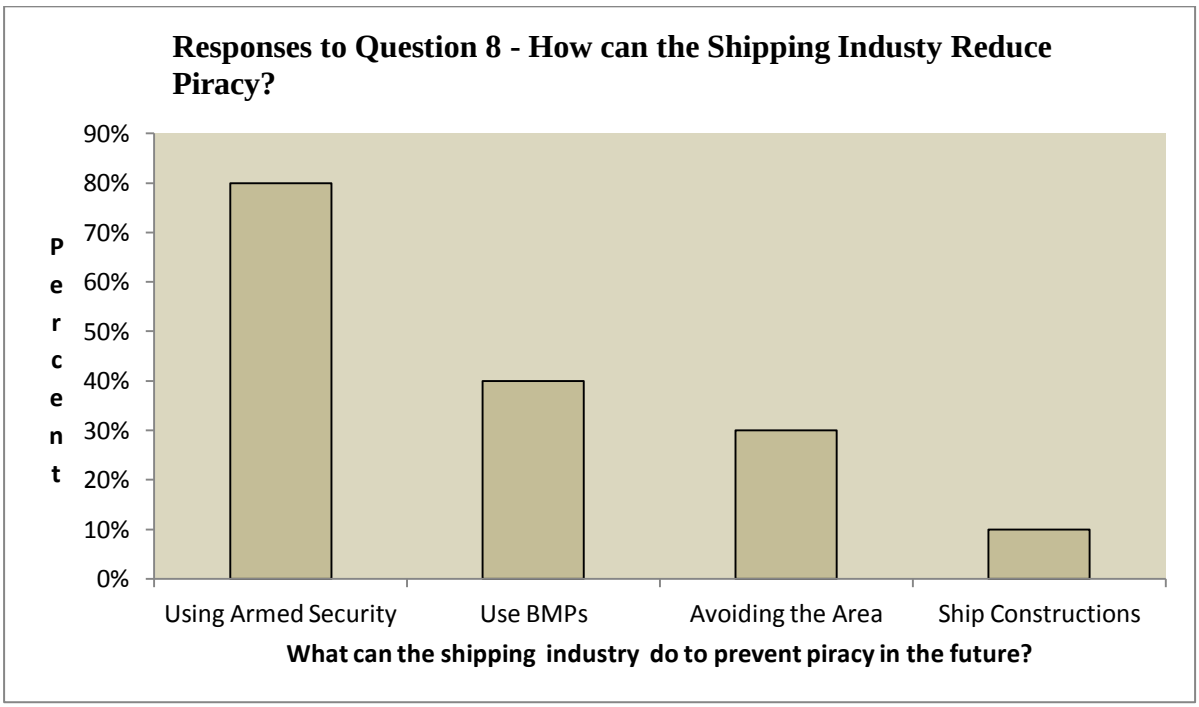


Figure 31. Bar chart depicting the interview responses to Question 8, concerning actions by the shipping industry.

When asked about the role of government in preventing piracy, 60% of the respondents believe that role is to establish law and order. Figure 32 depicts a bar graph corresponding to the same. Table 25 depicts 40% of the respondents believing nation building and 30%

believing supporting naval coalitions are roles for the government in preventing piracy. Shortly after the MAERSK ALABAMA hijacking, Secretary of State Hillary Clinton, speaking for the government, stated the U.S. was pursuing counter-piracy efforts both unilaterally and in concert with the international community (DIPNOTE, 2009). These actions include

- peacekeeping and development;
- capacity building;
- cracking down on pirate bases;
- expanding the multinational response;
- securing the release of hijacked ships;
- tracking and freezing pirate's assets;
- pressing leaders within Somalia to take action against pirates operating from bases within their territory; and
- working with shipping and insurance companies on gaps in their self defense measures.

All of these measures demonstrate specific actions governments can leverage to reduce Somali piracy.

Table 25

Question 9 - What is the role of government in preventing transnational piracy?

	Role of Government	Frequency	Percent
Valid	Collaborate with shipping companies	1	10.0
	Did not answer	1	10.0
	Establish law and order	6	60.0
	Facilitate the use of armed security	1	10.0
	Nation building	4	40.0
	Support naval task forces	3	30.0

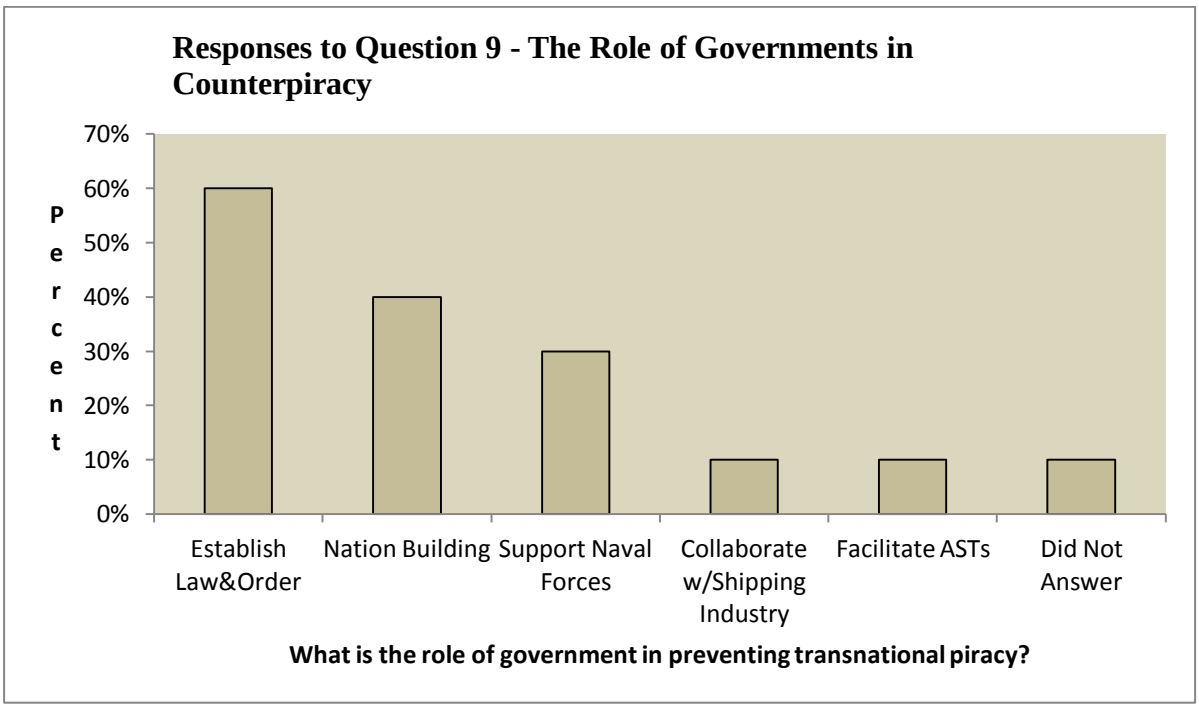


Figure 32. Bar chart depicting the responses to interview Question 9, concerning governments and counterpiracy.

Table 26 depicts 50% of the respondents believing nation building is the primary role for international bodies in the fight against Somali piracy. Figure 33 depicts a bar graph corresponding to the same. Four out of the 10 respondents also believe international bodies

must support the establishment of law and order and the authorizing of naval task forces. Diplomacy, information sharing, and facilitating the use of armed security were also mentioned by the SMEs as roles for international bodies. The UN emphasizes that peace and stability within Somalia, the strengthening of State institutions, economic and social development, respect for human rights, and the rule of law, are all necessary to create the conditions for a durable eradication of piracy the coast of Somalia (S/RES/1897, 2009). From this, we can infer better governance and capacity building must form the basis of any governmental strategy to prevent and deter Somali piracy.

Table 26

Question 10 - What is the role of international bodies in preventing piracy off the coast of Somalia?

	Role of International Bodies	Frequency	Percent
Valid	Authorize naval task forces	4	40.0
	Did not answer	2	20.0
	Diplomacy	2	20.0
	Establish law and order	4	40.0
	Facilitate the use of armed security	1	10.0
	Information sharing	2	20.0
	Support nation building	5	50.0

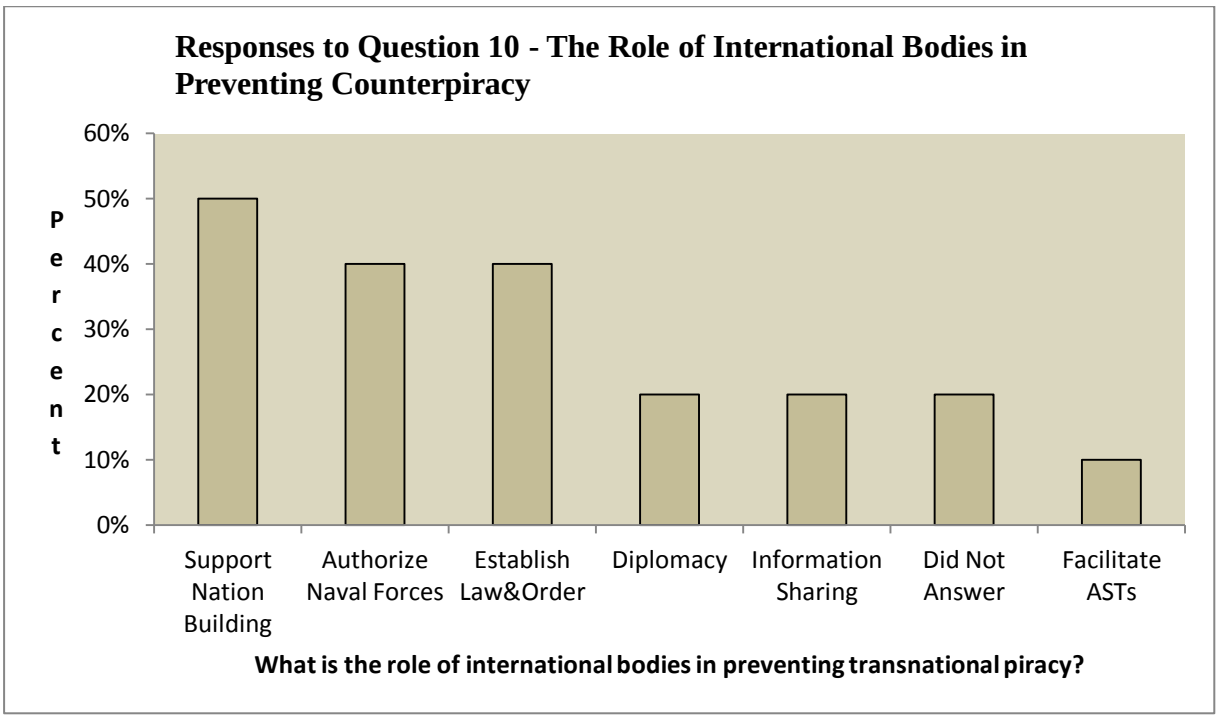


Figure 33. Bar chart depicting the responses to interview Question 10.

When asked to identify the most significant or important events that have reduced piracy off the Horn of Africa, 70% of the respondents expressed the adoption of armed security. The establishment of naval task forces was mentions by 30% of the respondents and an important event. One of the respondents mentioned the MAERSK ALABAMA hijacking as an essential event. The MAERSK ALABAMA hijacking brought the problem of Somali piracy to international and national attention, thereby acting as a catalyst for more aggressive counterpiracy efforts. Table 27 and Figure 34 capture the major themes expressed by the SME's in their responses to the question.

Table 27

Question 11 - Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia?

Events		Frequency	Percent
Valid	Adoption of armed security on merchant ships	7	70.0
	Avoiding the area	1	10.0
	Did not answer	1	10.0
	Establishment of naval task forces	3	30.0
	Maersk Alabama hijacking	1	10.0

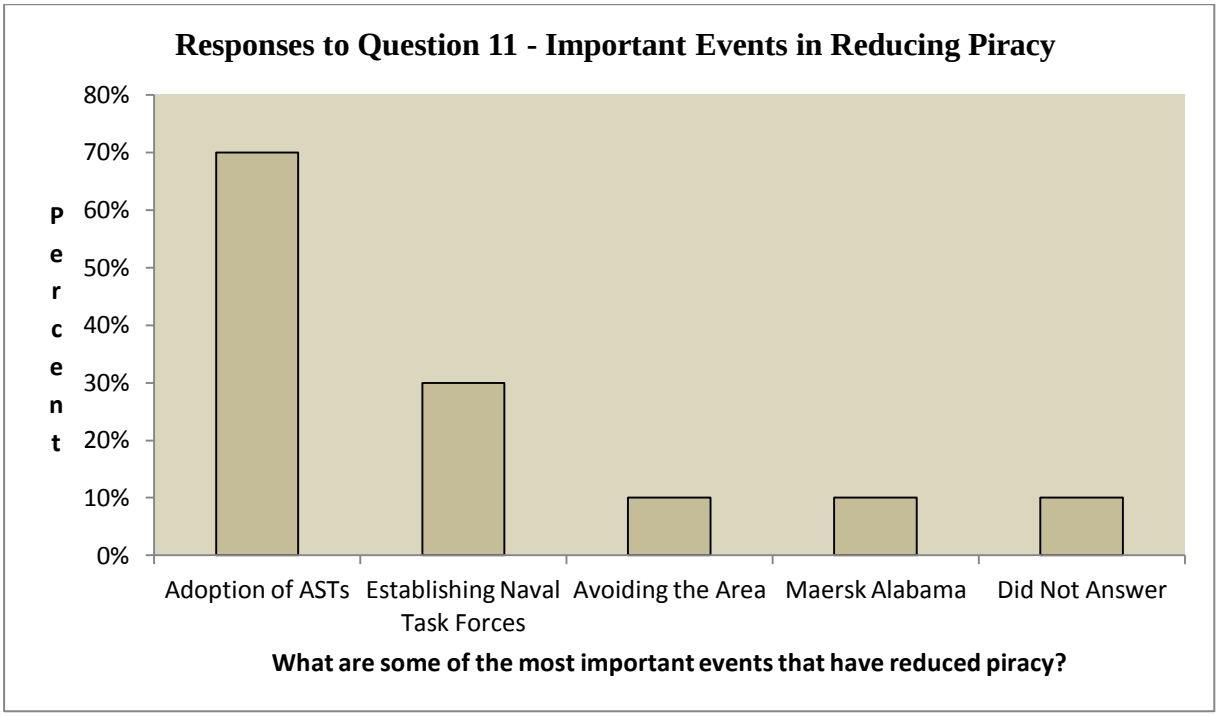


Figure 34. Bar chart depicting responses to interview Question 11.

When asked whether UN Security Council Resolutions addressing Somali piracy have resulted in an increase or decrease in the number of piracy events off the Horn of Africa, 60% of the respondents said they resulted in a decrease. The other 40% felt the resolutions had no effect on piracy rates. Table 28 depicts the SME's coded responses to the question and

corresponds with the bar chart depicted in Figure 35. One of the piracy SMEs interviewed gave the following response when answering the question:

> In 2008, the UN authorized naval forces to go after pirates. This led to escorts of merchant shipping and naval patrols. The UNSC played an important role in these actions and therefore made a tremendous impact on the number of pirate attacks off the coast of Somalia. It was not like a light switch, however, things continued to improve over time. (Person 4, 2013)

Table 28

Question 12 - Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase or decrease in the number of piracy incidents off the Horn of Africa?

		Frequency	Percent
Valid	Decrease	6	60.0
	No Effect	4	40.0
	Increase	0	0.0
	Total	10	100.0

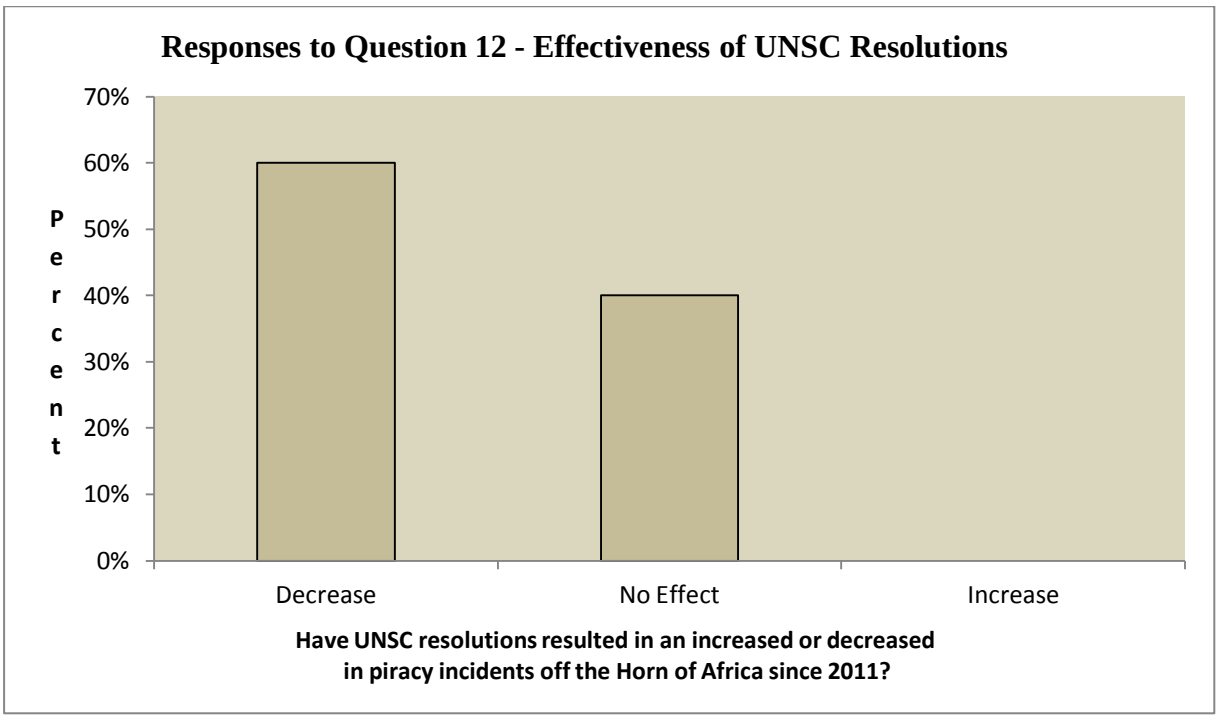


Figure 35. Bar chart depicting interview responses to Question 12 about the effectiveness of UNSC resolutions.

The next question asked whether the SME believed the establishment of the IRTC resulted in an increase or decrease in the number of piracy events off the coast of Somalia. The goal of the IRTC is to provide a safe zone from merchant ships to transit the Gulf of Aden. Table 29 depicts 70% of the respondents believing the IRTC has led to a decrease in piracy. Figure 36 depicts a bar chart corresponding to the same.

When we look at the quantitative analysis across all three geographical regions, the establishment of the IRTC in mid-2009 first appears to have little effect on the number of overall events. Piracy events increased from 290 incidents in 2009 to 355 incidents in 2010 overall, despite the traffic lane. However, if we look at the trend found in geographical region 62 alone, where the IRTC is located, there is an immediate decrease in the number of incidents. In that region, piracy events decreased from 157 events in 2009 to 142 events in 2010. From this analysis, we can infer that the establishment of the IRTC led to a decrease in piracy events

in the Gulf of Aden.

Table 29

Question 13 - Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy incidents off the coast of Somalia?

IRTC		Frequency	Percent
Valid	Decrease	7	70.0
	Increase	1	10.0
	No affect	2	20.0
	Total	10	100.0

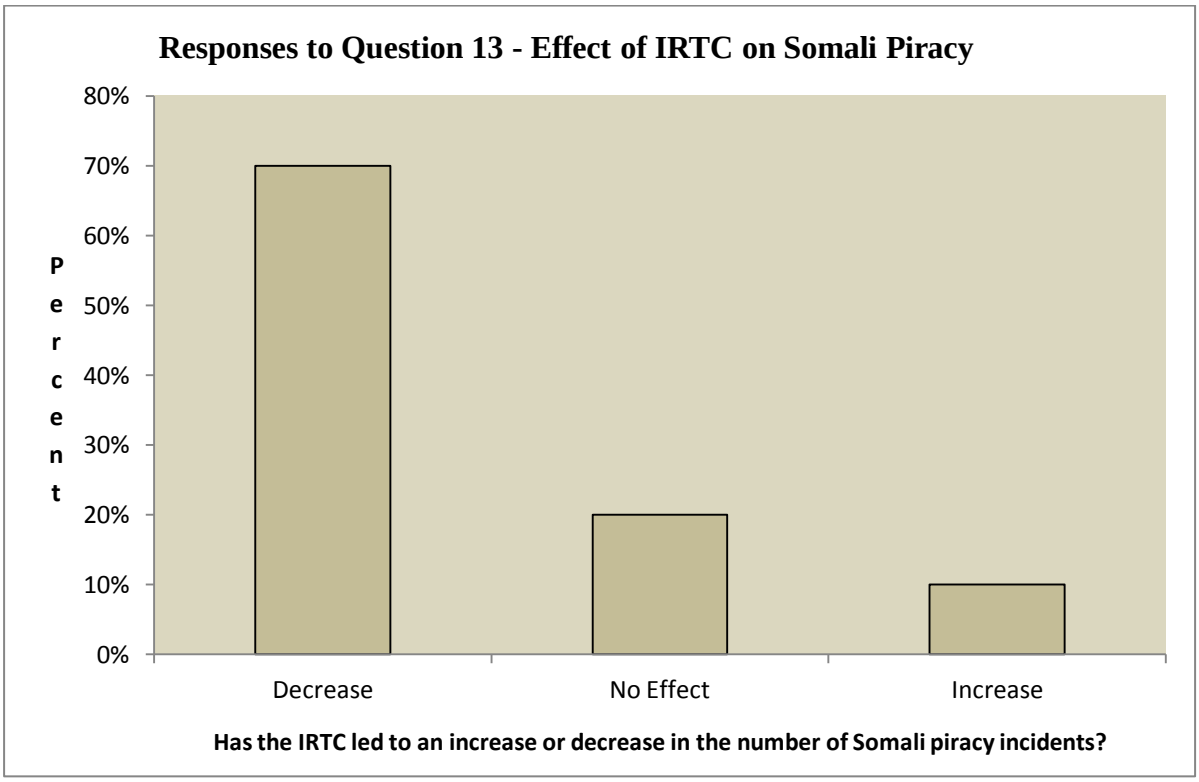


Figure 36. Bar chart depicting the interview responses to Question 13, regarding the effectiveness of the IRTC.

When asked about their views on the role of naval patrols in preventing piracy off the Horn of Africa, 70% of the respondents stated it was to deter attacks. From the data collected in Table 30 depicts another 50% believing naval patrols fill the role of responding to attacks. Figure 37 depicts a bar graph corresponding to the same.

The European Union Naval Force (EU NAVFOR) states on their website that Operation Atalanta's mission is to "deter, prevent and repress acts of piracy and armed robbery off the Somali coast" (EU NAVFOR, 2013). The NATO task force states on their website that Operation Ocean Shield "has been helping to deter and disrupt pirate attacks, while protecting vessels, and helping to increase the general level of security in the region since 2008" (NATO, 2013). The last of the three major naval task forces is Combined Task Force 151. CTF-151's stated mission is "to disrupt piracy and armed robbery at sea and to engage with regional and other partners to build capacity and improve relevant capabilities in order to protect global maritime commerce and secure freedom of navigation" (CMF, 2013). One can infer that naval patrols have made the waters off the coast of Somalia less permissive surroundings for pirate operations**.**

Table 30

Question 14 - What do you think is the role of naval forces in preventing piracy and anti-shipping activities off the coast of Somalia?

Role of Naval Forces		Frequency	Percent
Valid	To deter attacks	7	70.0
	To patrol/escort	2	20.0
	To respond to attacks	5	50.0
	To warn merchant ships of PAG activity	1	10.0

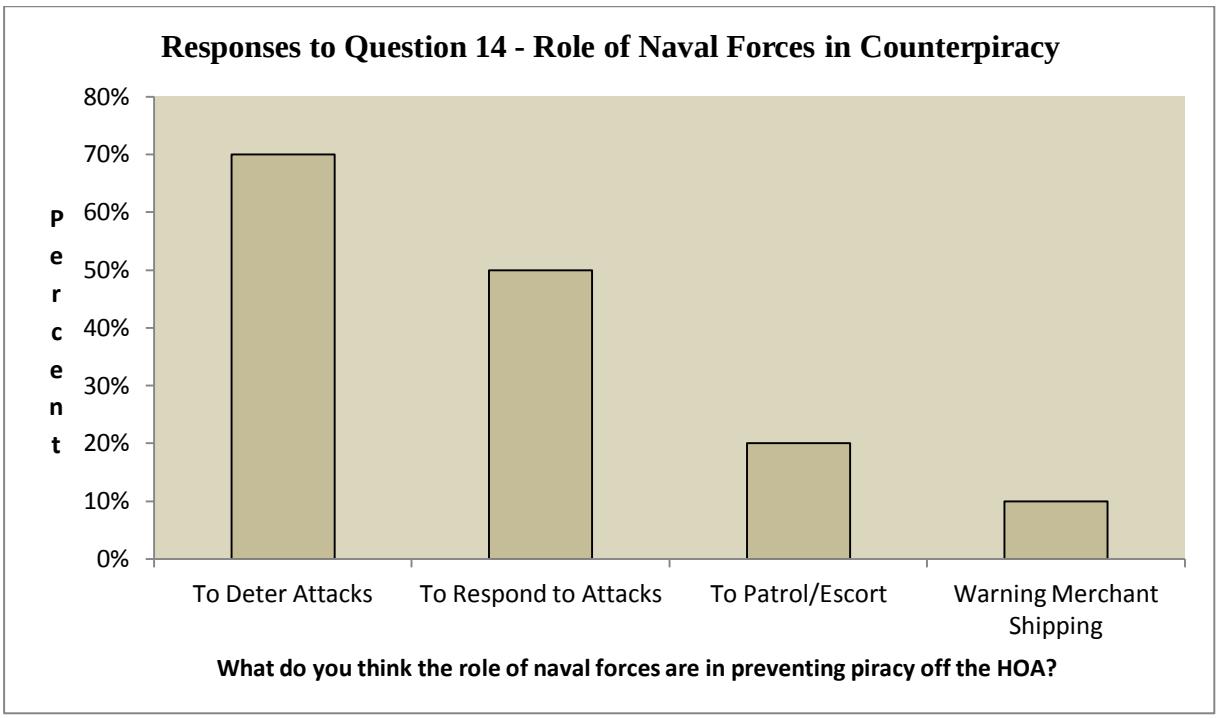


Figure 37. Bar chart depicting the responses to interview Question 14, regarding the role of naval forces.

When asked about Best Management Practices (BMPs), 70% of the respondents believe the publication of the Best Management Practices Guide (BMPG) has resulted in a decrease in the number of hijacking off the coast of Somalia. The other 30% believe they had no effect on the number of hijackings off the Horn of Africa. Table 31 and Figure 38 present the themes collected from the SME in their responses to interview Question 15.

The BMPs call on vessels to communicate their intentions to transit the piracy high-risk area to naval forces in the region and to employ vessel self-protection measures based on a vessel-specific risk assessment (World Shipping Council, 2013). The Chemical Distribution Institute, a major consultant to the chemical industry, states that adopting BMP guidelines remains the best preparation against piracy for vessels traversing the Gulf of Aden and the Indian Ocean (CDI, 2013). One respondent mentioned how the publication gives ship owners a guide to assist them in implementing security measures including diversionary tactics. Another

stated the most successful BMP is the use of citadels, which provide a safe and secure areas for the crew to shelter in when pirates board. Citadels prevent pirates from taking propulsion and steering control of the vessel and allow time for naval forces to respond to the pirate attacks. From observing the data, one may infer that the best management practices are successful in reducing pirate attacks in off the coast of Somalia.

Table 31

Question 15 - Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia?

BMPs		Frequency	Percent
Valid	Decrease	7	70.0
	No affect	3	30.0
	Increase	0	0.0
	Total	10	100.0

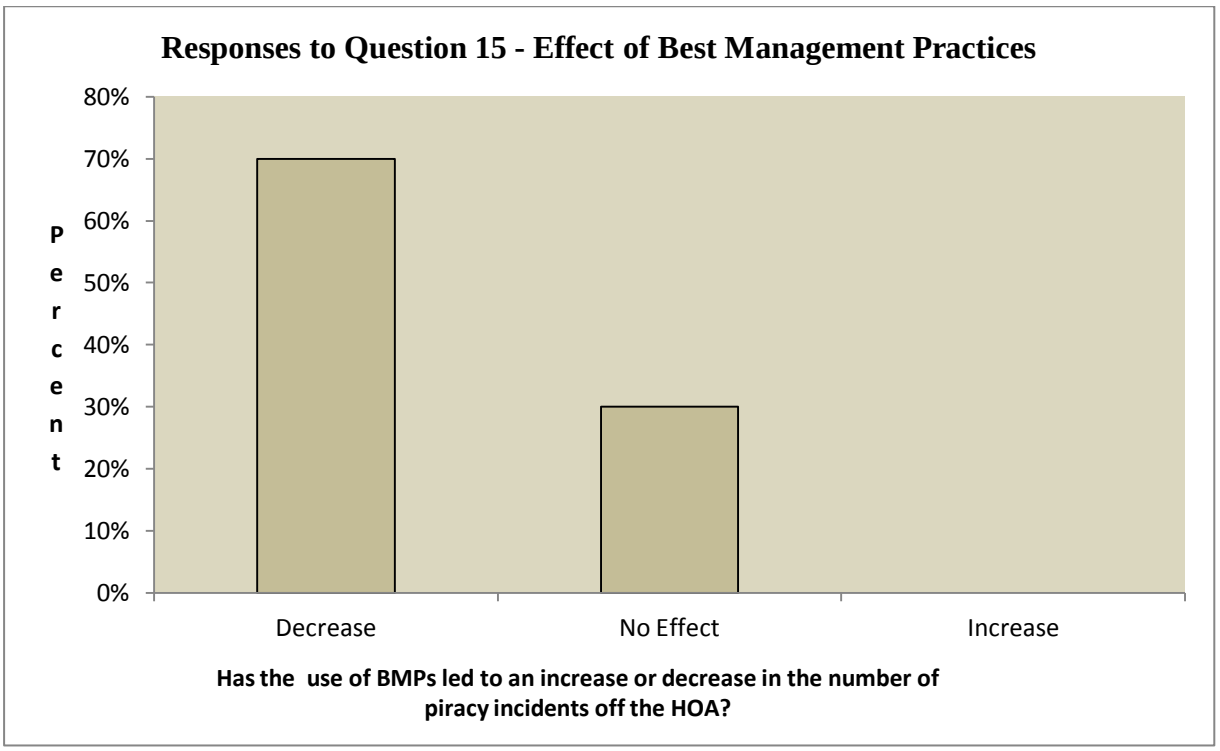


Figure 38. Bar chart depicting the responses to interview Question 15, concerning the use of Best Management Practices.

When asked about strategies that the international community can employ in the future to reduce Somali piracy, 70% of the respondents stressed capacity building. Half of the respondents also mention nation building and armed security teams as strategies to continue or employ in the future. Table 32 and Figure 39 present the themes collected from the SMEs in their responses to interview Question 16.

Capacity building efforts that focus on creating viable deterrents is extremely important (Chalk, 2012). Growing the abilities of the local, federal, and regional governments to prevent, fight, and eliminate piracy, wherever it exists, eliminates the need for others to do the job for them. Implementing programs that address the root causes of Somali piracy is the only way to insure a long-term resolution to the problem. The United Arab Emirates (UAE) have sponsored the high-level *Countering Maritime Piracy: Continued Efforts for Regional Capacity Building* conference for the last three years. In their third post conference communiqué the participants

emphasized that improving the maritime security capacity of Somalia and its neighbors will not only contribute to further deterring piracy, it will also help the region in facing other difficult challenges, such as human trafficking and illegal fishing (Countering Maritime Piracy, 2013).

Table 32

Question 16 - What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future?

Strategies for International Bodies		Frequency	Percent
Valid	Capacity building	7	70.0
	Continue armed security	5	50.0
	Continue BMPs	1	10.0
	Continue naval task forces	1	10.0
	Nation building	5	50.0
	Protect exclusive economic zone	2	20.0

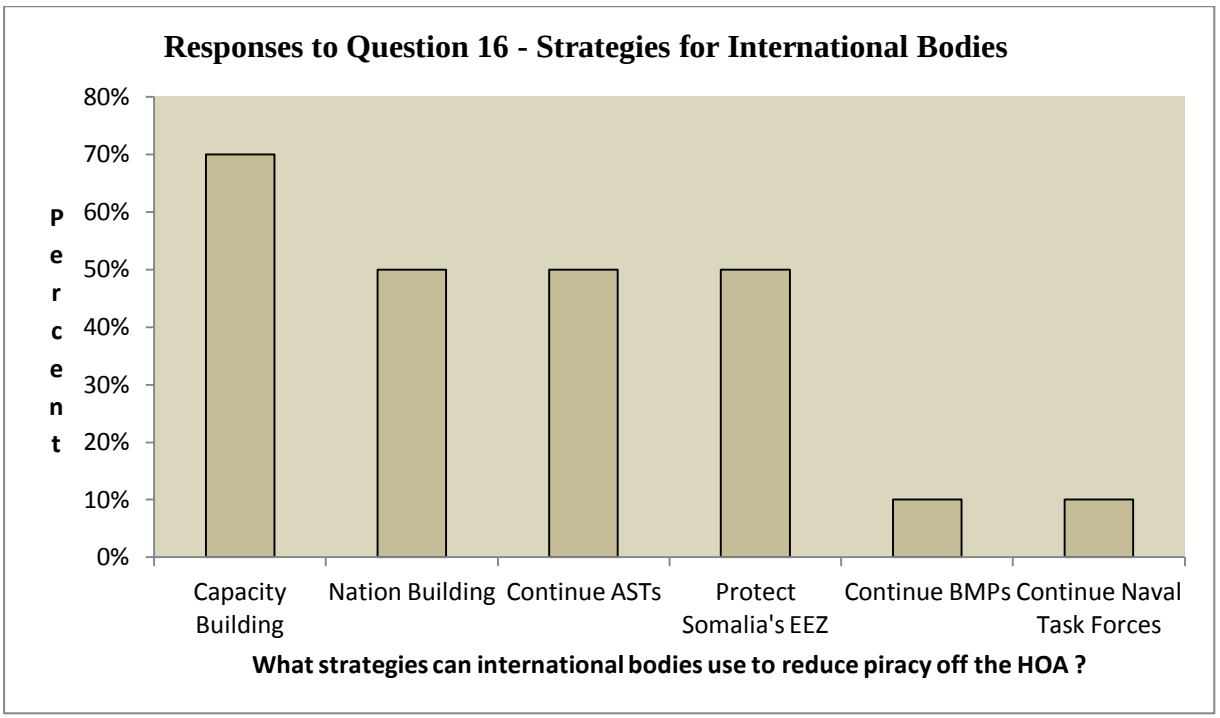


Figure 39. Bar chart depicting responses to interview Question 16, regarding strategies for international bodies.

The last interview question concerned strategy recommendations for the Somalia government to help reduce piracy off its shores. When asked this question, 80% of the respondents stated the Somali government must establish law and order. Similarly, 40% expressed nation building, and 40% expressed capacity building as strategies for the Somali government to pursue toward ending piracy. Table 33 and Figure 40 present the themes collected from the SMEs in their responses to interview Question 16.

Implementing the majority recommendation is actually a monumental task. The Somali people have been struggling with lawlessness for more than twenty years. The governing of a diverse population whose loyalties conform to clan dynamics and not necessarily national authority is challenging, especially from a western or democratic frame of reference. Hundreds of thousands of Somalis remain displaced by civil war, famine, and an ongoing Islamic insurgency. Established in August 2012, the Federal Government of Somali still depends upon

20,000 Africa Union troops to maintain stability is south and central Somalia (AMISOM, 2013). Despite the challenges, we can infer from the interview responses that a sustainable solution to piracy requires an integration of efforts to develop the governance, law rule, and security in Somalia.

Table 33

Question 17 - What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future?

Strategies for the Government of Somalia		Frequency	Percent
Valid	Capacity building	4	40.0
	Did not answer	1	10.0
	Establish law and order	8	80.0
	Nation building	4	40.0
	Protect exclusive economic zone	1	10.0

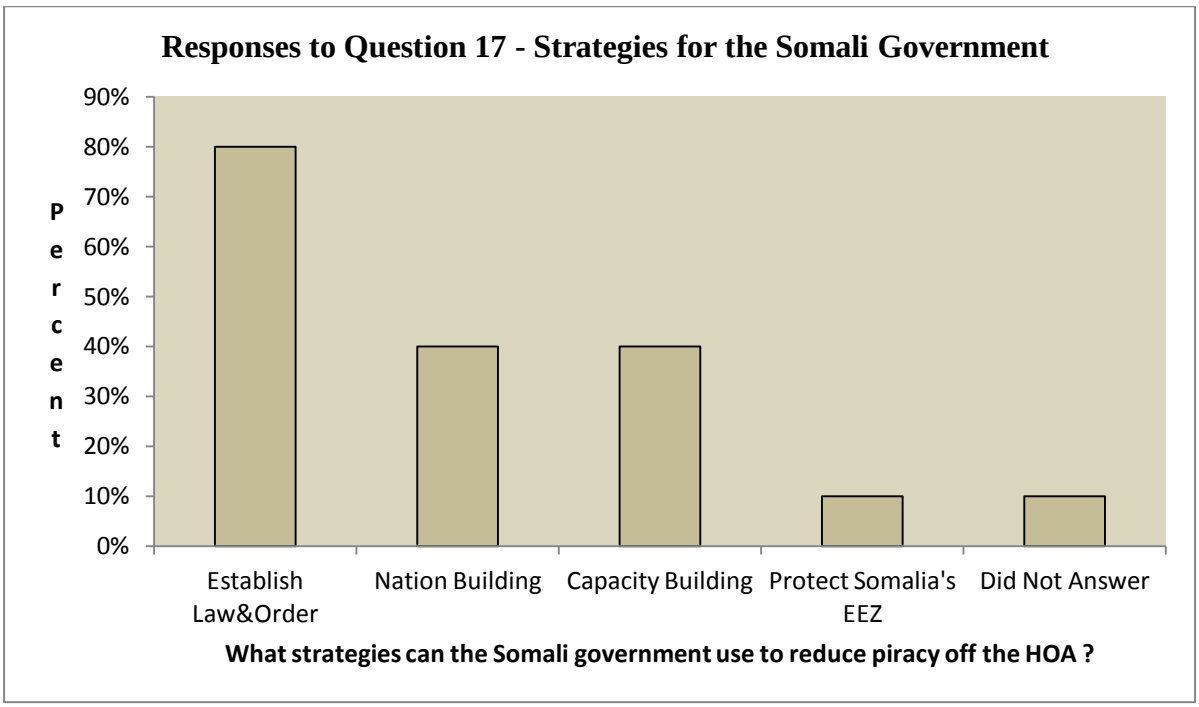


Figure 40. Bar chart depicting the responses to interview Question 17 - strategies for the government of Somalia.

Discussion

The convergent analysis focuses on the central research question of *how can the data located in the NGA's ASAM database support the development of a strategic counterpiracy template.* The specific sub questions supporting the central question asked:

- How can governments and the shipping industry prevent pirates from wanting to attack merchant vessels?
- How can the analysis of the decline in Somali piracy provide insight into creating counterpiracy strategies in other parts of the world?
- How do the counterpiracy actions taken by the international community relate to the trends identified in the ASAM analysis?
- What effects did United Nations Security Council (UNSC) resolutions have on the piracy rate off the Horn of Africa?

- What effect did the deployment of naval task forces to the waters off the Horn of Africa have on the number of piracy incidents in the region?
- Did piracy events increase or decrease immediately after the international recognized transit corridor (IRTC) was established?
- What effect did the use of armed embarked security teams have on the rate of Somali piracy?
- What effect if any did the shipping industry publishing of the Best Management Practices Guide (2011) have on hijacking rates?

To answer these questions, the discussion section presents and assesses five major counterpiracy themes revealed in the qualitative strand of the study. Included in the discussion section is a critique of piracy reporting organizations and their associated incident databases. Of particular importance to this study is a critique of the NGA piracy database.

Major Counterpiracy Events and Actions

The following is a discussion on some of the most notable counterpiracy events, actions, or themes from the Somali piracy experience. These events include actions by the United Nations, naval deployments, the establishment of the International Recognized Transit Corridor, the use of armed security teams on board merchant ships, and best management practices used by the shipping industry. Understanding past counterpiracy actions helps in determining what actions to take against piracy in the future.

The United Nations and the Role of International Naval Task Forces

To counter the Somali piracy threat, maritime nations started deploying naval assets to the waters off the Horn of Africa under United Nations (UN) authority. The mandates came through a series of UN Security Council Resolutions (UNSCR) beginning in May 2008. The mandates include UNSCRs 1816, 1838, 1846, 1851 and 1897 (CMF, 2014).

Under the UN authorities, the Combined Maritime Forces (CMF), a multinational force

based in Bahrain, deployed Combined Task Force #151 as the first naval task force to the region in January 2009. The task force's mission is to actively deter, disrupt, and suppress, piracy off the Horn of Africa. The force represents a 30 nation naval partnership. In addition to the counterpiracy mission, CMF also operates two additional task forces: CTF-150 and CTF-152. CTF-150's mission is Maritime Security with a focus on terrorism. CTF-152's mission is Gulf Maritime Security and operates within the Persian Gulf providing theater security (CMF, 2014).

The European Union launched a second international naval task force, the European Union Naval Force Somalia (EU NAVFOR), at the same time as CMF's CTF-151. Code-named Operation ATALANTA, the mission includes the following objectives:

- To protect World Food Program (WFP) vessels delivering aid to displaced persons in Somalia and the protection of African Union Mission in Somalia (AMISOM) shipping.
- To deter, prevent, and repress, acts of piracy and armed robbery at sea off the Somali coast.
- On a case-by-case basis to protect and assist vulnerable shipping off the Somali coast.
- To the monitor and deter illegal fishing activities off the coast of Somalia.

Despite the decline in piracy incidents, naval task forces are still active off the Horn of Africa. In early 2014, French, German, Italian, Spanish, and Ukrainian naval vessels deployed to the region to conduct counterpiracy operations under the EU flag. In late January 2014, the French naval vessel, SIROCO, with the assistance of Japanese air assets, disrupted the first attack of the year by Somali pirates against an oil tanker. The SIROCO freed the crew of a dhow, which the pirates hijacked to use as a mothership and then arrested the suspected pirates only hours

after the attack (EUNAVFOR, 2014).

The North Atlantic Treaty Organization (NATO) is also responding to the UN mandates with naval task forces. NATO initiated a series of counterpiracy operations including ALLIED PROVIDER, ALLIED PROTECTOR, and OCEAN SHIELD. The NATO mission off Somalia includes support for local states to help build their own counter piracy capacity, enforce maritime security, and conduct active counterpiracy patrols (NATO Shipping Centre, 2013). In late January 2014 Brigadier General Ahmed Saleh Al-Soubhi, the head of the Yemeni Coast Guard met aboard the Spanish warship ALVARO DE BAZEN to meet with the NATO Counter Piracy Task Force Commander, Rear Admiral Eugenio Diaz del Rio. The purpose of the meeting was to seek ways to improve cooperation between the two organizations in the fight against Somali Piracy (NATO MARCOM, 2013).

The United Kingdom is a NATO member and has a strong maritime tradition. The United Kingdom is also a strong U.S. ally and a member of the European Union. The United Kingdom is the only country to participate in all three international task forces.

Several nations acting independently have sent naval units to the region to conduct counterpiracy operations. Russia, China, Iran, and India, have used their deployments to gain operational experience by observing counterpiracy operations by navies already versed in these maneuvers (Murphy, 2011). In a world full of political division and competing interests, the international naval response to Somali piracy has brought about a rare show of unity, even between countries who rarely cooperate or who are normally openly hostile towards each other. In some regards, Somali counterpiracy efforts act as a unifying force on the international stage.

With the naval forces in place, thanks to the UN mandates, the question comes to mind whether the military presence is a contributing factor in the decline of pirate attacks in the region. Kraska and Wilson (2009) state emphatically that naval forces cannot prevent most

attacks. Smallman (2011) claimed the evidence suggested that despite the expense of naval patrols and other international actions, piracy in the Indian Ocean was still increasing. Indeed if we look back at Figure 16 and the incidents trend for subregion 62, we can see piracy attacks in the subregion initially fell in 2009 and 2010, but began rising again in 2011. In Figure 15 and Figure 17, we can see that pirate events continued to increase in 2009 and 2010 in subregions 61 and 63. This observation suggests pirates shifted operations away from the heavily patrolled GOA and moved into the Indian Ocean. From the ASAM data analysis, we can infer that naval task forces deployed to the region in early 2009 did not have an immediate effect on the overall rate of piracy off the Horn of Africa.

Internationally Recognized Transit Corridor

Somalia's 1,800 nautical mile coastline is one of the longest on the African continent. The maritime expanse open to Somali pirates off the Horn of Africa covers 2.5 million square nautical miles (Lowe, 2012). Merchant ships transiting the strategically important Gulf of Aden carry more than 20% of global trade by volume, making for plenty of opportunities for ship hijackings (EUNAVFOR, 2013). These factors make naval interdiction of pirate attack groups difficult and a coastal blockade impractical. Patrolling this large area is time consuming and expensive.

To create efficiencies, the U.S. Navy began sponsoring shared awareness and deconfliction meetings in late 2008 as a venue for international naval forces operating in the area to share experiences and cooperate. These meetings led to the creation of the Internationally Recommended Transit Corridor (IRTC) whose main goal was to introduce safer and more organized passage for merchant vessels transiting the Gulf of Aden (Monje, 2011). Established in February 2009, the IRTC is a corridor between Somalia and Yemen within international waters, consisting of two lanes, each of five nautical miles width, one eastbound and one westbound, with a space of two nautical miles between them. See Figure 41

for a graphic depicting the corridor. The total length of the transit corridor is 480 nautical miles, and a vessel maintaining 14 knots requires 34.5 hours to sail through it (Tsilis, 2011).

Naval patrols are now concentrated adjacent to the IRTC and all merchant vessels are highly encouraged to adhere to it. The Maritime Security Centre Horn of Africa (MSCHOA), established by EU NAVFOR, provides 24 hour monitoring of vessels transiting through the Gulf of Aden (EUNAVFOR, 2013). The MSCHOA coordinates group transits based on cruising speeds within the IRTC and link the movement of merchant vessel with international naval forces for convoying operations. A number of international naval assets offer protected convoys through the IRTC. Some countries, such as China, offer merchant vessels independent convoy escorts by a warship through the IRTC.

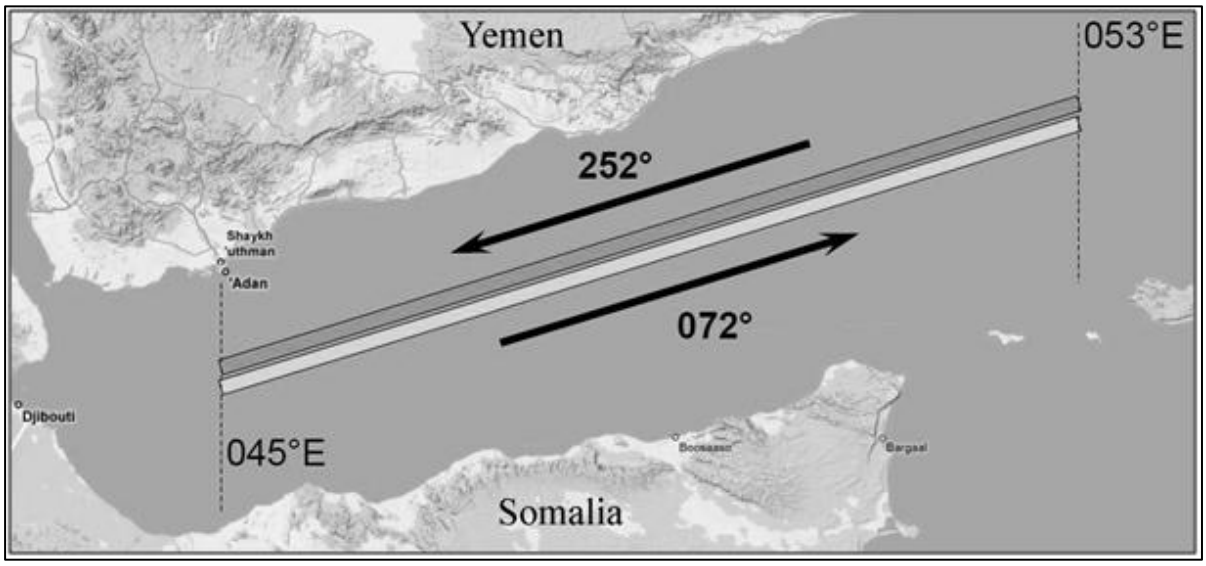


Figure 41. This image geographically depicts the IRTC, which lies in the Gulf of Aden. Naval assets from the international community patrol the corridor and provide convoy escorts to merchant shipping transiting the area.[19]

[19] This figure is adapted from the NATO Shipping Centre - **http://www.shipping.nato.int/operations/OS/Pages/GroupTransit.aspx**

An analysis of ASAM piracy incident reporting confirms the presence of naval forces concentrated along the IRTC has significantly reduced attack in the Gulf of Aden. However, Somali pirates evolved their tactics and shifted operating areas by using large motherships in the Indian Ocean at distances over 1,000 nautical miles from the coast (Hutchins, 2013). Overall, Somali pirate attack rates continued for rise after 2009 despite the presence of the IRTC.

From the ASAM analysis for subregion 61 and 63, we can infer the IRTC had no effect on reducing pirate attacks in the Arabian Sea and Indian Ocean. However, in subregion 62 where the corridor is located, the ASAM analysis found in Figure 16 shows a drop in incidents after the establishment of the IRTC. Combining this finding with the interview responses to Question 13, where 70% of the SMEs believe the IRTC led to a decrease in pirate attacks, we can infer the transit corridor serves a specific and localized role in reducing Somali piracy in the Gulf of Aden. With this in mind, any reduction in the naval protection of the IRTC could quickly result in a rebound in pirate activity in the Gulf of Aden.

Armed Security Teams

For the last two years, attacks and hijackings by Somali pirates have dropped substantially (ICC, 2013). There were no hijackings in 2013. The last ship hijacking by Somali pirates was in May 2012 and involved the Greek-flagged oil tanker SMYRNI. By all accounts, the predominant factor for the drop in hijackings and other piracy incidents off the Horn of Africa is the deployment of private armed security teams to defend merchant vessels against pirate attacks (Major et al., 2012). Brown (2012) contends 140 private maritime security companies were providing ASTs to merchant shipping in the Indian Ocean as recently as September 2012.

In a press release issued Feb. 11, 2011, the International Chamber of Shipping (ICS) acknowledged the beneficial use of armed guards on ships to thwart pirates (ICS, 2011). The

IMO signaled to the shipping industry via its Circular 1305 issued on May 23, 2011 that it was aware of merchant vessels employing private armed security to protect ships transiting high-risk areas off the Horn of Africa. Though the guidance to ship owners on the use of privately contracted armed security personnel did not directly endorse their use, it did provide guidelines to follow on their use. It was incorporated into the new version of the BMP guide published shortly afterwards. To date there has never been a successful pirate boarding of vessels with armed security on board.

The carriage of armed security teams on merchant vessels is not without great controversy. The rules governing the use of force by armed security teams are unclear. There is concern that armed security will cause an escalation of violence, resulting in more casualties to ships' crews. There are also civil and criminal liability issues in the event of wrongdoing by armed security teams. Still, the risk of not embarking armed security teams has prevailed over not having them.

Ultimately, the decision to hire armed security teams is for the ship operator to make after considering all the risks. There is also a requirement for approval to carry armed security teams by the vessel's flag state and insurers. Japan only recently allowed ASTs aboard their merchant vessels. The Netherlands still forbids this protection on their ships (Osler, 2014). Nevertheless, the use of armed security teams has the approval of the shipping industry as a suitable alternative to the multinational naval coalitions, which will never be able to protect every ship sailing through high-risk waters (Rodden, Rodden & Walsh III, 2011).

The many complex legal issues involved when using armed security - such as command authority, operational details, and embarkation logistics - are not within the scope of this dissertation. The bottom line is that 80% of all ships transiting the high-risk area off the Horn of Africa are using armed security teams (MAREX, 2013). Moreover, as of this writing, pirates continue to lack the ability to circumvent armed security teams to take control of merchant

ships.

The qualitative data analysis strongly supports the effectiveness and use of ASTs as a counterpiracy tool. Piracy SMEs cited armed security teams as the number one response to interview questions 5, 6, 8, and 11. Armed security teams remain the only silver bullet against Somali piracy. Experts speculate that pirates may attempt to overcome armed security in some manner in the future. Moreover, the shipping industry warns that the deployment of armed security is not a substitute for compliance with the latest version of the BMP guide (BMP4, 2011).

Implementation of Best Management Practices

Published in August 2011, the shipping industry's fourth version of *Best Management Practices for Protection against Somalia Based Piracy* suggests planning and operational practices for ship operators transiting the Gulf of Aden and the Arabian Sea. In essence, the Best Management Practices (BMPs) offer measures to harden ships against pirate attacks. The BMP guide is the most prominent example of a constructive industry response to piracy (HC 1318, 2011). The publisher asserts the potential to avoid pirate attacks by following the BMP guide and if not avoid then to deterred or at least delay attacks until help can arrive (BMP4, 2011). By implementing BMPs, a vessel can optimize its self-protection measures.

The BMP guide is composed of 13 sections in addition to eight annexes. The sections introduce the Somali piracy threat to the mariner and define the geographic location of the high-risk area where the Somali pirates operate. Used correctly, the BMP guide helps shipping companies and shipmasters conduct a risk assessment of their ships. Armed with the assessment shippers can then plan what counter piracy measures to implement for their vessels.

The guide is useful and describes typical pirate attacks for mariners who are not aware of pirate techniques, tactics, and practices. The guide's suggestions for ship protection measures covers topics including: watch keeping and enhanced vigilance; enhanced bridge

protection; control of access to the bridge, accommodation areas, and machinery spaces; physical barriers; water spray and foam monitors; alarms; maneuvering practices; closed circuit television; deck lighting; citadels; and the use of both unarmed and armed private maritime security contractors.

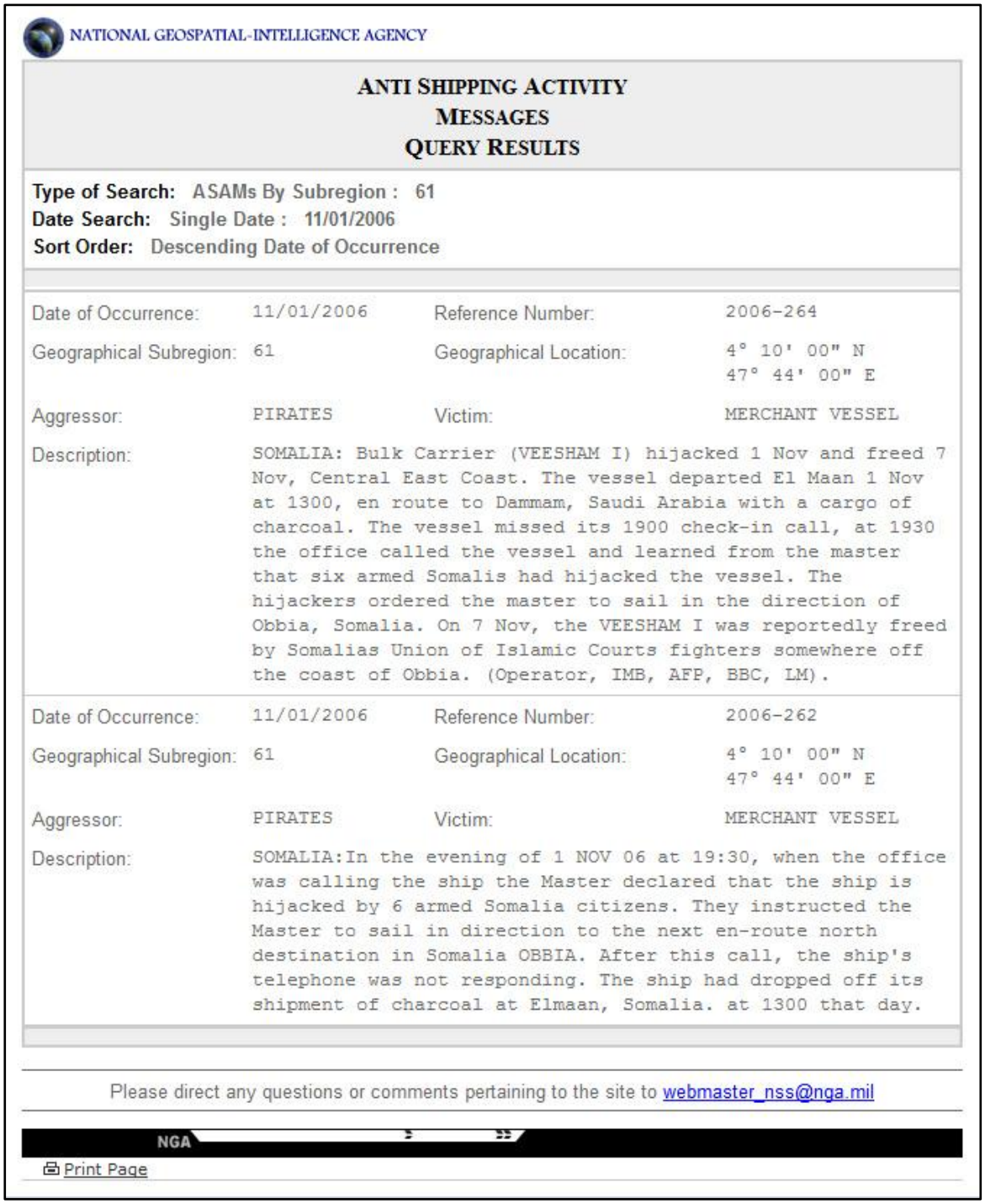
The BMP guide also gives detailed instructions on what to do in the event of an actual attack and if pirates should take control of the vessel. It gives instruction on what to do if the military responds to the attack. Finally, it offers some suggestions on post incident reporting. The annexes give contact details, a list of definitions related to piracy, vessel position and movement registration forms, and additional guidance for BMP related to fishing vessels and yachts.

UN Secretary General Ban Ki-moon reported in October 2010 that ships following BMP had a significantly lower risk of being hijacked (HC 1318, 2011). As demonstrated through experience and data analysis, the application of BMP recommendations can make a significant difference in preventing a ship becoming a victim of piracy. The British government concluded in 2011 that BMP guidance has had a positive effect by comparing attacks in 2008, when ships were able to fend off 50% of pirate attacks, to figures from 2011 when 75% of all attacks resulted in failure. However, non-compliance with BMPs by a proportion of the world's fleet continues to be a serious problem (HC 1318, 2011). It is important to remember that passive measures like those outlined in the BMPs will not necessary stop a pirate attack (McMahon, 2013). There are incidents where pirates have found ways to circumvent BMP measures, including ships that utilized razor wire and citadels. As time goes by without successful pirate attacks occurring, a risk develops if shipping companies begin to relax strict adherence to BMPs because of the expense.

Issues and Benefits of Using the NGA ASAM Database

The author's extensive research work with the NGA ASAM database uncovered

several consistency issues affecting the quality of the data. By far the most common issue was duplicate reporting. For example, Figure 42 shows ASAM reference numbers 2006-262 and 2006-264, which describe the same hijacking of the bulk carrier VEESHAM I. The observer can see by the dates, coordinates, and description that the incidents are the same event. There were at least a dozen duplicate reporting errors, which required filtering before an accurate frequency count on Somali piracy trends was possible. The researcher suspects the problem exists in many of the other geographical subregions within the ASAM database and not just subregions 61, 62, and 63.



NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

ANTI SHIPPING ACTIVITY
MESSAGES
QUERY RESULTS

Type of Search: ASAMs By Subregion : 61
Date Search: Single Date : 11/01/2006
Sort Order: Descending Date of Occurrence

Date of Occurrence:	11/01/2006	Reference Number:	2006-264
Geographical Subregion:	61	Geographical Location:	4° 10' 00" N 47° 44' 00" E
Aggressor:	PIRATES	Victim:	MERCHANT VESSEL
Description:	SOMALIA: Bulk Carrier (VEESHAM I) hijacked 1 Nov and freed 7 Nov, Central East Coast. The vessel departed El Maan 1 Nov at 1300, en route to Dammam, Saudi Arabia with a cargo of charcoal. The vessel missed its 1900 check-in call, at 1930 the office called the vessel and learned from the master that six armed Somalis had hijacked the vessel. The hijackers ordered the master to sail in the direction of Obbia, Somalia. On 7 Nov, the VEESHAM I was reportedly freed by Somalias Union of Islamic Courts fighters somewhere off the coast of Obbia. (Operator, IMB, AFP, BBC, LM).		
Date of Occurrence:	11/01/2006	Reference Number:	2006-262
Geographical Subregion:	61	Geographical Location:	4° 10' 00" N 47° 44' 00" E
Aggressor:	PIRATES	Victim:	MERCHANT VESSEL
Description:	SOMALIA:In the evening of 1 NOV 06 at 19:30, when the office was calling the ship the Master declared that the ship is hijacked by 6 armed Somalia citizens. They instructed the Master to sail in direction to the next en-route north destination in Somalia OBBIA. After this call, the ship's telephone was not responding. The ship had dropped off its shipment of charcoal at Elmaan, Somalia. at 1300 that day.		

Please direct any questions or comments pertaining to the site to webmaster_nss@nga.mil

NGA

Print Page

Figure 42. This figure provides an example of duplicate ASAM entries for a piracy incident occurring on 1 November 2006.[20]

[20] The figure is adapted from the "ASAM Search" webpage hosted by the National Geospatial-Intelligence Agency. Retrieved from **ASAM Query Results**

In looking at the duplicate entries, it was easy to determine a possible cause. Similar to *breaking news* events on broadcast television, the initial reporting is not always 100% accurate. Missing details do not come out until later as television stations are eager to be the first to report a major news story. The same quality issue appears true within the ASAM database. For example, a report comes into NGA concerning a piracy event off Somalia but lacks the name of the hijacked vessel. A few days later NGA receives another report that adds the name of the vessel. Instead of meticulously checking the database for previous reporting, an analyst at NGA simply creates a new incident report that has some additional details. Sometimes, the new reporting is identical to the old one, but NGA still enters the duplicate as if it were a new incident. It would not take a great deal of effort to clean up the ASAM database for this particular issue.

Another common inconsistency issue within the ASAM database lies within the *aggressor* and *victim* portions of the ASAM incident reports. For example, ASAM reference number 2006-233, which occurred on 10/2/2006, lists the victim as a *merchant vessel*. However, in the *description* section of the same incident report it is easy to determine the victim was a *bulk carrier*. If a researcher wanted to query the *victim* column of the database for the number of incidents involving *bulk carriers,* a true count would not be possible because the words bulk carrier is absent from the victim column and instead reads *merchant vessel*.

Some of the victim categories in the ASAM database include fishing vessels, tugboats, seismic survey vessels, tanker vessels, semi-submersible heavy lift vessels, yachts, suspicious approach, unknown craft, vessel, and cargo ship among others. Sometimes these victim categories appear in all capital letters and sometimes not. The capitalization issue seems to be an issue only when downloading the ASAM data as a personal geodatabase or exporting the data to an excel spreadsheet. Exactly why this happens is open for speculation.

The same consistency issue is true for the aggressor sections of the ASAM database.

For example, ASAM reference number 2008-271, which occurred on 8/12/2008, lists the aggressor as *Pirates*. A week later in ASAM reference number 2008-283 the aggressor is now a *Hijacking*. Both incidents were actual hijackings of merchant vessels, but the aggressors differ. Other aggressor categories listed in the database are *Suspicious Approach, Pirate Attack, Pirate Hijacking, Three Boats, Robbers, Small Speedboats, Suspicious Craft,* and *Yacht* among others. Similar to the victim section, the aggressors sometimes appear in upper and lower case or in all capital letters. It is hard to determine the meaning of the term *aggressor*. Is the aggressor a type of watercraft or a type of piracy incident? If a researcher wanted to determine how many hijackings occurred in subregion 63 by querying the aggressor column of the personal geodatabase they downloaded from the ASAM website, they would not be able to determine the number accurately because of the inconsistency issue. Accuracy and consistency questions have serious security implications and affect not only the perception of the threat of piracy, but also the response to this maritime threat (Walker, 2014). The perception of the scale or location of piracy affects acquisition plans and budgets for purchasing vessels to patrol waters, training of naval officers and crew, and establishing agencies to administer or implement maritime security policies (Walker, 2014).

Maritime security sources expect inconsistent reporting to continue, making it difficult for analysts to compare data to arrive at accurate conclusions (McMahon, 2013 July 30). This is certainly true for the ASAM data as well. Despite these issues, the data is still extremely valuable when trying to understand piracy trends. Certainly, the best feature of the ASAM database is its ease of access.

Neither the IMB nor IMO websites allows researchers to query their databases directly. The IMB Piracy Reporting Centre only allows researchers to request piracy reports or to view the last 10 incidents on their Live Piracy Report webpage. Their Live Piracy Map allows researchers to view the current year's incidents in a GIS format with a link to the full IMB

incident report when you roll the curser over the incident of interest. The public can request the latest IMB quarterly piracy report after filing out an online request form. People can also request annual reports in the same way. However, the IMB must first process the form and then will send a link to the applicant, which gives access to the data as a pdf file.

The IMO Maritime Security and Piracy website gives somewhat better access by giving researchers immediate access to monthly and yearly annual piracy reports, but their online records only go as far back as 2009. Again, the public receives the report in a pdf file format. Similar to the IMB site, the IMO site has no ability to query the data like NGA's ASAM database.

The NGA Maritime Safety Information web portal provides robust data querying capability. Users may retrieve incident reports from the ASAM database by selecting any of the following query options: all incidents, incidents by reference number, incidents by reference number range, incidents by subregion, and incidents by victim's name. A date filter option is available to query by occurrence date or occurrence range. Query output options include sorting by occurrence dates, or reference numbers, and in descending or ascending order. A *show results on map* check box is another ASAM query option. Furthermore, as seen in Figure 43, users may download the entire ASAM database as a KMZ or Arc Shape file, or even as a personal geodatabase. These query options made the quantitative data collection easy for this dissertation on Somali piracy.

The easy accessibility of the ASAM database aligns with NGA's vision of putting the power of GEOINT in the hands of its users (NGA, 2012). The ease of access to piracy information should make the ASAM database a favorite for researchers, but as the literature reveals, this is not the ca se. A gap exists as to why this is so. Perhaps researchers are simply unaware of the existence of the ASAM data.

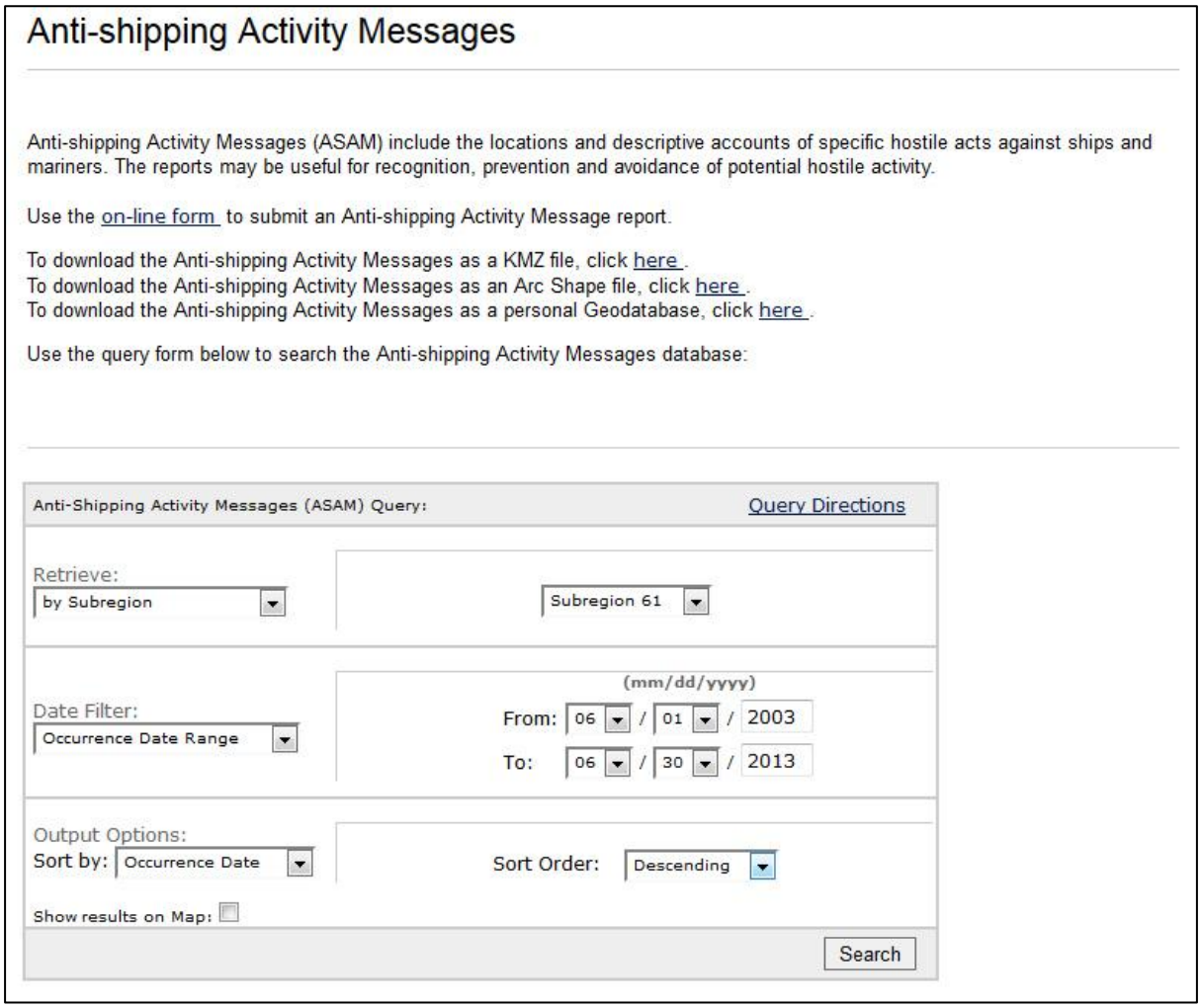


Figure 43. A screen shot of an ASAM query for subregion 61 filtered by date of occurrence with a range between June 1, 2003 and June 30, 2013.[21]

Constructing a Strategic Counterpiracy Framework

Certainly, the most effective counterpiracy measure established against the threat of Somali based piracy is the use of armed embarked security teams on merchant vessels. A master mariner presently working in Angola borrowed the term *peace through strength* when

[21] The researcher repeats the query for subregions 62 & 63 in this study. Retrieved from NGA Maritime Safety Information portal

commenting on the concept (P. Shortino, personal communication, 28 December 2013). The new ability of merchant ships to self-defend against pirate attacks using ASTs, with deadly force if necessary, is preventing and deterring Somali pirate hijackings. This dissertation contends that the focal point of any strategic counterpiracy framework must have at its nexus the use of armed embarked security teams.

The Somali counterpiracy evolution unfolded over time not overnight. Viewed carefully from the present, a framework emerges to address other piracy hotspots around the world. The framework outlined in Figure 44 shows a progression. A good analogy to the proposed counterpiracy framework is the *levels of war* doctrine, which senior services schools instill in their students of military theory and strategy. The three levels of war are the strategic level, the operational level, and the tactical level (Joint Publication 3-0, 2011). In the suggested strategic counterpiracy framework, there is a political level, a maritime domain security level, and a shipboard security level.

The strategic counterpiracy framework presented drives towards creating the political and maritime domain security environment that supports the use of armed embarked security teams. It encompasses a focused progression of intent originating in the political realm, spreading into the maritime security domain, and finally down to the security posture of individual merchant ships at sea. The ultimate goal of the framework is insuring a merchant vessel's right to self-defense against immediate pirate attacks or other acts of maritime crime. The framework maintains that the days of merchant vessels sailing the globe without a self-defense protocol are gone forever, especially when sailing through known high-risk areas.

Any strategic counterpiracy framework requires governments to work together to insure freedom of navigation, the right to innocent passage, and the repression of piracy, as outlined in the United Nations Convention on the Law of the Sea (1982). Getting countries to collaborate is challenging at best. It may be particularly challenging in regions where coastal

states are weak. Countering piracy off the shoreline of weak states can be much more difficult than countering piracy off a failed state such a Somalia. Hastings (2009) presents this dichotomy between failed states and weak states and the types of piracy that occur off their coasts. Nevertheless, piracy is a great unifier because it is a common enemy. Everybody hates pirates (Hopkins, 2014).

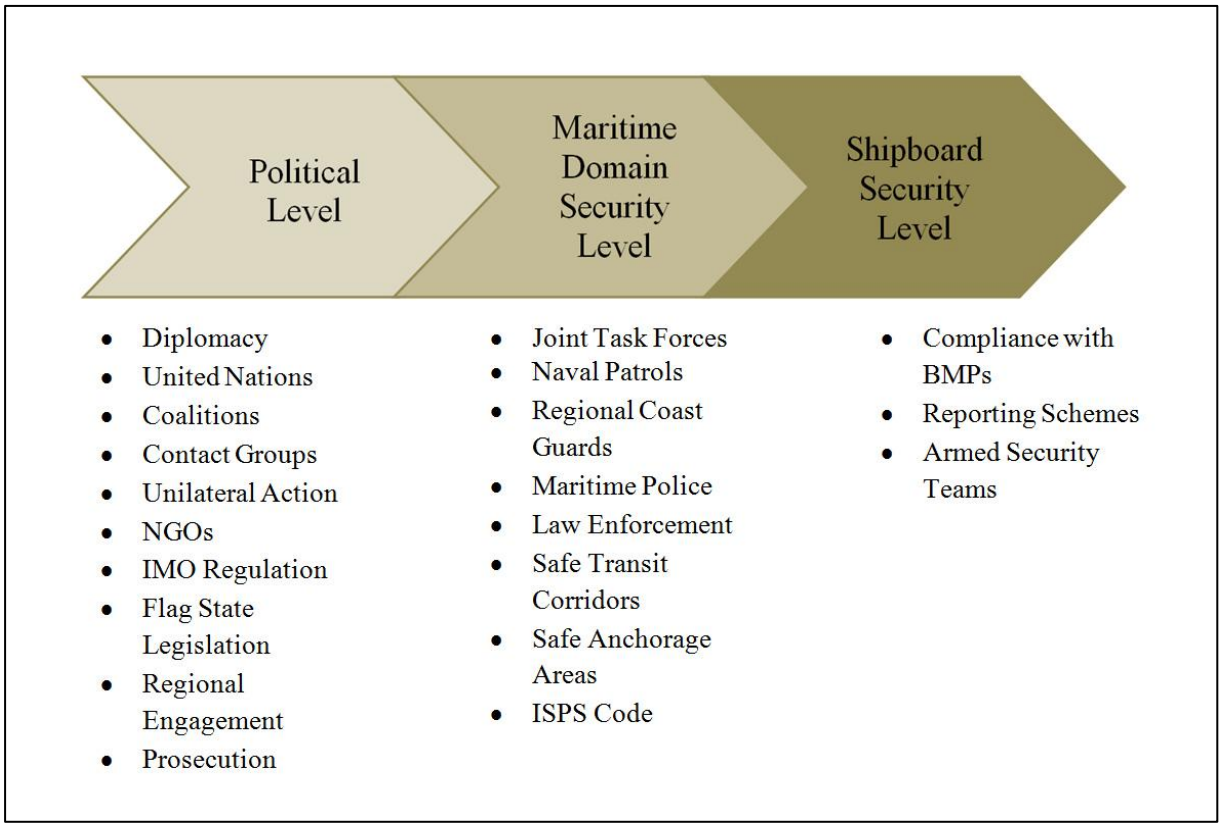


Figure 44. This chevron graphic created by the author depicts the Strategic Counterpiracy Template offered in this study.

Viewed from the present, the Somali counterpiracy effort has followed a sequential and progressive path. Without decisive political will, an increase in maritime domain security, and the actions taken by the shipping industry, vessels sailing off the Horn of Africa would still face a high risk of hijacking by pirates. The threefold effort by governments, naval task forces, and the shipping industry has created a system that prevents and deters ship hijackings. At the

core of this system is the ability of individual merchant ships to defend themselves against pirate attacks by using armed security teams.

Today, naval forces respond to pirate attacks in real time; often interdicting and arresting the culprits shortly after an incident. Navies are quick to arrest suspected pirates and transfer them to Kenya, the Seychelles, or other countries for prosecution and imprisonment. In early 2014, there are approximately 1,430 Somali pirates in prison in 21 countries (Hopkins, 2014). If not arrested, interdicted pirates watch their skiffs destroyed at sea. The navy returns these pirates to Somalia, fingerprinted and empty handed.

Maritime domain security and law enforcement are critical parts of the counterpiracy framework. Off the Horn of Africa, the international naval presence is fulfilling this role. In other parts of the world, regional coast guards or maritime police forces can fulfill this role.

The key to a successful counterpiracy strategy is never allowing pirates to take control of a merchant vessel. In the Somalia piracy model, once pirates are on board a vessel, the crew quickly submits at gunpoint, and then sails the ship to the Somali coast as directed. Once under pirate control, naval forces are risk adverse at attempting a rescue, especially once a pirated ship reaches Somali territorial waters.

Never allowing pirates to take control of merchant vessels equates to having armed security teams on board ships to prevent boarding. Armed security is the only measure that has proven to be 100% effective in preventing pirate boardings, and this is why it is the cornerstone of this strategic counterpiracy framework. Driving towards universal armed security on board blue water merchant vessels requires fearless effort at all three levels of the framework.

Armed security teams are now comprised of either private contractors or members of the flag-State's armed forces. The proposed counterpiracy strategy recommends the establishment of an armed security rating within the existing crew structure of all merchant ships above a certain tonnage. The IMO should endorse the armed security rating, and a

requirement that merchant ships sail with a minimum sized contingent of qualified crewmembers on every voyage through known high-risk areas. The IMO can establish the rules and regulation on how crewmembers can earn or qualify for the armed security rating, and the U.S. Coast Guard can administer the training and certification process for U.S. flagged vessels. Foreign merchant fleets can follow a similar process. The counterpiracy framework envisions armed security as a collateral duty for a contingent of licensed and unlicensed crewmembers on each ship. Armed security becomes an organic component of every ship. While in port, merchant vessels can secure their weapons and ammunition in a secure and bonded storage area on board the vessel. This proposal will face great opposition from many sides. It is not the purpose of this dissertation to address every question or aspect regarding the proposal of organic armed security, rather to suggest it is the most effective and cost efficient counterpiracy tactic to date. All ASTs, whether private or organic to the ship crew, must train to set standards and comply with an internationally recognized code of practice.

Parts of the Framework

The following discussion focuses on each level of the strategic counterpiracy framework. It offers an understanding of how these levels relate to the Somali piracy example or in other piracy prone areas of the world. The discussion reviews and examines examples of counterpiracy efforts at each level of the framework for their effectiveness and utility. In an era of shrinking resources, program costs play a factor in the international response to maritime piracy. This dissertation holds that armed security teams whether privately contracted or as a collateral duty within the existing merchant crews is the most cost effective way to prevent and deter piracy at sea.

Political Level

Sometimes it takes a great tragedy or some other event to create the political will to address difficult situations. For the explosion of piracy off the Horn of Africa, it was the

Maersk Alabama hijacking. Other times the business world pressures government leaders to act. At the height of the Somali piracy crisis ship owners were urging governments to do more to tackle piracy because of the increased costs associated with securing ships, avoiding high-risk areas, and rising insurance premiums (Rai, 2011). Once political action coalesces, decisions and agreements are possible and can have a profound and lasting effect on how counterpiracy efforts unfold and sustained.

Because of the enormity of the oceans and the amount of trade associated with marine transportation, governments have worked together for centuries to insure freedom of the seas, establish admiralty law, and regulate maritime safety. In regions of the world where piracy affects international shipping, diplomats quickly engage regional authorities to find counterpiracy solutions. In the Somali piracy example, the first step began with the United Nations issuing a series of resolutions calling on capable nations to fight piracy off the coast of Somalia. Based upon these UN resolutions, coalitions such as the EU and NATO became involved in counterpiracy efforts off the Horn of Africa.

Pursuant to UN Security Council Resolution 1851 (2008), the Contact Group on Piracy off the Coast of Somalia (CGPCS) was established to facilitate the discussion and coordination of actions among states and organizations to suppress piracy off the coast of Somalia (CGPCS, 2009). The Contact Group coordinates political, military, and non-governmental efforts to tackle piracy off the coast of Somalia, ensure pirates face justice, and support regional states in developing sustainable maritime security capabilities (State Dept., 2013). This dissertation concludes that the Contact Group model is both successful and ideal for engaging and working at the political level wherever piracy becomes a growing threat. The Contact Group has grown to an open and vital architecture of 80 nations, including industry groups and organizations, representing the entire spectrum of stakeholders. There are few littoral, naval, or major shipping countries, who have not contributed actively to the Contact Group (Hopkins, 2014).

Another important political-level forum working to address piracy around the world is the International Maritime Organization (IMO). The IMO is a specialized agency of the United Nations, and the global standard-setting authority for the safety and security of international shipping. Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented (IMO, 2014).The IMO is working to suppress piracy. The IMO works to effect counterpiracy solutions in consultation with representatives of governments, through the diplomatic community; and with other UN organizations; naval and military personnel; the shipping industry; seafarers; and other concerned entities and individuals (IMO, 2014).

The IMO acts as the shipping industry's global regulator. The brochure Information Resources on Piracy and Armed Robbery Against Ships (2013) is an excellent guide demonstrating the organization's wide ranging impact on counterpiracy efforts. The document is part of the organizations' Maritime Knowledge Centre, which includes information and links to IMO resolutions, circulars, meeting documents, web resources, publications, conference proceedings, and many other resources.

Another example of how the IMO can shape the political level of the counterpiracy framework is by its work in developing regional cooperation agreements. The Regional Cooperation Agreement on Combating Piracy and Armed Robbery Against Ships in Asia (RECAAP) 2004 is an agreement signed between 16 Asian countries that created the RECAAP Information Sharing Centre (ISC), which facilitates the sharing of piracy-related information (IMO, 2014). The IMO is continuing to assist with similar agreements in East and West Africa. Regional agreements are instrumental in shifting maritime security responsibilities to the countries where pirates are operating. They are an important part of any strategic counterpiracy framework.

Maritime Domain Security Level

The Maritime Domain Security level of the strategic counterpiracy framework focuses on insuring freedom of the seas. To be successful this mission requires at a minimum near real time situational awareness of the maritime domain. Perhaps the most important part of this awareness is the movement of ships, establishing and maintaining security, and the ability to respond to piracy events should they occur. It is very difficult for countries to act unilaterally to maintain maritime security over vast and remote areas of the world. Achievement of this mission often requires a combined approach with joint land, sea, and air coordination. The following are a few models from around the world of counterpiracy efforts at the maritime domain security level.

Africa Partnership Station (APS) is a U.S. Naval Forces Africa initiative established in 2006 to empower African nations to stop maritime crime and the movement of illegal goods at sea. APS is a series of activities designed to build maritime safety and security in Africa by working together with African and other international partners. APS responds to African requests for specific assistance, which benefits the international community as well as the United States. The program has trained thousands of African military personnel in variety of skills including seamanship, search and rescue operations, law enforcement, medical readiness, environmental stewardship, and small boat maintenance (COMUSNAVFOR Africa, 2014).

Another maritime security model located in the Asia-Pacific region is the Information Fusion Centre (IFC), an initiative started by the Republic of Singapore Navy. First launched in April 2009, the IFC is located at Singapore's Changi Command & Control Centre (CC2C) with the vision of strengthening maritime security in the region and beyond, by building a common coherent maritime situation picture and acting as a maritime information hub for the region. The IFC's aim is to ensure that regional partners receive actionable information for further

collaboration or to cue timely operational responses (Lim, 2011).

Criminal investigation and prosecution must be part of the maritime domain security level of the counterpiracy framework. The organization assisting in this effort against Somali pirates is the Regional Fusion Law Enforcement Centre for Safety and Security at Sea (REFLECS3), which is located in the Seychelles. Its mission is to combat transnational organized crime, improve maritime shipping information sharing; and coordinating local and regional capacity building programs. The REFLECS3 supports regional prosecuting states such as the Seychelles, Kenya, Tanzania, and Mauritius as well as international prosecution in the Netherlands, Germany, the United States, Spain, and Belgium among others. Founded upon Article 19 of the UN Convention on Transnational Organized Crime, the center provides a legal gateway for states to come together and form a joint investigative body for the purposes of tackling organized crime threats such as maritime piracy (OBP, 2014).

Another initiative within the maritime domain security level is the International Ship and Port Facility Security (ISPS) code. The ISPS code serves as a blueprint for maritime security measures. The code was developed by the IMO and its member States after the 9/11 attacks. The code makes standard a comprehensive approach to effective and consistent international maritime security (USCG, 2014). The code serves as a foundation from which countries can build their own domestic maritime security system. Implementing the code requires international cooperation between the maritime industry and all flag and port states. By exchanging port security-related information and sharing best practices, the ISPS code help to protect the international maritime transport system through the application of adequate and proportionate security measures (USCG, 2014).

Capacity building within piracy prone areas is also an important part of the maritime domain security level. The European Union Regional Maritime Capacity Building for the Horn of Africa and the Western Indian Ocean (EUCAP NESTOR) was established in July 2012 and

has its headquartes in Djibouti. EUCAP NESTOR is a capacity building mission with a mandate to work with countries across the Horn of Africa and Western Indian Ocean in development of maritime security including counter-piracy, and maritime governance. Activities include the reinforcement of coast guard functions, supporting the rule of law and the judiciary, and in Somalia to assist in the development of a coastal police (EUCAP Nestor, 2014).

The APS, IFC, REFLECS3, ISPS, EUCAP NESTOR, and naval task forces are not the only counterpiracy actions that operate at the maritime domain security level of the framework. Other actors or programs working at this level include the United Kingdom Maritime Trade Operations (UKMTO), Maritime Security Center Horn of Africa (MSCHOA), the Internationally Recognized Transit Corridor (IRTC), the U.S Maritime Liaison Office (MARLO), and a new concept off Lagos, Nigeria using private security in designated Safe Anchorage Areas (SAAs). It is not the purpose of this dissertation to list and highlight every program, organization, or action operating at the maritime domain security level of the framework. Certainly, the joint naval task forces are the best-known examples. The U.S. Government Accountability Office estimated in March 2011 that it would take 83 warships, with a full complement of helicopters, to provide a half-hour response to a distress call off the Horn of Africa.

Despite the enormous cost of maintaining an international naval presence off the Horn of Africa it is still not clear if these forces are the primary cause for the fall in piracy off Somali. Also opaque is how long monetarily challenged governments will prove willing to fit the bill for the naval presence. Experts say the size of the fleet indicates a cost or approximately $2 billion a year to maintain (Swami, 2014). This dissertation contends the primary credit for the decline in piracy incidents off the Horn of Africa lies with the use of armed security teams and rather than with the naval forces.

Shipboard Security Level

Despite their effectiveness, the use of armed security on board merchant ships remains controversial, but acceptance is growing rapidly. At issue is the objection that the use of force should be the monopoly of state agencies, such as the military and the police. Kopel, Gallant, and Eisen (2008) maintain self-defense is a legal right applicable to all based on ancient Roman law. Regardless of beliefs, employing ASTs on board a merchant vessel is not necessarily a right granted to the ship's master. Neither is it a prerogative of the ship owner. Merchant ships must follow the regulations of their flag-States.

The IMO's interim guidance on privately contracted armed security personnel, issued in May 2011, acted as a catalyst for many flag-States to legislate and authorize the use of armed security on board their merchant vessels. Japan and France are two of the most recent flag-States to enacted bills allowing armed security on board vessels registered in their countries. The Netherlands does not allow ASTs on board merchant ships flying the Dutch flag. As a result, at least two Japanese shipping concerns are no longer investing in the Netherlands due to the Dutch ban. The impasse is damaging almost 400 Dutch ship-owners with some deciding to reflag their vessels under flags of convenience like Panama and the Marshal Islands where the use of ASTs is authorized (Osler, 2014).

Detractors call for consistent standards and accreditation for the private armed security market. Accordingly, the International Organization for Standards (ISO) published the ISO/PAS 28007 standard in 2012. The new standard seeks to address the legal issues, safety concerns for seafarers, and varying national regulations involving the rapid growth in the number of maritime security companies and the implications of using privately contracted armed security personnel (Lazarte, 2013). The more regulated, standardized, and compliant the private maritime security industry becomes, so much the better for everyone. In mid-October 2013, the UN's Interregional Crime and Justice Research Institute hosted the second in a series

of workshops for legal experts in Rome to draft a code of conduct on Rules for the Use of Force by Privately Contracted Armed Security Personnel on board merchant ships (State, 2013). There is every indication that this regulatory trend will continue.

The greatest issue facing the use of ASTs involves national sovereignty rights within territorial waters. Full territorial sovereignty rights do not end at the shoreline, but instead extend 12 miles offshore. Therefore, merchant vessels must comply with sovereign state laws and regulations when sailing within territorial waters.

Typically, third world countries lack sufficient personnel and modern equipment to secure their adjacent maritime domains. This is certainly the case for Somalia and the countries bordering the Gulf of Guinea. Compounding the issue is rampant corruption or complicit law enforcement and military personnel already engaged in illegal activities, which negatively affect regional maritime security. Conversely, the founders and staff of many armed maritime security companies are former U.S. Navy SEALS or UK Special Forces military personnel (Liss, 2007). Given these shortcomings, it is understandable that employing private maritime security is an attractive counterpiracy solution.

Armed embarked security teams are changing the perception of maritime security in the Western Indian Ocean and other parts of the world by acting as a successful deterrent to maritime crime and piracy. In spite of initial apprehension, more and more flag States are authorizing their employment on merchant vessels. The breaching of territorial seas by merchant ships with onboard ASTs will continue to prove challenging but not impossible. Changing the paradigm will take great effort at the political level and the modification of international conventions regarding merchant shipping and rules to repress piracy.

Summary

The purpose of this non-experimental, mixed method, and convergent parallel design study was to explore Somali maritime piracy. Through an examination of the ASAM database

and SME interviews, the researcher built an understanding of the most effective counterpiracy actions to incorporate into a strategic counterpiracy framework having application to other piracy prone areas of the world. The researcher reviewed 1,625 ASAM piracy incident reports in this study to collect quantitative data. Through face-to-face interviews or an optional online questionnaire, the researcher collected qualitative data from ten piracy subject matter experts.

The quantitative research determined the incident trends and predominant locations of piracy off the Horn of Africa revealing the rise and fall of Somali piracy between 2003 and 2013. The qualitative data provided an insider's perspective on five major counterpiracy actions: UN resolutions, naval task forces, IRTC, Best Management Practices, and the use of armed embarked security teams and their effectiveness in reducing the rate of Somali piracy. The interviewees and questionnaire respondents shared their expert opinions openly and honestly with the researcher and provided details on their experience interacting with the Somali piracy issue.

Chapter 4 reported the results of the quantitative and qualitative strands of the study. The analysis discovered the use of armed security teams on board merchant vessel was the number one factor leading to the decline in Somali piracy, which started in 2011. This finding provided the guiding principle for the development of a strategic counterpiracy framework that engages at the political level, the maritime domain security level, and the shipboard security level. Additional discussion on the proposed strategic counterpiracy framework follows in Chapter 5.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

The Problem

The causes of the Somali piracy epidemic draw a lot of attention in the literature on modern piracy (Ong, 2007; Lehr, 2007; Murphy, 2007; Chalk, 2008). Since 2005 the Horn of Africa, and more particularly Somalia, has risen to prominence as a hotspot for maritime piracy, particularly kidnappings for ransom. Piracy is a symptom of persistent maritime disorder. This disorder stems from the interplay of factors grouped under the wide-ranging headings of governance, society, and economy (Smallman, 2011). State weakness, state failure, economic dislocation, and poverty neatly sum up the majority of factors associated with the causes of Somalia piracy (Hastings, 2012).

The growth in legitimate international commerce across the maritime domain parallels the growth of criminal activity occurring in that domain (NSMS, 2005). In 2012, governments and the maritime industry involuntarily spent approximately $6 billion dollars countering pirate activity (Saul, 2013). The proliferation of piracy attacks off the Horn of Africa generates a direct and pernicious economic penalty resulting from stolen cargos, delayed voyages, higher insurance premiums, and the payment of million dollar ransoms. Piracy off the Horn of Africa costs the global economy $18 billion dollars per year in increased trade costs (Blanc, Do, Kruse, Le, Levchenko, Ma, Mesko, & Ruiz, 2013). The estimated annual cost of maintaining a naval presence around the Horn of Africa is $1.8 billion dollars (Murphy, 2012).

Aside from the financial costs, pirate attacks threaten the lives and welfare of sailors from around the world. Attacks on heavily laden oil tankers also risk triggering a major environmental disaster, particularly in crowded sea-lanes close to shore. The maritime piracy emanating from weak or failed states, like Somalia and Nigeria, destabilizes and weakens a regime's legitimacy by encouraging corruption among elected government officials. All of these factors undermine a maritime state's trading ability.

The threat and costs associated with Somali piracy make finding an efficient way to counter it an important strategic security concern. National security experts, shipping operators, marine underwriters, and the international corporations with deep maritime interests are all asking the same question. What can dissuade pirates from wanting to attack merchant ships?

Literature Review

The studies included in this literature review reveal numerous examples where researchers delved into piracy reporting databases to gain understanding on how reporting can be analyzed to reveal trends, themes, understandings, and other phenomenon. Bruyneel (2001) (2003) (2005) exposed much of the content researchers need to become familiar with when conducting analysis of piracy incident reports. Over time, Bruyneel's interest shifts away from data collection to focus more on the interpretation of piracy incidents data to answer some basic research questions such as whether attacks on smaller vessels are increasing relative to larger tonnage vessels or whether pirates are specifically targeting certain country's ships or specific shipping. Ong-Webb (2006) mixed methods study on piracy in maritime Asia pushes the envelope on the analysis of piracy incident reporting call*i*ng for further research and advanced statistical analysis, including regression analysis.

Hastings' (2009) study on the geography of state failures and the sophistication of maritime piracy hijackings marks a different approach to using piracy incident reports. Hastings (2009) uses logistic regression analysis to reveal that state failure is associated with less sophisticated attacks, while state weakness encourages attacks that are more sophisticated. Hastings' (2009) study suggests that weak states might actually be more problematic for international security in some respects than failed states.

Psarros et al. (2011) perform a qualitative analysis in their study of incident-report descriptions, or narrative sections, of the IMO piracy reports in order to find trends for the

classification of maritime piracy and pirate capabilities. Psarros et al (2011) use time series analysis to investigate trends. The study proves that piracy modes vary between geographic areas. The second half of the Psarros et al (2011) study uses a quantitative assessment of the data to provide estimates of *success probability* of an attack for the most favorable targets. The study proves the probability of a successful attack decreases as the size of the vessel increases.

Kontorovich and Art (2010) use piracy-reporting databases to observe prosecutions rates under the legal concept of universal jurisdiction. To establish the rate of universal jurisdiction piracy prosecutions over time Kontorovich and Art (2010) looked at piracy incident databases similar to NGA's ASAMs database. To determine which case qualified under universal jurisdiction the researchers conducted a systematic examination of over four thousand incidents reports. Quite surprisingly, of all clear cases of piracy, punishable under universal jurisdiction, prosecution occurred in less than 1.5% of those cases (Kontorovich & Art, 2010).

This literature review provides a brief historical background to the transnational security issue of Somali piracy and the reasons why countering it successfully is relevant to the field of strategic security. There is consensus that any lasting solution must be land-based within Somalia. Until that time, the best result the international maritime forces can achieve at sea is containment of the piracy problem (Smallman, 2011). This review acknowledges the shallow pool of research about the reasons contributing to the successful counter piracy efforts achieved off the Horn of Africa in the last two years and highlights the utility of analyzing piracy reporting databases to provide empirical evidence to validate hypothesis and gain better understanding of the problem.

From the research presented in the literature review, we see how the analysis of piracy incident reporting has progressed from basic frequency analysis to very complex regression analysis. The methodologies used in these studies proved helpful when attempting a thorough

analysis of NGA's ASAM piracy incident database. The literature review failed to explain why researchers are choosing IMO and IMB data over the ASAM database as their primary source of piracy data.

The Methodological Approach

The general problem in this mixed-method case study was determining which actions deserve the credit for the decline in Somali piracy incidents. The international community, along with their militaries, and shipping industries succeeded in turning the tide against Somali pirates. Understanding which actions stopped Somali pirates from attacking and hijacking ships has important ramifications for protecting ships from piracy in other parts of the world.

The researcher looked at the NGA ASAM database to mark the mid 2003 through mid 2013 trend in Somali piracy. Then the researcher recruited piracy subject matter experts from the intelligence community to identify the most significant counterpiracy events and actions taken during the ten-year period. Overlaying the counterpiracy events over the piracy trend reveals the correlation between them.

Therefore, the two principal sources of information for analysis in this dissertation are interviews of Somalia piracy SME's and ASAM piracy incident reports. The information derived from the collection and analysis of the interviews questions encompasses the qualitative strand in this study. The information derived from the collection and analysis of the ASAM data encompasses the quantitative strand in this mixed method convergent parallel design case study. ASAM incident reports include the locations and descriptive accounts of specific hostile acts against ships and mariners. These were collected using an online query application via the NGA website. The qualitative data collection comes from SMEs from the intelligence community's piracy community of interest (COI); and from licensed master mariners with experience sailing off the Horn of Africa; by using an interview or questionnaire

reporting technique.

The Results

The purpose of this non-experimental, mixed method, and convergent parallel design study was to explore Somali maritime piracy. Through an examination of the ASAM database and SME interviews, the researcher built an understanding of the most effective counterpiracy actions to incorporate into a strategic counterpiracy framework having application to other piracy prone areas of the world. The researcher reviewed 1,625 ASAM piracy incident reports in this study to collect quantitative data. Through face-to-face interviews or an optional online questionnaire, the researcher collected qualitative data from ten piracy subject matter experts.

The quantitative research determined the incident trends and predominant locations of piracy off the Horn of Africa, charting the rise and fall of Somali piracy between 2003 and 2013. The qualitative data provided an insider's perspective on five major counterpiracy actions: UN resolutions, naval task forces, IRTC, Best Management Practices, and the use of armed embarked security teams and their effectiveness in reducing the rate of Somali piracy. The interviewees and questionnaire respondents shared their expert opinions openly and honestly with the researcher and provided details on their experience interacting with the Somali piracy issue.

Chapter 4 reported the results of the quantitative and qualitative strands of the study. The analysis discovered the use of armed security teams on board merchant vessel was the number one factor leading to the decline in Somali piracy, which started in 2011. This finding provided the guiding principle for the development of a strategic counterpiracy framework that engages at the political level, the maritime domain security level, and the shipboard security level.

Implications of Quantitative and Qualitative Findings

This section relates and interprets the qualitative and quantitative strands of the study

and discusses their implications on the study and the research questions. The section also addresses the major counter piracy events, actions, and themes. Limitations, delimitations, and assumptions and the impact they had on the study conclude this section.

The Research Questions

The converged findings for the qualitative and quantitative strands of the study provide the answers to the research questions directing the study, the most important being: How can the data located in the NGA's ASAMs database support the development of a strategic counterpiracy template? The following sections provide detailed information and a discussion for each question.

Question 1

How can governments and the shipping industry prevent pirates from wanting to attack merchant vessels? All ten piracy SMEs provided their opinions to this question during the qualitative data collection. Nine out of ten respondents believe the use of armed security teams is the number one action, implemented by the international community and shipping industry, contributing to the decline in Somali piracy. Flag-states must grant their permission or write new statutes for their merchant vessels to carry onboard ASTs. The shipping industry absorbs the costs associated with this extra security. Forquin (2012) notes the common preconception that the use of ASTs would cause an escalation of violence at sea. However, there is no evidence to support this claim. May 2014 marks the 2-year anniversary of the last ship hijacking by Somali pirates. The absence of hijackings supports the opposite. There is less violence at sea thanks to the work of ASTs. Governments must work together to codify regulations governing the use of ASTs that are acceptable to the international community and brings transparency to the maritime security industry.

Question 2

How can the analysis of the decline in Somali piracy provide insight into creating

counterpiracy strategies in other parts of the world? In this study, the researcher generated a ten-year trend for piracy incidents off the Horn of Africa using NGA's ASAM database. The trend line clearly reveals the rise and fall of Somali piracy. Documenting the trend line is an important starting point. Overlaying the implementation dates for the major counter piracy actions onto the trend line reveals some interesting findings.

Somali piracy peaked in 2010. Three of the five major counterpiracy actions occur before the peak. These actions were the issuance of UNSC resolutions, the deployment of naval task forces, and the establishment of the IRTC. The IMO endorsement of ASTs and the release of forth edition of the BMP guide occur after the peak in 2011. Studying the counterpiracy actions taken immediately before-and-after the peak of Somali piracy provides insight into which actions worked best and which actions might work in other parts of the world.

Question 3

How do the counterpiracy actions taken by the international community relate to the trends identified in the ASAMs analysis? The relationship depicted in *Figure 8* provides a graphical answer this question. From the graphic, Somali piracy rose for an 8-year period between 2003 and 2010. The Islamic Courts Union, a Sharia kritarchy, which briefly ruled the country in 2006, is widely credited for the one-year dip in piracy that year. Incidents continued to grow in 2007, 2008, 2009, and 2010 despite actions by the UNSC, naval task forces, and the establishment of the IRTC. Then, interestingly incidents begin to fall in 2011. This turning point coincides with IMO giving their tacit approval for the use of ASTs and the publishing of the BMP guide volume 4. It is after these actions that we see the greatest decrease in Somali piracy incidents. The decrease continues in 2014 with no successful hijacking in over two years.

Question 4

What effects did United Nations Security Council (UNSC) resolutions have on the

piracy rate off the Horn of Africa? Based solely on a line bisecting the trend line, resolutions had no effect on the rate of piracy off the Horn of Africa. In fact, one could state they had an adverse effect on the rate. However, that interpretation is inaccurate. In reality, UN actions were the catalyst and signal to the world that Somali piracy had grown to an unacceptable level and the international community was now ready to address the issue. The UNSC resolutions are a call to war. A war against Somali based piracy. The UNSC resolutions unified and rallied the international community's response. They represent the first piece or in other words, the *political level* of the strategic counterpiracy template presented in *Figure 44*. In this regard, UNSC resolutions had a retarding effect on the rate of Somali piracy.

Question 5

What effect did the deployment of naval task forces to the waters off the Horn of Africa have on the number of piracy incidents in the region? Naval task forces represent the *Maritime Domain Security* level of the counterpiracy strategy template presented in this study. The constant presence of naval vessels are not only a symbolic deterrent to piracy, they provide the option of using of deadly force when warranted, disruption - in the event of an attack, and rescue - in the event of an actual hijacking. The naval presence provides the ability to respond. This never existed prior to their deployment in 2008 – 2009. The deployment of naval task forces had a retarding effect on the number of piracy incidents in the region.

Question 6

Did piracy events increase or decrease immediately after the international recognized transit corridor (IRTC) was established? As evidenced in *Figure 16*, piracy events decreased with the establishment of the IRTC within geographical subregion 62. They decreased from 157 events in 2009 to 142 events in 2010. From this analysis, we can infer that the establishment of the IRTC led to a decrease in piracy events in the Gulf of Aden. The decrease did not transfer to the other geographical subregions. Somali piracy reached its zenith in 2010.

Question 7

What effect did the use of armed embarked security teams have on the rate of Somali piracy? At the time of this writing, pirates have never hijacked a merchant vessel with an AEST on board (NGA, 2013). Therefore, AESTs have a retarding effect on the rate of Somali piracy and completely neutralized ship hijackings. Though not specifically endorsed in the BMP the use of armed security onboard merchant vessels has achieved a 100% success rate in deterring attacks (Gardner, 2012). They are the silver bullet in Somali counterpiracy action.

Question 8

What effect if any did the shipping industry publishing of the Best Management Practices Guide (2011) have on hijacking rates? UN Secretary General Ban Ki-moon reported in October 2010 that ships following BMP had a significantly lower risk of being hijacked (HC 1318, 2011). As demonstrated through experience and data analysis, the application of BMPs can make a significant difference in preventing a ship becoming a victim of piracy. The British government concluded in 2011 that BMP guidance has had a positive effect by comparing attacks in 2008, when ships were able to fend off 50% of pirate attacks, to figures from 2011 when 75% of all attacks resulted in failure.

Quantitative Data Analysis

Anti-Shipping Activity Messages

The period selected for the quantitative analysis captures the rise and fall of piracy incidents attributed to Somali pirates. 1,625 piracy incidents were documented between June 2003 and July 2013 within the known geographical extent of Somali pirate activity. We can see that the heyday of Somali piracy peaked in 2010. After 2010, Somali piracy starts a dramatic decline.

For the second half of 2003, the frequency rate of piracy was 10 incidents, which equates to 0.6% of the totals found in the three ASAM subregions over the ten-year period

analyzed. The frequency rate went up in 2004 and 2005 to 1.9% and 5.4% respectively and then it went down to 4.0% in the following year. Credit for the reduction in 2006 is associated with the strong, yet short-lived, governing period by the Islamic Counts Union (Rohrer, 2011). The Transitional Federal Government (TFG) with the help of Ethiopia unseated the Islamic Counts Union in December 2006 and the piracy rate increased to 6.3% in 2007. In 2008, the incident rate more than doubled to 14.5%, increasing to 17.8% in 2009, and peaking to 21.8% in 2010.

The ASAMs data clearly indicates that things changed after 2010. The rate of Somali piracy (or the per-year percentage of the total incidents collected across the three subregions 61, 62, & 63, over the ten-year period) went down to 18.1% in 2011, 7.3% in 2012, and 2.3% in 2013. The coordinated action by international naval task forces, independent naval deployments, and the enlistment of armed embarked security teams, are given credit for the decrease in the piracy rate (Smith & Chonghaile, 2012).

This study demonstrates the accessibility of NGA's ASAM database and its utility for academic research on maritime crime and piracy. The quantitative data for this study came exclusively from this database. While minor quality issues exist in many piracy databases, the potential of the ASAM database for further scholarly research is great. This study seeks to increase the exposure of the ASAM database and to promote it as a valuable source of piracy information.

Qualitative Data Analysis

In order to build a strategic counterpiracy framework, this study examined the international response to Somali piracy for lessons learned or successful actions that might transfer to other high-risk piracy areas. To do this, the researcher surveyed experts from the intelligence community's Somali piracy community of interest and master mariners with experience sailing in pirate-infested waters, to find answers. The central question poised to

each expert was - How can governments and the shipping-industry prevent pirates from wanting to attack merchant vessels. From their responses the researcher coded recurring themes. These themes correlated to five major counterpiracy actions: UN actions, naval actions, establishment of the IRTC, the use of BMPs, and the use of ASTs to protect merchant vessels from attack by Somali pirates. These themes or actions are discussed separately later in the conclusion section.

Perhaps the most interesting or unexpected finding from the qualitative data analysis was that experts now perceive the Gulf of Guinea as the location of the greatest threat of piracy on U.S. Shipping. Piracy off the Horn of Africa is no longer the greatest threat due to the prevalent use of ASTs and actions of international naval forces. This is important because the finding indicates the international counterpiracy effort is now out-of-sync with the greatest piracy threat, and therefore needs to pivot towards West Africa. The recent kidnapping of two U.S. crewmembers from the American-flagged merchant vessel C RETRIEVER on October 25, 2013 off Nigeria, emphasizes the danger posed to U.S. interests in the Gulf of Guinea (Star & Shoichet, 2013). Concurring with the SMEs are Kyrou and Wallance (2014) who state that maritime piracy off the coast of West Africa has now replaced Somalia as the most prevalent piracy area with Nigeria alone experiencing a threefold increase from 2011 to 2012. See Figure 45 for the location of the Gulf of Guinea in relation to the rest of Africa.

Figure 45. Map depicting the Western and Southeastern limits of the Gulf of Guinea.[22]

Major Actions in Somali Counterpiracy Discussion

UN Security Council Resolutions. During the qualitative data collection, SMEs sighted three general categories: nation building, authorizing naval forces, and establish law & order as areas where international bodies can play an important role in the fight against Somali piracy. The official United Nations (2014) website lists Peace and Security, Development, Human Rights, Humanitarian Affairs and International Law as central mission areas. UN counterpiracy engagement brings legitimacy, direction, and unity of effort to the political level of the strategic counter piracy framework. Based upon the qualitative analysis in this study on the Somali-piracy experience, the researcher concludes UN action will have a positive effect on piracy flare-ups in other parts of the world.

Naval Task Forces. While recognized as an important counterpiracy action, the SMEs never rated the international navy presence as the greatest factor contributing to the fall of

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[22] The Gulf of Guinea is part of the Atlantic Ocean and runs along the West Coast of the African continent from Cape Palmas, Liberia to Cape Lopez, Gabon.

Somali piracy. Instead, naval forces play an indispensable supporting role by acting as a visible deterrence, with the ability to interdict and disrupt pirates when they are spotted or responding to merchant ship calls for assistance. The continuous patrolling and escorting of merchant convoys by naval forces into perpetuity is not a sustainable or pragmatic counterpiracy strategy to follow. Regardless, these maritime forces can provide security to regions where coastal states are unwilling or unable to do it for themselves. Thanks to the naval presence off the Horn of Africa, thousands of Somali pirates are now serving jails terms in prison cells across the world. A strong naval presence in high-risk waters embodies the enforcement arm of the rule of law and therefore the maritime domain security level of the strategic counterpiracy framework.

Internationally Recognized Transit Corridor. When we look at the quantitative analysis across all three geographical regions, the establishment of the IRTC in mid-2009 at first appears to have little effect on the number of overall piracy events. However, if we look at the trend found in geographical region 62 alone, where the IRTC is located, there is an immediate decrease in the number of incidents. From this analysis, we can infer that the establishment of the IRTC led to a decrease in piracy events in the Gulf of Aden.

Whenever piracy occurs in international straits or choke points, the establishment of a defendable transit corridor makes strategic sense. The Gulf of Aden is a wide body of water, but at its western extremity lies the Bab al Mandab, a narrow 16 mile break through which an estimated 3 million barrels of oil transits per day on its way into the Red Sea and beyond (EIA, 2012). The high volume of shipping through the Gulf of Aden presents many targets of opportunity for Somali pirates. The IRTC concentrates shipping along a 480 nautical mile passage and allows for the close monitoring of the security situation by naval forces. Transit corridors are a traffic control mechanism and therefore fundamentally a part of the maritime domain security level of any strategic counterpiracy framework.

Best Management Practices. It makes sense to consult master mariners for their

perspective when determining the effectiveness of the BMPs against Somali piracy. In this study, two of the survey respondents are master mariners. One of these individuals responded from his ship berthed in Bossasso, Somali and the other respondent was a longtime skipper with Maersk Lines and a contemporary of the real life Captain Philips. These individuals did not share the same opinions regarding the effectiveness of BMPs in reducing the rate of piracy off the Horn of Africa. The master delivering World Food Program cargo to Somalia answered survey question 15 affirmatively. The former Maersk Line captain stated that BMPs have "no real effect" and publishing the guide was in affect "just killing trees and making it look like they are doing something" about piracy (Respondent 10, 2013) . The other SME responses also varied on the effectiveness of the BMPs on the rate of piracy.

The inconsistency is likely due to several factors particularly the pirates' ability to overcome BMPs, even hijacking vessels that were following these guidelines. Such was the case on 8 April 2011as documented by ASAM incident number 2011-196 involving the cargo ship SUSAN K. It was successfully hijacked 275 NM southwest of Oman despite the use of a citadel (NGA, 2013). On other occasions the ASAM messages document how well citadels work in deterring pirates from taking control of the vessel. The data analysis regarding BMPs is therefore inconclusive. Regardless of this finding, the researcher believes it is better to take preparations to defend against possible pirate attacks, such as those measures outlined in the BMPG, than to do absolutely nothing.

Armed Security Teams. For the last two years, attacks and hijackings by Somali pirates have dropped substantially (ICC, 2013). There were no hijackings in 2013. The last ship hijacking by Somali pirates was in May 2012 and involved the Greek-flagged oil tanker SMYRNI. By all accounts, the predominant factor for the drop in hijackings and other piracy incidents off the Horn of Africa is the deployment of private armed security teams to defend merchant vessels against pirate attacks (Major et al., 2012). The qualitative data analysis

strongly supports the effectiveness and use of ASTs as a counterpiracy tool. Piracy SMEs cited armed security teams as the number one response to interview questions 5, 6, 8, and 11. Armed security teams remain the only silver bullet against Somali piracy. Therefore, the researcher argues that some type of lethal defense such as ASTs is an important consideration and option, at the shipboard security level of the strategic counterpiracy framework.

Effects of Assumptions, Limitations, and Delimitations on Research

The common concern that the true number of piracy incidents that occur around the world goes under reported is beyond the control of the researcher. However, enough reporting occurs each year to gain an overall understanding of the trends, which is the most important finding from the quantitative data collection. For the qualitative data collection, the assumption that members of the intelligence community (IC) will answer interview questions truthfully, from a colleague known to them, on a subject that they collectively focus upon, is entirely reasonable. The participants volunteered and had the chance to withdraw at any time. These actions give their answers a measure of validity.

The number of participants interviewed during the qualitative phase of the study was limited to those who were willing to submit to questioning. For most qualitative studies, 10 participants are sufficient (Lichtman, 2012, Pitney & Parker, 2009, Rogers, 2009). Therefore, the number of SMEs interviewed for this study is not a limitation and should not invalidate the findings. The timeliness of the topic was a catalyst driving the researcher to complete the manuscript within a reasonable amount of time. As mentioned previously, counterpiracy experts are already changing their focus from piracy off the Horn of Africa to piracy in the Gulf of Guinea.

Significance and Implications to Strategic Security

Academic research focused on Somalia piracy is significant to the field of strategic security because the issues involved in this transnational maritime threat cross so many

contentious security problems. These issues include poverty, failed states, weak states, regional security, linkages to terrorism, arms smuggling, narcotics smuggling, hijackings, kidnapping for ransom, freedom of the sea, international law, law enforcement, coalitions, rules of engagement, and others. The emergence of Somali based maritime piracy has produced a renewed interest in the subject across a number of different academic disciplines, including law, history, and security studies.

Maritime piracy threatens shipping, placing mariners in grave danger and costing businesses and governments billions of dollars in ransoms, insurance, and protective measures. U.S. counterpiracy efforts involve multiple agencies from the Department of Defense, Homeland Security, Justice, State, Transportation, and Treasury and are coordinated with international and industry partners. Estimated at $18 billion dollars (US), the annual negative financial impact clearly warrants finding a solution to the Somali piracy problem (Blanc et al., 2013).

The study explored the trend in Somali piracy incidents as captured by NGA's ASAM database. It also explored how SMEs view Somali piracy and the events taken to counter it. The results of this study can assist political and military leaders to address existing or emerging high-risk piracy areas around the world. The strategic counterpiracy framework offered in this study will help decision makers maintain maritime domain security and freedom of the seas. At a recent conference on maritime security, Tom Kelly, Principal Deputy Assistant Secretary of State (2014) stated, "free navigation is a fundamental interest of the US and one of the motivating factors of US foreign policy, to ensure safe navigation throughout the world."

Recommendations

The Somali counterpiracy evolution unfolded over time, not overnight. Viewed carefully from the present, a framework emerges to address other piracy hotspots around the world. A good analogy to the proposed counterpiracy framework is the *levels of war* doctrine,

which senior services schools instill in their students of military theory and strategy. In the recommended strategic counterpiracy framework, there is a political level, a maritime domain security level, and a shipboard security level.

The strategic counterpiracy framework drives towards creating the political and maritime domain security environment that supports the use of armed embarked security teams. It encompasses a focused progression of intent originating in the political realm and spreading into the maritime security domain and finally down to the security posture of individual merchant ships at sea. The ultimate goal of the framework is insuring a merchant vessel's right to self-defense against immediate pirate attacks or other acts of maritime crime.

The key to a successful counterpiracy strategy is never allowing pirates to take control of a merchant vessel. In the Somalia piracy model, once pirates are on board a vessel, the crew quickly submits at gunpoint and sails the ship to the Somali coast as directed. Once under pirate control, naval forces are risk-adverse at attempting a rescue, especially once a pirated ship reaches Somali territorial waters. Never allowing pirates to take control of merchant vessels equates to having armed security teams on board ships to prevent boarding. Armed security is the only measure that has proven to be 100% effective in preventing pirate boardings, and this is why it is the cornerstone of this strategic counterpiracy framework.

Armed security teams are now comprised of either private contractors or members of the flag-State's armed forces. The proposed counterpiracy strategy recommends the establishment of an armed security rating within the existing crew structure of all merchant ships above a certain tonnage. The IMO should endorse the armed security rating and the requirement that merchant ships sail with a minimum sized contingent of AST qualified crewmembers on every voyage through known high-risk areas. The IMO can establish the rules and regulation on how crewmembers can earn or qualify for the armed security rating and the U.S. Coast Guard can administer the training and certification process for U.S. flagged

vessels. Foreign merchant fleets can follow a similar process. The counterpiracy framework envisions armed security as a collateral duty for a contingent of licensed and unlicensed crewmembers on each ship. Armed security becomes an organic component of every ship. While in port, merchant vessels can secure their weapons and ammunition in a secure and bonded storage area on board the vessel. This proposal will face great opposition from many sides. It is not the purpose of this dissertation to address every question or aspect regarding the proposal of organic armed security but only to suggest it is the most effective and cost efficient counterpiracy tactic to date.

Future Research

Why are researchers choosing IMO and IMB piracy incident reports over the piracy reports found in the ASAMs database? Is it because researchers are unaware of the data or is it because the IMO and IMB provide better information? This could be an area for further study.

NGA's Anti-Shipping Activity Messages database contains a wealth of information regarding piracy and maritime crime, not just for Somalia, but also from around the world. Of particular interest for further research is the textual data found within the descriptive accounts for each ASAM piracy incident. A researcher versed in data mining techniques may find unique trends or patterns in these descriptive accounts relevant to mitigating pirate attacks. Data mining or text analytics is the process of deriving high quality information from text (Gartner, 2013).

Advanced statistical analysis holds a similar potential area for future study, particularly in finding variables with linkages to the decline in Somali piracy. Regression analyses may reveal to what extent an independent variable contributed to the fall and/or to verify the underlying causes for the decline in Somali piracy as seen after 2010. This task could involve studying the event description sections for each incident found in a specified query of the ASAM database.

One of the most significant effects of Somali piracy is the financial burden placed on governments and shippers to counter the threat. Most all of the interview/questionnaire respondents agreed. There are many numbers attempting to quantify the annual amounts spent or incurred: $2 billion to maintain a naval presence, $6 billion in additional government and shipping costs, and a whopping $18 billion impact on the world economy (Bellish, 2013; Blance et al., 2013; Murphy, 2012; Saul, 2013; Swami, 2014). The costs warrant a comparative study. The author contends the cost of employing ASTs is significantly lower than the cost incurred by governments to conduct counterpiracy operations. The findings might suggest the same and that government need to reexamine the issue, reduce their naval presence, and consider underwriting part of the costs incurred by shippers who employ armed security to counter pirate attacks.

When contemplating an overarching strategic counterpiracy strategy, comparative research between high-risk piracy such as Southeast Asia, the Gulf of Guinea, and the Horn of Africa is helpful. Knowing what works well and what does not work well in the various piracy hot spots can help shape and influence the overall framework. Of particular interest is a study on the use of armed embarked security in all three of these regions. What are the impediments to ASTs in these regions and how can these be overcome or circumvented?

Summary

Chapter 5 provided summaries of the problem, the literature review, the methodological approach used during the study, and the results presented in Chapter 4. The focus of the chapter was a discussion of the converged findings in relation to the research questions and the effectiveness of the major actions in Somali counterpiracy. The findings revealed cogent support for the use of armed embarked security teams as the number one factor responsible for the decline in Somali piracy.

The chapter discussed five major counterpiracy actions: UN Security Council Resolutions, the deployment of naval task forces to conduct counterpiracy operations, the establishment of the internationally recognized transit corridor, the Best Management Practices, and the use of armed security teams to defend merchant shipping from Somali pirate attacks. The discussion contends UN action has a positive effect on suppressing piracy. Naval forces can provide security against piracy in regions where coastal states are unwilling or unable to do it for themselves. The establishment of the IRTC led to a decrease in piracy events in the Gulf of Aden. In regards to the varying opinions on the effectiveness of BMPs, the researcher argues it is better to take preparations to defend against possible pirate attacks than to do absolutely nothing.

The researcher holds a strategic counterpiracy framework must drives towards creating the political and maritime domain security environment that supports the use of armed embarked security teams. The framework should encompass a focused progression of intent that originates in the political realm, spreading into the maritime security domain, and finally down to the security posture of individual merchant ships at sea. The ultimate goal of the framework is insuring a merchant vessel's right to self-defense against immediate pirate attacks or other acts of maritime crime.

A discussion of each of the previously identified assumptions, limitations, and delimitations holds that no detrimental effects manifested in the study. The chapter gave an overview summarizing why the findings are significant to strategic security and their implications. Finally, both a recommendation on a strategic counterpiracy framework and areas of future research complete the chapter.

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APPENDIX A: INFORMED CONSENT FORM

Somali Piracy and Anti-Shipping Activity Messages:
Lessons for a Successful Counter Piracy Strategy

Informed Consent - Involvement of Human Participants in Research

You are being asked to take part in a research study on Somali piracy. I'm asking you to take part because of your experience, perspective, and knowledge, regarding piracy and counterpiracy activities off the Horn of Africa. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

What the study is about: The purpose of this study is to collect qualitative data on the variables involved in the successful international response to the Somali piracy crisis. You must have experience in analyzing, briefing, studying, or writing about, piracy and/or counterpiracy activities off the Horn of Africa to participate in this study.

What I'm asking you to do: If you agree to be in this study, I will provide a short questionnaire for you to complete. The questionnaire will include questions about the threat of piracy, trends, the events that have shaped the response to piracy, and actions by the maritime industry and international community. The questionnaire should take no longer than 15 minutes to complete.

Risks and benefits:

This study is considered minimal risk to the human participants. In other words, the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of your normal day to day duties.

There are no benefits to you other than the knowledge of having assisted me in gathering qualitative piracy data for analysis in my doctoral dissertation.

C**ompensation:** This study is unfunded. Therefore no compensation is given for participation.

Your answers will be confidential. The records of this study will be kept private. In any sort of report I make public I will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only I will have access to the records. Completed questionnaires will be destroyed five years after the completion of the study.

Taking part is voluntary: Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide to take part, you are free to withdraw at any time.

If you have questions: The researcher conducting this study is Jerry Clifford. Please ask any questions you have now. If you have questions later, you may contact Jerry Clifford at gclifford@nmic.navy.mil or at 1-301-669-3072. If you have any questions or concerns regarding your rights as a participant in this study, you may contact the Henley-Putnam University's Institutional Review Board (IRB) at 540-460-7143 or Dr. Robin Thompson, the board chair, at rthompson@henley-putnam.edu.

Somali Piracy and Anti-Shipping Activity Messages:
Lessons for a Successful Counter Piracy Strategy

You will be given a copy of this form to keep for your records if requested.

Statement of Consent: I have read the above information, and have received answers to any questions I asked. I consent to take part in the study.

Your Signature _____ Date _____

Your Name (printed) _____

Signature of person obtaining consent _____ Date _____

Printed name of person obtaining consent _____ Date _____

This consent form will be kept by the researcher for at least five years beyond the end of the study

APPRNDIX B: ONLINE QUESTIONNAIRE

Qualitative Data Questionnaire: SOMALI PIRACY AND ANTI-SHIPPING ACTIVITY MESSAGES: LESSONS FOR A SUCCESSFUL COUNTERPIRACY STRATEGY

INFORMED CONSENT - INVOLVEMENT OF HUMAN PARTICIPANTS IN RESEARCH

You are being asked to take part in a research study on Somali piracy. You have been selected to take part because of your experience, perspective, and knowledge, regarding piracy and counterpiracy activities off the Horn of Africa. Please read the informed consent section carefully and ask any questions you may have before agreeing to take part in the study.

What the study is about: The purpose of this study is to collect qualitative data on the variables involved in the successful international response to the Somali piracy crisis. You must have experience in analyzing, briefing, studying, or writing about, piracy and/or counterpiracy activities off the Horn of Africa to participate in this study.

What I'm asking you to do: Please complete the short questionnaire below. It includes questions about the threat of piracy, trends, the events that have shaped the response to piracy, and actions by the maritime industry and international community. The questionnaire should take no longer than 15 minutes to complete.

Risks and benefits: This study is considered minimal risk to the human participants. In other words, the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of your normal day to day duties.

The benefits to you are the knowledge of having assisted me in gathering qualitative piracy data for analysis in my doctoral dissertation and broadening the body of knowledge regarding maritime piracy off of Somalia.

Compensation: This study is unfunded. Therefore no compensation is given for participation.

Your answers will be confidential: Your individual response for this study will be kept private. Any report made public will not contain information that will make it possible to identify you. Research records will be kept in a locked file; only I will have access to the records. Completed questionnaires will be destroyed five years after the completion of the study.

Taking part in this study is completely voluntary: You may skip any questions that you do not want to answer by entering n/a into the text field for the question. If you decide to take part, you are free to withdraw at any time.

If you have questions: The researcher conducting this study is Jerry Clifford. Please ask any questions before starting. My contact information is gclifford@nmic.navy.mil or at

301-669-3072. If you have any questions or concerns regarding your rights as a participant in this study, you may contact the Henley-Putnam University's Institutional Review Board (IRB) at 540-460-7143 or Dr. Robin Thompson, the board chair, at rthompson@henley-putnam.edu.

Statement of Consent: I have read the above information, and have received answers to any questions I asked. By selecting Option 1 (below) I am consenting to take part in the study.

---

* Required

Informed Consent - Involvement of Human Participants in Research

***

- ○ Option 1 - I consent to take part in the study
- ○ Option 2 - I do NOT consent to take part in the study

Personal Profile

Name (optional)

Gender *

Age *

Education Qualification *

Professional Designation *

- ○ Academician
- ○ Government authority
- ○ Military authority
- ○ Commercial shipping representative

- Other:

Today's Date

Month Day 2014

Place (location, organization, company, command) *

This next section is on your perception and opinions of the Somali piracy events. Please provide your candid answers to each question and provide as much explanation as possible so I can have a clear understanding of your thoughts on this topic.

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way *

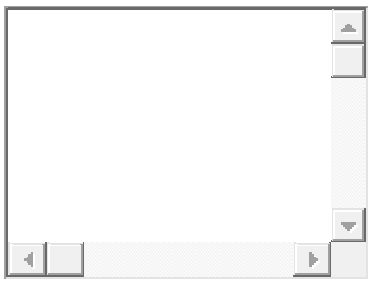
2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *

1 2 3 4 5

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *

1 2 3 4 5

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *

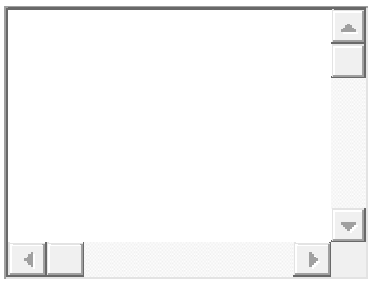


5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *

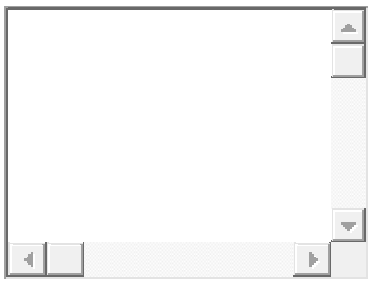


9. What is the role of government in preventing transnational piracy and anti-shipping activities? *

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain *

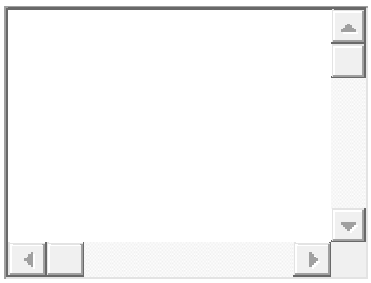


13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain *

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain *

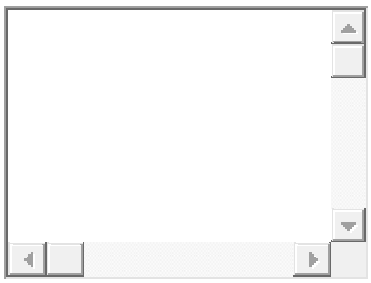
15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain *

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *



17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *

18. Comments, if any



Thank you for your valuable time!

Submit

Never submit passwords through Google Forms.

APPENDIX C: QUESTIONNAIRE RESPONSES AND INTERVIEWEE TRANSCRIPTS

Participant 1

Gender: *Male*

Age: *40*

Education Qualification: *Graduate Degree*

Professional Designation: *Government authority*

Today's Date: 9/30/2013

Place (location, organization, company, command): *Washington, DC*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *The question is difficult to answer. At one point in time piracy off the Horn of Africa was the greatest threat to international shipping. However, piracy off the Gulf of Guinea may currently pose the greatest threat.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *1*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *1*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *Piracy has not affected the coast of Somalia in the past.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Armed security teams*.

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *Barbed wire, water cannons, citadels, and armed security teams.*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011*? Please*

explain: Yes. Pirates have not been able to successfully hijack a ship with an armed security team onboard.

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *Maintain armed security teams when transiting the through the Horn of Africa or Somali Basin.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Which government are you referring to Somalia, the U.S. or international governments?*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *The role of the international bodies in preventing piracy off the coast of Somalia is to train the Somalia Federal Government and other African Nations to police themselves. Regional enforcement and sustainability.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Embarked armed security*.

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain. *UNSC resolutions did not have any results in the increase/decrease of piracy off the coast of Somalia.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain. *The IRTC resulted in an increase in piracy activities. The corridor channel all the shipping into one area for the pirates.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain. *Naval patrols are the international police force who should respond to calls for help and detain suspected pirates.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain. *The BMP guide did not resulted in an increase or decrease in the number of hijackings. Pirates were able to overcome the recommeded BMPs.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Keep embarked armed security on ships transiting the Horn of Africa. Push for private emabarked armed security in the Gulf of Guinea.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Regional law enforcement*.

18. Comments, if any. *None*

Participant 2

Gender: *Male*

Age: *30*

Education Qualification: Masters degree

Professional Designation: *Government authority*

Today's Date: *10/1/2013*

Place (location, organization, company, command) : *CIA*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *The Gulf of Guinea is the biggest piracy threat because pirates are the most successful in that region in hijacking vessels and kidnapping crew members. Pirates have demonstrated a large range and mariners have been killed in several piracy incidents.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *2*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *1*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? Piracy has made Somalia's coastal areas a no go area for international shipping.

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *By hiring armed embarked security teams (AEST) and adopting best management practices (BMPs).*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *AESTs are the most effective. They keep watch and escalate the use of force as pirates approach. BMPs such as razor wire, fire hoses etc are also used. The international community continues to conduct*

counter piracy (CP) off the coast to intercept pirate attack groups (PAGs) and respond to incidents.

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, the hijacking rate is much lower than it was in 2011, as are attack numbers, according to all data sources.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *Continue to use AESTs*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Facilitate the use of AESTs. Develop coast guard/naval capabilities in regional states. Patrol pirate infested areas in the short term.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *Facilitate information sharing and building capacity in affected regional states.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *The shipping industry's widespread adoption of AESTs, especially after the may 2011 decision by the IMO to no longer oppose AESTs.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain. *UNSC resolutions resulted at best in a very small decrease in piracy activity because they allowed international navies to interdict pirate vessels within Somalia's territorial waters, which may have had a small effect.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain. *Resulted in a decrease, at least temporarily, because it provided a safe area so pirates were forced farther out to the Indian Ocean where targets are*

less plentiful and farther away.

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain. *Could provide some deterrent, but in general they are expensive and not very effective in CP because the operational area of pirates is too big for naval vessels to cover.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain. *Very small decrease. BMPs were successful during some incidents, but pirates have overcome every BMPs in the past and BMPs did not have a large effect on piracy.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Capacity building to develop regional states; control coastal areas, security services, and law enforcement capabilities to counter piracy on land and at sea. To facilitate the use of AESTs by merchant ships in piracy risk areas.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Exert effective control of coastal areas that were used by pirates; prosecute pirates; develop law enforcement and security services that cna control coastal areas and fight piracy.*

18. Comments, if any. *None*

Participant 3

Gender: *Male*

Age: 45

Education Qualification: *BS Sevastopol State Technical University*

Professional Designation: *Ship master*

Today's Date: *10/09/2013*

Place (location, organization, company, command): *MV Caroline Scan, Port Bosasso, Somalia.*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *Gulf of Aden and Somalian coast. The activity of EU military operation Atalanta, Russian, Japanese and other states Navy Fleets made this area more safety when before 2010 year.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *3*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *3*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *The vessels adjusted navigation routes at least 400nm (where it practicable) from Somalian coast. As a result bigger fuel consumption, longer voyages duration, additional expenses for Private armed security guards on-board and measures according BMPs (supply by razor wires, dummies, lebels etc). All above increasing the freights rate and as a result prices of the trades around the world rising up.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Private armed security guards on-board and measures according BMP4.*

6. Explain some counter piracy measures that are being presently implemented by the

international community and shipping industry in regards to Somali piracy? *All measures according BMP4 (Best Management Practices for Protection against Somalia Based Piracy)*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes. The reason: common activities of Navy Fleets and Ship owner measures on board.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *The vessels to be so build that it will unable for the pirates came inside superstructure and in engine.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *To prevent supply pirates by Fresh water, foods, fuel, arms and ammunition from shore and at sea.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *No answer given*.

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Private security guards o/b and monitoring of area by Navy Forces.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *Decreased.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *Decreased. Easy to monitor and control suspicious craft movement only in the areas where the merchant vessels located to compare with all area Gulf of Aden.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping

activities off the coast of Somalia? Please explain: *Positive role. Monitoring and control suspicious craft movement. In case of piracy attack need less time to arrive on-scene and protect vessel and crew in citadel.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *Yes.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *In cooperation with Somalian government the all coast bases to be destroyed. To stop any weapons traffic in the area.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *No answer given.*

18. Comments, if any: *By the statistic info that Piracy activity in the area coming gradually downward, that s means that all above measures are useful*

Participant 4

Gender: *Male*

Age: *52*

Education Qualification: *Masters degree*

Professional Designation: *Government authority*

Today's Date: *10/01/2013*

Place (location, organization, company, command) :*ONI*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *Gulf of Guinea. The threat to U.S. shipping and persons are greater in the Gulf of Guinea (GoG).*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *2*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *2*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *Significantly affected shipping. Ship lanes shifted to avoid the Somali coast. Precautions taken by shippers costing tens of millions of dollars, plus increase in fuel costs for sailing at greater speeds, armed security, Also considerable cost incurred by the international community to operate 3 naval task forces. There is an enormous impact to the lives of sailors being held hostage sometimes for years at a time.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *There is a combination of factors that can be used: 1) Armed security, 2) BMPs, though shippers are probably already cutting back on these due to the low number of attacks in 2013 due to the effectiveness of armed security.*

6. Explain some counter piracy measures that are being presently implemented by the

international community and shipping industry in regards to Somali piracy? *Armed Security Teams (ASTs), BMPs (speed increase, citadels, lookouts, razor wire, fire hoses, evasive maneuvers, contact with MSCHOA, passing transit deals through the GOA), escorts by naval forces.*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, statistics have gone down significantly, no hijackings since May 2012. Only 4 attacks in 2013*.

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *Adhere to BMPs, Employ ASTs, though as time goes on shippers will likely cut down on both.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Provide guidance, Flag states put out guidance for shippers. Governments are responsible for maintaining freedom of navigation. To prevent and reduce piracy when it threatens shipping, Industry must work together with government to reduce the threat of hijackings.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *They play an important role in highlighting the problem. they authorized the use of naval task forces. they are pushing the Somali government to improve security off their coast. Some actions have been more effective than others. The IMO got the ball rolling with a May 2011 circular stating they no longer opposed the use of armed security teams on ships.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *There have been a combination of events, naval task forces in the GOA in 2008/9, in 2010 they pushed pirates out of the GOA, The big change was the use of armed security teams and then naval forces. Without naval forces pirates could*

just go from ship to ship until they found one without ASTs. Presently the navy is able to respond to attacks. They can even prevent pirate from leaving the shore. The reduction has been incremental.

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *Decrease. In 2008 the UN authorized naval forces to go after pirates. This led to escorts of merchant shipping, patrols, The UNSC played an important role and therefore made a tremendous impact on the number of pirate attacks of the coast of HOA. It was not like a light switch however. things continued to improve over time.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *Somewhat of a decrease. Setting up a corridor gave pirates a concentration of ships to attack. For the most part it was a good idea, a good initial step dealing with the problem. the IRTC made it more feasible for navy ships to patrol. The result was pirate moved farther out to sea due to the risk of naval interdiction in the GOA.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *Each task force is independent and has its own mission. Not all do the same things. Some escort, some patrol certain areas, some go after pirate attack groups (PAGs). Missions differ and so do their rules of engagements depending on country. But they have learned to work together overtime.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *Definitely a decrease. Prevented dozens of boardings by pirates.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *It's a land based problem in Somalia.*

Political problems need to be addressed. Government need to do more for maritime security. once internal disputes are resolved the Somali Federal Government (SFG) will need help establishing a force to provide maritime security along one of the longest shorelines in Africa. The SFG has a long term role to play to prevent the exploitation of Somalia's natural resources, until such a time the international community will have to do it for them.

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Same answer as above. Central government needs to resolve who is responsible for maritime security and train a force to patrol their coast and secure their territorial waters and exclusive economic zone. Law enforcement capability in coastal communities must be established. Somalia must protect its fishing industry and protect against illegal dumping off its shore.*

18. Comments, if any. *Piracy is bad for trade. Somalia has potential oil reserves. But in order to tap into this wealth the country will need effective port security. Oil companies and shipping companies need to be comfortable with working in Somalia.*

Participant 5

Gender: *Female*

Age: *27*

Education Qualification: *Masters degree*

Professional Designation: *Government authority*

Today's Date: *9/30/2013*

Place (location, organization, company, command) :*ONI*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *Gulf of Guinea (GoG) is the number one spot followed by SE Asia where the shipping lanes are not as big. I believe GoG is the greatest threat because of all the ship hijackings occurring on a regular basis. Their is also a serious threat to the oil industry and U.S. shipping in the GoG.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *2*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *2*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *In the past the shipping lanes have gone farther off the East coast, but now they are coming closer to the coast again.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Best Management Practices (BMPs), Shifting shipping lanes, Increased speed, increasing free-board height, and now using armed security teams (AST).*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *Same answer as above. Best Management Practices (BMPs), Shifting shipping lanes, Increased speed,*

increasing free-board height, and now using armed security teams (AST).

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, absolutely reduced. ASTs and Naval patrols have reduced piracy off the Horn of Africa.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *Retain ASTs onboard vessels, avoid the Somali coast, increase speed of ships traveling through high risk areas, and increase free-board heights.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *To maintain naval forces of the HOA to patrol off the coast. Governments should also collaborate with the Somali Federal Government (SFG), the Puntland gov't, and the Somaliland gov't to build capacity for Somalia to maintain maritime security off their shores.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *It should be a combination of maintaining naval patrols, diplomacy with regional governments, and capacity building. All of these require significant financial investment.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Interdiction by naval forces. Whenever an AST deters a pirate boarding is an important event.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *Yes, significant decrease.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *Yes and No. When vessels are in convoys it is less likely they will come under attack and be hijacked. The IRTC also provides a large concentration of*

merchant ships for pirates to go after.

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *To interdict pirate on shore and a sea before they have the chance to attack ships. To respond to pirate events as they are happening. And to report incidents to the merchant fleets.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *Resulted in a decrease though some BMPs are better than others. Pirates have figured out how to get around (circumvent) fire hoses, dummies, razor wire. ASTs work but they are not really a BMP. Citadels work best.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Increase training for local security forces to develop a coast guard or encourage private industry to fund a coast guard to patrol.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *There are so many problems. Focus on corruption with coast guard forces. Establish some program to monitor coast guard personnel and make sure they are well paid.*

18. Comments, if any: None

Participant 6

Gender: *Male*

Age: *25*

Education Qualification: *Masters degree*

Professional Designation: *Government authority*

Today's Date: *09/25/2013*

Place (location, organization, company, command) :*ONI*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *To mariners transiting the Gulf of Aden (GOA).*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *3*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *3*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *The coast has not be affected. There has been a decrease in the amount or volume of ships heading to Somali ports such a Mogadishu and Bosasso.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Did not answer.*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *Best Management Practices (BMPs) such as razor wire, fire hoses, increasing ship speed, avoiding high risk areas, non lethal defense, and using armed security teams (ASTs)*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, This answer is based on reporting centers data.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy

and anti-shipping activities in future? *Avoid High Risk Areas. Don't reduce the numbers and quality of armed security teams (ASTSs) being used to protect ships.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? S*upporting naval patrols to provide maritime security off the HOA, Establish and maintain law enforcement and to make arrests to persons perpetrating piracy attacks on merchant vessels.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *Did not answer.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Did not answer.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *Decrease. The UN sponsored international involvement and partnerships were established as a result of their efforts. They authorized naval forces to enter Somali territorial waters.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *The establishment of the IRTC has no affect on the rate of piracy. The IRTC is just a small strip of water in the Gulf of Aden. The IRTC made pirates expand their operations to other areas. The IRTC is not a guarantee of safety to merchant ships transiting off the HOA.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *Significant role. Naval vessels are able to respond to attacks. They have also prevented several hijackings.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping

industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *Slight decrease. hijackings still happen to ships using BMPs. It was the ASTs that caused the significant decrease*.

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Continue to legalize ASTs and floating armories.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Establish a central government that can controls waters off its shoreline.*

18. Comments, if any. *None*

Participant 7

Gender: Male

Age: 50

Education Qualification: *Associate degree*

Professional Designation: *Government contractor*

Today's Date: *09/25/2013*

Place (location, organization, company, command) :*ONI*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *The Gulf of Guinea.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *2*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *3*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *It has isolated the country commercial and physically.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Hiring private armed security teams (ASTs).*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *There is now a constant naval coalition presence off the coast of Somalia. There is now a comprehensive program of approaching and boarding suspected pirate dhows. There is an effort to win the hearts and minds of Somali fishermen. Shipping industry is employing armed guards to protect merchant ships (ASTs).*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, because of the use of private armed security teams (ASTs) which is the number 1*

reason for the reduction in piracy followed by the naval coalitions.

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *ASTs, they are already doing it.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Develop the country. Education, infrastructure, Somalia is lacking a cohesive federal gov't. There is a laundry list of things that need to be done to get piracy under control. None of which exist right now within Somalia.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *They must implement developmental activities for Somalia.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Widespread use of ASTs is the biggest thing to reduce hijackings.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *They have helped to decrease the numbers but to what extent I'm not certain. The decrease in no way matches the decreased caused by ASTs. U.S. and NATO capacity building and giving political coverage or exposure to the issue.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *There were a couple of hijackings that occurred in the IRTC. The net effect was pushing the pirate operating areas out into the Indian Ocean. Slight decrease.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *Help to establish the rule of law. Pirates*

know the navies are looking for them.

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *Not sure if decrease but has resulted in more awareness. The BMPs let sailors know these are the things you can do to be prepared when sailing into high risk areas.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Nation building, capacity building, Establish regional coast guards and maritime patrols, Get a handle on the local pirates before they leave the beach, License fishermen. Conduct inspections at the local level, But all of these are difficult to implement.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Same as above, work with the international community to get a program together to train a police force and then train a maritime police force. Without these the government of Somalia is impotent.*

18. Comments, if any. *None*

Participant 8

Gender: *Female*

Age: *27*

Education Qualification: *Bachelors degree*

Professional Designation: *Government contractor*

Today's Date: *09/24/2013*

Place (location, organization, company, command) :*ONI*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *West Africa, Gulf of Guinea (GoG).*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *2*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *2*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *Shipping lanes have changed. As a result of Somali pirates merchant ships are sailing farther away from the Somali coast. This increases the fuel costs for shippers.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *The shipping industry is now using private armed security teams (ASTs) to counter piracy.*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *ASTs, The U.S. and other international partners are trying to develop a functioning central government in Somalia.*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes there has been a reduction. There have been do hijacking in 2013.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *The shipping company has found a solution that works. This is the use of armed security teams. The shipping industry should continue to use them as long as the threat exists.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Governments should help develop and train Somali security forces. The problem is land based. Security forces could go after pirate financiers.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *The international community can undertake joint counter piracy patrols, conduct training exercises with less experiences forces, and conduct exercises focused on counter piracy activities.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *The hijacking of the Maersk Alabama brought the Somali piracy issue to national and international attention. It was a tipping point for piracy off the coast of Somalia.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *Probably did not have or result in a decrease. I really don't know.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *The IRTC resulted in a decrease in the number of pirate attacks off the coast of Somalia. Vessels are trying to avoid the high risk area.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *They help. Navy ships are only few in numbers compared to the vastness of the area of ocean under threat by Somali pirates. The few*

navy ships that are out there are having some benefit.

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *The BMPs have resulted in a decrease in the number of successful attacks on merchant shipping. Ship owners now have a guide to use to assist in implementing security measures including diversionary tactics.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Continue to support legislation supporting the use of private armed security teams (ASTs) in waters where there is a high risk of pirate attack. The community can also assist in the creation of a functioning Somali government that can create alternatives to potential financial gains that piracy offers disenfranchised Somali youth.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Somalia must develop a functioning military force that can patrol coastal waters. The county must also establish an effective judiciary system to punish pirate offenders.*

18. Comments, if any. *None.*

Participant 9

Gender: *Male*

Age: *60*

Education Qualification: *Masters degree*

Professional Designation: *Government authority*

Today's Date: 09/24/2013

Place (location, organization, company, command) : ONI

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way. *The Gulf of Guinea. Because reporting in open source indicate a larger number of piracy events have occurred in this region as opposed to the Horn of Africa (HOA) or SE Asia in the last few years.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. 1

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. 1

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *Since 2005 there have been change to normal shipping routes. This adds to shipping cost because of more fuel being used by merchant ships transiting off the coast of Somalia. There have been very high ransom cost to insurers, and immense psychological costs to sailors at sea and to those who have been held for ransom. Some of whom have been held for more than 2 years. However, in the larger scheme the number of merchant ship affected by Somali piracy has been very small. Less than 1 percents of the ship transiting the region have been attacked.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Through the use of Best Management Practices (BMPs), which are counter piracy guidelines for ships transiting high risk areas.*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *BMPs, Coalition naval forces, EU, NATO, & others, independent deployers such as Russia and China. And also the use of armed security teams (ASTs).*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *Yes, there has been a reduction because the number of incidents being reported. Both hijackings and attacks have fallen dramatically since 2011.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy and anti-shipping activities in future? *The shipping industry can encourage and maintain the use of armed security (ASTs) on ships transiting the HOA region and also maintain and encourage the use of BMPs .*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *Governments must insure the shipping industry has the ability to transit worldwide without the risk of pirate attacks. They must provide for the safe passage of ships and their crews. Piracy at any level is unacceptable.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *International bodies must encourage coalitions and other groupings of nations to provide secure transit for shipping because individual countries would be unsuccessful at trying to do it themselves and alone. International bodies have tremendous influence and therefore obtain more participation in group efforts which is needed to provide more coverage. The more international navies involved in the Somali counterpiracy efforts the more area of ocean can be patrolled.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Perhaps the most important events are those in which Somali pirate attempt to attack a merchant ship, but instead have an encounter against*

armed security teams (ASTs). In the same vein the use of force by naval coalitions against Somali pirates help reduce the rate of attacks.

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *The UNSC'rs have had no effect either way on piracy rates. Resolutions have raised the issue of pirate activity off the HOA which then may have affected the international response. So, it is a non direct influence on the decrease seen after 2011.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *The IRTC concentrated the counter piracy efforts in a smaller area. It was a response to a high number of attacks in the Gulf of Aden (GOA). It is beneficial, but only led to a small decrease in pirate activity.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *In previous years navies were able to interdict motherships & skiffs as they departed from pirate camps along the Somali coast thereby temporarily or even permanently reducing the threat. Now navies are just destroying trip wires (guns, hooks, ladders, extra fuel) and allowing the pirate crews to return to the coast of Somalia in a catch and release manner.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *BMPs have reduced hijackings. The most successful or important factor is the use of citadels onboard merchant vessels. Citadels provide safe and secure areas for the crew when pirates board. If the pirates can't take control of the vessel (propulsion and steering) they will likely depart. They also allow for time for naval forces to respond to pirate attacks.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *International bodies must first address the land based issues causing Somali piracy. Factors include no strong central government, lack of security forces, that can control territorial waters. BMPs, ASTs, and naval counterpiracy forces must be maintained for the foreseeable future.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Somalia must control its coastline and territorial waters with a functioning security force ie a coast guard or brown water navy*.

18. Comments, if any. *None.*

Participant 10

Gender: *Male*

Age: *51*

Education Qualification: *BS Marine Transportation*

Professional Designation: *Master Mariner*

Today's Date:*10/12/2013*

Place (location, organization, company, command) :*Kinsey Marine, LLC, Long Island, NY*

1. Where do you feel piracy and anti-shipping activities poses the greatest threat? Please explain why you feel that way: *Singapore Straights / Straits of Malacca. The stranding of a single VLCC in the Straights could disrupt all oil transport to Japan.*

2. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against international shipping ranks _____. *3*

3. On a scale of 1 to 5 (with 1 being the lowest threat and 5 being the highest threat) Where do you feel the threat of Somali piracy against United States shipping ranks? _____. *2*

4. How has piracy and anti-shipping activities affected the coast of Somalia in the past? *The lack of success of Operation Restore Hope created a power vacuum that allowed the piracy activity in the vicinity of the Horn of Africa to escalate.*

5. How is the shipping industry currently preventing piracy and anti-shipping activities off the coast of Somalia? *Ineffectually mostly, by means of avoidance.*

6. Explain some counter piracy measures that are being presently implemented by the international community and shipping industry in regards to Somali piracy? *Staying clear of the coast. Turning off AIS transmitters. Transiting at a higher rate of speed and using guards.*

7. Do you think that the rate of hijacking off the Horn of Africa has reduced since 2011? Please explain: *No - you see fluctuations as a result of the monsoon activity in the area.*

8. What do you think the shipping industry can do in order to reduce the rate of Somali piracy

and anti-shipping activities in future? *Increase speeds of transit, enforce transits further off shore and increase manning so adequate lookouts can be maintained.*

9. What is the role of government in preventing transnational piracy and anti-shipping activities? *IMO resolutions need to be implemented quicker and be mandatory with no waivers.*

10. What do you think are the role of international bodies in preventing piracy and anti-shipping activities off the coast of Somalia? *Critical, see comments regarding IMO above.*

11. Identify some of the most important events that have reduced the rate of merchant vessel attacks by pirates off the coast of Somalia? *Avoidance of the area.*

12. Do you think United Nations Security Council (UNSC) resolutions have resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of HOA? Please explain: *I think they are a lot of hot air; full of sound and fury - signifying nothing.*

13. Do you think that the establishment of international recognized transit corridor (IRTC) has resulted in an increase/decrease in the number of piracy and anti-shipping activities off the coast of Somalia? Please explain: *Decreased, but only if patrolled- otherwise they just make the ships easier to find.*

14. What do you think is the role of naval patrols in preventing piracy and anti-shipping activities off the coast of Somalia? Please explain: *An expensive stop gap that does not offer a real lasting solution to the underlying problem of political instability.*

15. Do you think that the publication of the Best Management Practices Guide by the shipping industry has resulted in an increase/decrease in the number of hijacking events off the coast of Somalia? Please explain: *No real effect - just killing trees and making it look like they are doing something.*

16. What strategies would you recommend to international bodies to help Somalia reduce the rate of piracy and anti-shipping activities in the future? *Help install a stable government and introduce infrastructure where piracy is no longer a major source of the GNP of the country.*

17. What strategies would you recommend for the government of Somalia to reduce the rate of piracy and anti-shipping activities in the future? *Capital punishment*.

18. Comments, if any: *The current BS about piracy along the West Coast of Africa is a joke. There has been piracy off West Africa for over 100 years, now it's just being used to sell papers and air time.*

APPENDIX D: PERMISSION TO USE BRUYNEEL IMAGES AND TABLES

Clifford Gerard J Jr Mr NGA-SHGA USA CIV

From: Jerry Clifford <watchhill@hotmail.com>
Sent: Tuesday, March 25, 2014 6:01 PM
To: Clifford, Gerard J.; Clifford Gerard J Jr Mr NGA-SHGA USA CIV
Subject: FW: [Spam] Piracy Statistics: Reuse & Copyright Permission Request

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From: m.bruyneel@vu.nl
To: watchhill@hotmail.com
Subject: RE: [Spam] Piracy Statistics: Reuse & Copyright Permission Request
Date: Tue, 25 Mar 2014 09:25:49 +0000

Dear mr. Clifford,

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Best wishes,

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From: Jerry Clifford [mailto:watchhill@hotmail.com]
Sent: Saturday, March 22, 2014 7:25 PM
To: Bruyneel, M.
Subject: [Spam] Piracy Statistics: Reuse & Copyright Permission Request

Good Day Sir,

My name is Jerry Clifford. I am a doctoral candidate at Henley-Putnam University, Santa Clara, CA, USA. I am writing my dissertation on Somali piracy and NGA's Anti-Shipping Activity Messages.

I am respectfully requesting your permission to reproduce a figure and table from your research in my Literature Review section.

Table 2 - from *Current reports on piracy by the IMO and the IMB - a comparison*

Figure - from *Modern Day Piracy Statistics* dated 7 February 2001
http://home.wanadoo.nl/m.bruyneel/archive/modern/figures.htm

Respectfully requested,

Jerry Clifford
4974 Flossie Ave
Frederick, MD 21703

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