THE STATE OF MARITIME PIRACY 2013

REPORT

OCEANS BEYOND PIRACY

a project of the One Earth Future Foundation

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THE STATE OF MARITIME PIRACY 2013

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Cover Photo provided by Somali Fair Fishing

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Founder's Letter

For the past three years, the Oceans Beyond Piracy project has conducted annual estimates of the economic and human costs of piracy. As the chairman of One Earth Future, I am proud to deliver this year's report, which marks the first report to assess the costs of both Somali and West African piracy. The measures put in place by the international community continue to successfully suppress Somali piracy. With this success, piracy is beginning to change. This year's report acknowledges this with its expanded regional focus.

Somali piracy

The decline of piracy in the Indian Ocean is a welcome development, but this decline is easily reversed. The emphasis on suppression through naval forces and private security obscures the economic and social challenges that push Somalis into choosing this violent crime as a means to make a living. This report documents the way that most costs associated with Somali piracy have fallen, but it also underscores the fact that such a decline may be temporary unless systems to support stability and a healthy economy ashore take root. The international community interested in countering piracy needs to emphasize lasting solutions. This year's report shows a reduction in attention as navies begin to draw down forces and industry responds to competitive pressures by reducing the money spent on fuel, rerouting, and expensive guard teams.

On the other side of the ledger, the increase in funding directed ashore is a welcoming development, but capacity-building and shore-based counter-piracy programs make up a tiny fraction of the funds devoted to suppression at sea: roughly 1.5% of global spending on Somali piracy, up from .5% last year. Suppression alone will not deliver sustainable solutions to Somali piracy. More than this, the focus on suppression rather than solutions is economically foolish: at a total global cost of $3.2 billion for suppression, this means that the international community spent $139.1 million for each attack that took place in 2013. A fraction of that cost devoted to Somali development is more likely to have a lasting impact, and I believe that a sustainable solution focused on the development of Somalia is the only way that the international community will meet their goal of zero attacks and zero hostages.

Targeted development is the pathway to stability. It's not even the case that this development needs to address every problem within Somalia: instead, the case of Somaliland and the falling rates of piracy operating from Puntland show that all that is necessary to address problem is to provide modest policing or security forces to ensure better measures of port security and to deny pirates a safe haven ashore. Port development, port security, and a modest coast guard to secure local seas could be all that's needed to eliminate piracy. Such targeted development can likely be accomplished at a cost far smaller than the billions of dollars still being spent every year in the Indian Ocean.

West African piracy

In addition to the challenges of Somali piracy, the risk of piracy in West Africa also calls the international community, as well as regional governments, to consider more structured action. The diverse roots of piracy in West Africa, and its alleged connection to crime and corruption ashore, underscores the fact that piracy is a problem not just for the international maritime community but also for locals. As off the Horn of Africa, the cost of piracy is borne by many and the "benefits" accrue to very few. So far there is a lack of international reporting and responding to piracy similar to the structures found in the Indian Ocean. Under-reporting of crimes appears to be the standard, and the regional navies and justice systems are stretched thin. As with Somali piracy, the sustainable solution to maritime crime in West Africa is not going to be found on the water. It will only be addressed when better systems of information sharing, coordination, and capacity building for local systems are present in the region. The Oceans Beyond Piracy program has acknowledged the extension of the problem of piracy with the development of a multi-stakeholder program focusing explicitly on West African piracy, and we plan on monitoring the developments in this area and working to develop sustainable solutions to these problems.

Conclusion

The mission of the One Earth Future foundation is to support peace and good governance because these systems simply work better for humanity. Preventing problems such as piracy is much cheaper than addressing them once they have become embedded in local structures. Systems which allow for healthy economic growth and stable systems of governance are overall cheaper and better for everyone involved. As Benjamin Franklin said: "An ounce of prevention is worth a pound of cure."

Sincerely,

Marcel Arsenault,

Chairman and Founder, One Earth Future Foundation

Acknowledgements

The following data services provided data used in this report

Genscape and VesselTracker™ deliver the world's most comprehensive, up-to-date, and accurate shipping data feed. Today, the new Genscape VesselTracker™ service routinely tracks over 100,000 vessels in near real-time every day – delivering the best open-ocean and close-to-port/coastal data on the market today.

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For more information, visit our website at **www.exactearth.com**

The following institutions and individuals provided research, data, analysis, or otherwise contributed to the development of the research used in this report.

& Dirk Siebels

Any errors in this report are Oceans Beyond Piracy's

Auditor's Statement

Similar to the audit of last year's Economic Cost of Somali Piracy 2012 report, BIMCO has carried out a review of the methodologies and the calculations of this year's OBP State of Maritime Piracy 2013 report. We have found that the report fully lives up to the high standards necessary to earn respect and credibility among all counter piracy stakeholders in Government and the Shipping Industry alike, and for the report to constitute an informed and constructive contribution to the counter piracy debate.

The findings of the report once more highlight the importance of the continued focus of Government and Shipping Industry stakeholders in combating piracy. It illustrates a reduction in the overall costs but draws attention to the costs of capacity building and their implementation which are vital to change the conditions ashore that create piracy in Somalia and how expensive this exercise is.

It is clear to see that 2013 was a year of improvement. However, while attacks and hijackings continued to decline pirate activity remained in the region. Alongside this trend, private maritime security companies remain prevalent in the Western Indian Ocean and Gulf of Aden. With a trend toward their longevity in the maritime industry comes a seeming move toward their institutionalization. This however has been driven by the shipping industry itself and the IMO, in order to regulate and standardize them to limit risk and liability. States though are now increasingly authorizing their use whilst industry argues that the implementation of ISO PAS 28007 will enhance the standards of Private Maritime Security Companies (PMSC) and protect against the use of low grade and potentially dangerous services. The current use of private armed guards on board ships though should not be seen as an endorsement or institutionalization of the practice by the shipping industry or as a waiver of the fundamental obligations of flag states under UNCLOS.

As the effective means for shipowners to ensure suppression at sea consolidates - BMP and PCASP and the deterrent presence of Navies - the international community is increasingly able to turn its resources and efforts to long-term solutions. As pirate attacks and hostage takings at sea continue to decline however, it is paramount that the international community does not assume the fight is over, but continues to shift focus and resources to sustainable solutions that target the drivers of piracy at the root. A myriad of capacity building and regional coordination efforts are in the planning phases. The global counter-piracy community anxiously awaits their successful implementation and longevity.

It is BIMCO's hope , however different the scenario, that the strategic lessons learned from Somali piracy can be taken forward by the international community when dealing with piracy problems in the Gulf of Guinea region, where seafarers are increasingly regularly confronted with kidnapping and ransom by extremely violent local pirates and robbers. Without the same level of interest and commitment by both regional and international actors in the pursuit of solutions then no solutions will be found.

Angus Frew

Angus Frew
Secretary General & CEO
BIMCO

BIMCO

Acryonyms

AFRICOM	United States Africa Command
AIS	Automatic Information System
AMISOM	African Union Mission to Somalia
BIMCO	Baltic and International Maritime Council
BMBF	Bundestministerium fuer Bildung und Forschung (German Federal Ministry of Research and Education)
BMPv4	Best Management Practices (version 4)
CBCG	Capacity Building Coordination Group
CGPCS	Contact Group on Piracy off the Cost of Somalia
CoC	Code of Conduct
COMESA	Community of East Africa
COT	No Crude Oil Theft
CRIMELEA	Critical Maritime Routes Law Enforcement Capacity Building in East Africa
CRIMGO	Critical Maritime Routes in the Gulf of Guinea
CSO	Chief Security Officer
CTF 151	Combined Maritime Forces - 151
DWT	Dead Weight Tonnage
ECCAS	Economic Community of Central African States
ECOP	Economic Cost of Piracy
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EU	European Union
EUCAP NESTOR	European Union Capacity “Nestor”
EUISS	European Union Institute for Security Studies
EUNAVFOR	European Union Naval Force
G8PK/PB	G8 Peace Keeping/Peace Building
GCC	Gulf Cooperation Council
GGC	Gulf of Guinea Commission
GMA	Ghana Maritime Authority
GoG	Gulf of Guinea
HCOP	Human Cost of Piracy
HRA	High Risk Area
IBF	International Bargaining Forum
ICoC	International Code of Conduct for Private Security Providers
IGAD	Intergovernmetnal Authority on Development
ILO	International Labour Organisation
IMB	International Maritime Bureau
IMB	International Maritime Bureau
IMO	International Maritime Organization
INTERPOL	International Police Organization
ISC	Information Sharing Centre
ISO/PAS 28007	International Organization for Standardization: 28007 “Guidelines for PMSC’s”
IUU	Illegal, Unreported, Unregulated
JTF	Joint Task Force
JWC	Joint War Committee
K&R	Kidnap and Ransom Insurance
LMA	Lloyd’s Market Association
LNG	Liquefied Natural Gas
LONO	Letters of Non-objection

LPG	Liquefied Petroleum Gas
ITF	International Transport Worker's Federation
MARSIC	Maritime Security and Safety through Information Sharing and Capacity Building
MASE	Maritime Security Programme
MEND	Movement for the Emancipation of the Niger Delta
MLC	Maritime Labour Convention
MMSI	Maritime Mobile Service Identity
MOU	Memorandum of Understanding
MOWCA	Maritime Organization for West and Central Africa
MPHRP	Maritime Piracy Humanitarian Response Program
MSCHOA	Maritime Security Center, Horn of Africa
MT	Motor Tanker
MTISC-GoG	Maritime Trade Information Sharing Centre for the Gulf of Guinea
MV	Motor Vessel
NATO	North Atlantic Treaty Organization
NIMASA	Nigerian Maritime Administration and Safety Agency
NIO	Northern Indian Ocean
NN	Nigerian Navy
NTOA	Nigeria Trawlers Owners Association
OBP	Oceans Beyond Piracy
OCIMF	Oil Companies International Marine Forum
OECD	Organization for Economic Cooperation and Development
OEF	One Earth Future Foundation
OWWA	Overseas Workers Welfare Administration
P&I	Protection of Indemnity Club
PAG	Piracy Action Group
PCASP	Privately Contracted Armed Security Personnel
PiraT Project	Piracy and Maritime Terrorism as a Challenge for Maritime Trade Security
PIU	Project Implementation Unit
PMSC	Private Maritime Security Company
POEA	Philippine Overseas Employment Agency
PTS	Post-traumatic Stress
PTSD	Post-traumatic Stress Disorder
RAPPICC	Regional Anti-Piracy Prosecution & Intelligence Coordination Centre
REFLECS3	Regional Fusion Law Enforcement Centre for Safety and Security at Sea
REMISC	Regional Maritime Information Sharing Centre
RMCM	Regional Maritime Coordination Mechanism
RMRCC	Regional Maritime Rescue Coordination Centre
RO/RO	Roll-on/Roll-off
RPS	Risk Placement Services
SAMI	Security Association for the Maritime Industry
SHADE	Shared Awareness and Deconfliction
SMRSS	Somali Maritime Resource and Security Strategy
TCC	Total Crew Cost
TFG	Transitional Federal Government
UAE	United Arab Emirates
UAV	Unmanned Aerial Vehicle
UKAS	United Kingdom Accreditation Service
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme

UNODC	United Nations Office of Drugs and Crime
UNPOS	The United Nations Political Office for Somalia
UNSCR	United Nations Security Council Resolution
VLCC	Very Large Crude Carrier
VPD	Vessel Protection Detachment
WFP	World Food Programme

Introduction

This report is the latest in a series by Oceans Beyond Piracy tracking the economic and human costs of maritime piracy. For the past three years, OBP has attempted to model the overall impact of Somali piracy on the global economy and on people affected by piracy. In this report, we look at the impact of piracy in 2013. Trends in maritime piracy and armed robbery at sea in 2013 represent a continuation and in some cases an acceleration of issues marked by observers in 2012. The decline in piracy off the coast of Somalia continued, as did attacks, kidnapping, and violence associated with piracy off the West Coast of Africa. Alongside these shifts, the use of armed security aboard ships in the Indian Ocean continued. In recognition of these trends, this report represents an expansion of the scope of the research offered by Oceans Beyond Piracy. Acknowledging the changing face of maritime piracy, this year's report extends the geographic focus of our research to include West African piracy, and compiles both the economic and human costs into one omnibus report.

As with previous years, the numbers presented here represent a good-faith effort by Oceans Beyond Piracy and our partners to provide an estimate of the scope and impact of maritime piracy on the maritime community and the other stakeholders impacted by these crimes. Practically, this estimate is limited because of serious challenges relating to the availability of good data on the scope of the problem. This is particularly true in considering piracy and armed robbery at sea off the West Coast of Africa, where the multinational reporting systems supported as a part of the joint effort to address Somali piracy are largely absent. As a result, the information presented here should be considered a studied estimate of the impacts of piracy rather than a definitive and precise report. We welcome comments and constructive suggestions on how to improve our methods used, and as with previous years we have incorporated responses to prior reports into the methods used in this report.

Structure of the Report

This year's report is broken into four sections. First, we present an overview of what our research has identified as the number of attacks and other key aspects of piracy in 2013. Second, we review the economic and human costs of piracy off the horn of Africa. Third, we do the same for the West Coast of Africa. Finally, we address some of the long-term impacts of piracy.

Definitions of Piracy Used in this Report

Although the act of robbery at sea is the same in the process of the crime whether committed outside or inside the 12 nautical mile zone of a nation's territorial waters, there are important legal distinctions. Robbery at sea committed inside these waters is considered armed robbery against ships, while only attacks committed outside of territorial water is considered piracy. The two accepted definitions of piracy and armed robbery at sea are as follows:

Piracy: The United Nations Convention on the Law of the Sea in Article 101 defines piracy as any of the following acts:

(a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:

> (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;
>
> (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;

(b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;

(c) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).[1]

1 http://www.un.org/depts/los/convention_agreements/texts/unclos/part7.htm

Armed robbery against ships: The IMO in Resolution A.1025(26) defines armed robbery against ships as any of the following acts:

> 1.) Any illegal act of violence or detention or any act of depredation, or threat thereof, other than an act of piracy, committed for private ends and directed against a ship or against persons or property on board such a ship, within a State's internal waters, archipelagic waters and territorial sea;
>
> 2.) Any act of inciting or of intentionally facilitating an act described above.[2]

While this distinction has important considerations for the legal structure governing the crime and the institutions implicated in response, in considering the costs that we do in this report the distinction between piracy and armed robbery is less relevant. For this reason, in this report we will use the word piracy to cover both types of acts, but will make the distinction in cases where it has legal or policy relevance to do so.

Regional Focus of this Report

This report is not a global assessment of the impact of piracy, but instead focuses solely on Somalia-based piracy and piracy off the West Coast of Africa. For Somalia-based piracy, we focus on attacks attributed to Somali pirates and occurring in the Gulf of Aden and Indian Ocean. For piracy off Africa's West Coast, we focus on a large region for tracking attacks overall, bounded in the north by Guinea-Bissau and in the south by Gabon. In addition, we calculate insurance costs by paying specific attention to the war risk area defined by the Joint War Committee.[3] See Appendix B for detailed information on how our areas of interest were defined.

Our geographic focus is limited, and represents an expansion from previous years. Recognizing that West Africa is a developing risk area for piracy we have chosen to include this region in this year's report. In expanding the report this way, we do not mean to suggest that these are the only regions where piracy and violent maritime crimes occur. Reporting by the IMB-PRC has tracked the global scope of pirate attacks, including other regional risk areas such as the Malacca Straits and the waters around the South China Sea[4]. Our decision to limit the focus of this report to only East and West Africa represents a continuation of our three-year focus on Somali piracy and an acknowledgement that increasingly the counter-piracy community is focusing on West Africa, but should not be construed as an attempt to be a comprehensive report on the scope of piracy.

Data Sources and Methods

As with previous years, the economic analysis is limited to only first-order direct costs and opportunity costs related to piracy. We acknowledge that an attempt such as this to model the global economic impact of piracy necessarily must confront the issue that costs to one party are gains to another. To address this, we limit our analysis to only costs to the international maritime community and associated stakeholders related directly to piracy. That is, this is an attempt to track costs to the maritime community that would not exist if it were not for piracy, even if these costs result in economic gain to some actors. In addition, we acknowledge that many of the items modeled in this report are based on incomplete information. To address this, we attempt throughout the report to engage in only conservative estimates where information is unclear.

This report contains different types of information collected using a variety of sources:

The primary sources for the number and type of attacks mentioned in this report is open-source material including publicly available reports from counter-piracy or monitoring organizations and news media reports collected from Internet and LexisNexis searches. Unless specifically cited as being from other sources, numbers of attacks and seafarers exposed are drawn from OBP's list of 2013 piracy incidents compiled from these open-source materials.

2 http://www.imo.org/OurWork/Security/PiracyArmedRobbery/Guidance/Documents/A.1025.pdf

3 Joint War Committee "Hull War, Piracy, Terrorism, and Related Perils Listed Areas." 12 June 2013. file:///C:/Users/dcseyle.OEF/Downloads/JWLA21%20Hull%20War,%20Piracy,%20Terrorism%20and%20Related%20Perils%20.pdf

4 See http://www.icc-ccs.org/piracy-reporting-centre/prone-areas-and-warnings for a current list of areas listed by the ICC as increased piracy risk areas.

See Appendix A for a full description of the methods used for compiling this list.

Numbers of ship transits in East and West Africa were taken from AIS data provided to OBP by exactEarth. Statistics on port visits in West Africa were taken from data provided by Genscape VesselTracker™. See Appendix B for information about how OBP analyzed the raw data provided.

Primary data was bolstered by interviews conducted with key stakeholders in the maritime community and information provided directly to OBP by our partners. Where information was provided directly to OBP, it is cited in this report as originating with the provider. Please refer to the acknowledgments page for a full list of contributing partners from the maritime community.

Draft versions of the report were circulated to subject matter experts to ensure that the analysis and claims made here were well-founded. BIMCO provided auditing for the calculations and the underlying assumptions that go into these calculations.

SECTION 1: PIRACY BY THE NUMBERS

This section of the report provides a brief summary of pirate activity in the Western Indian Ocean and Gulf of Aden as well as the Gulf of Guinea. A number of public and private agencies and organizations report incidents of piracy and armed robbery against ships either globally or with a specific focus on Somali piracy. Some examples of reporting institutions include:

Somali piracy and the Gulf of Guinea	Somali piracy only
IMO, IMB, MARLO, OCEANUSLive, ONI	EU NAVFOR/MSCHOA, NATO Shipping Centre, UKMTO

Each agency's or organization's reports are based on certain criteria and provide different levels of detail and information. OBP's numbers reflect the intent of this report, which is to provide an estimate of the comprehensive human and economic cost of maritime piracy in East and West Africa. To accomplish this, OBP developed a data set of pirate activity by comparing and cross checking existing open-source data including the reports provided by the previous agencies as well as newspapers and public information.[1] This choice was not made with a view toward competing with the established reporting agencies, but to ensure that the data used for our analyses was as comprehensive as possible.

Some key findings of this analysis are the following:

Somalia-based attacks:

- Attacks carried out by Somalia-based pirates continued their precipitous decline since the peak year of 2011. Somali pirates attacked only 23 vessels in 2013. No large vessels transiting the region were successfully attacked, but despite media reports that there were no hijackings in 2013 the OBP data found that regional traffic is still at risk. Four small vessels with 60 seafarers onboard were hijacked last year.
- Armed security teams aboard vessels in the Indian Ocean were relatively prevalent on those vessels reporting suspect activity: 100 vessels out of 145 reporting suspicious approaches had security teams aboard, as did 10 of the 19 vessels reporting attacks. Twenty-seven of the 100 vessels with security (27%) aboard during suspicious approaches reported firing warning shots to deter suspicious approaches, and 8 out of the 10 vessels with security aboard during attacks (80%) reported exchanging fire with pirates.

West African Attacks

- For the second year in a row, there were more piracy attacks in West Africa than the Indian Ocean. Our data set estimates 100 attacks off West Africa, including 42 hostage-taking attacks and 58 attempts at robbery.

Definitions and information reported

Following the reporting structures defined by IMB, the OBP data set breaks pirate activity into (1) suspicious approaches, (2) successful and unsuccessful attacks, and (3) hostage-taking. In this report, OBP further distinguishes between hostages held for ransom versus seafarers detained while the pirates controlled the vessel, and seafarers held ashore with associated higher risk versus those detained onboard their vessel. More specific definitions follow:

Suspicious approaches are defined as vessels reporting a close or direct approach from dhows or skiffs that felt threatening in nature as determined by the vessel master without any overt hostile action from approaching boats.

Attacks are defined as active attempts by pirates to board or harm a vessel. This includes both gunfire directed at vessels and attempts to actively board ships.

1 See Appendix A for a full description of how this data set was developed.

In the past OBP has tracked numbers of hostages as a way of identifying both the human and economic cost of piracy. In this report, the complicated nature of attacks in West African waters required us to develop a more nuanced definition of hostages. In many cases, particularly in West Africa, pirates capture vessels for the purpose of robbery or to use the vessel as a mother ship. In this case, they will detain seafarers during the attack, but their primary purpose is not hostage-taking for ransom purposes. This is a distinct situation, with different experiences and different threats to seafarers, than hostages taken for ransom. Because of this, OBP has developed the following definitions that describe the different categories of hostage experience. Where possible, we have categorized seafarers held hostage according to the following categories:

	Seafarers held for ransom	Seafarers held while pirates control vessel
Seafarers held aboard vessel	Held for ransom aboard ship	Detained
Seafarers moved ashore	Abducted for ransom	N/A

Hostages held for ransom aboard ship are seafarers who are held captive along with their ship while pirates ransom both hostages and vessel. Historically, this has been the dominant form of captivity in the case of Somali piracy. As successful attacks decrease in the Indian Ocean, this model is becoming less frequent.

Hostages abducted for ransom is defined as hostages who have been taken off of a vessel by pirates. Abducted hostages may be taken to land or transferred to another vessel in order for pirates to demand a ransom. In such situations, pirates are usually incentivized to keep a seafarer alive in order to gain a ransom payment, but the likelihood of a drawn-out negotiation is higher with associated increased risks relative to hostages held aboard ships.

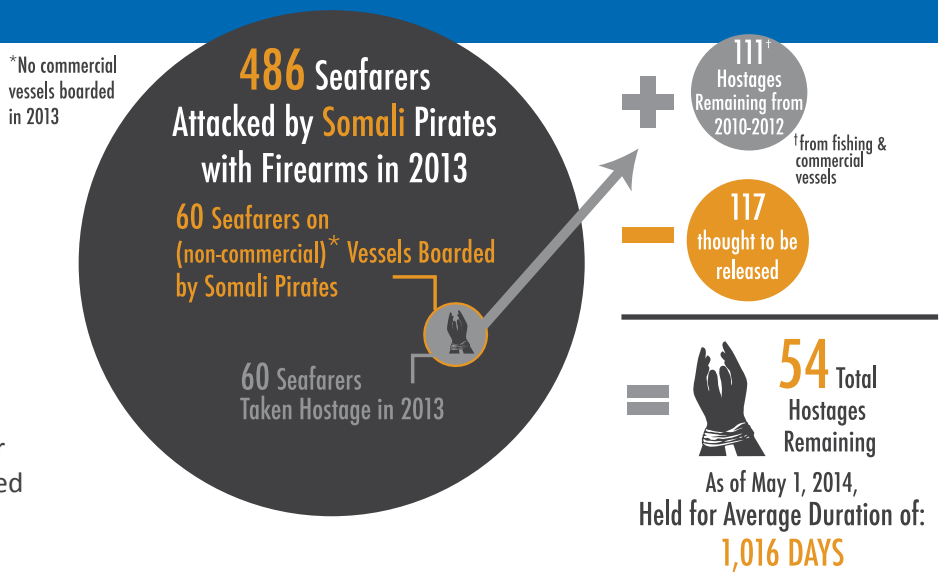
Detained Hostages are seafarers who are not captured for the purpose of ransom, but held aboard a vessel under the control of pirates for an extended period of time while pirates perform oil siphoning or armed robbery, or use the vessel for personal ends such as mother ship.

In addition, OBP also reports on vessels carrying embarked armed security teams and engaging in fire with pirates. This includes vessels reporting having either privately contracted armed security or military protection aboard the ship, and vessels reporting that embarked security had discharged weapons either as a deterrence or in response to direct attack from pirates.

EA EAST AFRICA

Summary

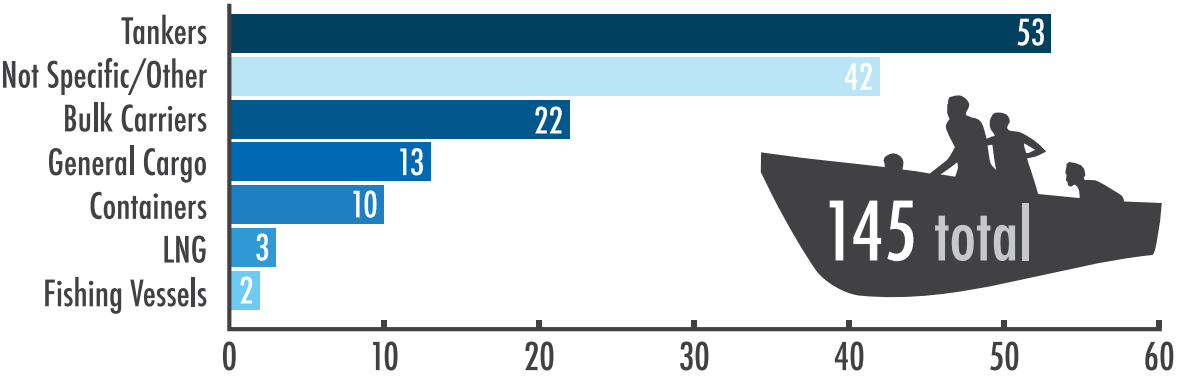
The OBP data set found that 486 seafarers were attacked by Somali pirates in 2013. These seafarers were on board the 23 vessels attacked by pirates. Of these seafarers, 60 were on vessels boarded by Somali pirates and all 60 were held hostage by Somali pirates for some period of time. This number excludes an unknown number of seafarers on the 145 vessels exposed to perceived threats from suspicious approaches by suspected pirates.



Number of suspicious approaches

In 2013, OBP tracked a total of 145 suspicious approaches. There was not enough information available to determine the number of seafarers impacted by suspicious approaches.[2]

Suspicious Approaches



Number of attacks

There were 23 ships and 486 seafarers attacked by pirates in 2013. Four of these attacks were, by OBP's definition, successful.

Attacks

Vessel type	Number of reports	Number of seafarers impacted
Tankers	8	193
General Cargo	3	52
Containers	1	34
Bulk Carriers	1	24
Fishing Vessels	3	54
Dhow	2	24
Not Specific/Other	5	105
TOTAL	23	486

Hostage-taking attacks

Of the 23 attacks above, OBP identified four successful attacks. No major commercial vessels were successfully hijacked in 2013, but smaller vessels and regional traffic appear to remain at risk. Four small vessels with 60 seafarers were successfully hijacked in 2013. Insufficient information was available to determine whether these 60 hostages were held for ransom or detained while the pirates attempted to rob or use their vessel.

2 The number of reports citing crew size was not sufficient to allow an estimate of this number

Hostage-taking Attacks

Vessel type	Number	Crew members impacted
Dhow	2	24
Fishing Vessels	2	36
TOTAL	4	60

Number of armed security engagements

When possible, OBP also tracked whether vessels subject to pirate activity were protected by an armed security team onboard and whether the team engaged in gunfire. Out of 168 vessels in our data set reporting pirate incidents in 2013, 110 (65.5%) had embarked security teams. It could be argued that this percentage is an over-representation of the prevalence of security teams since more vulnerable vessels would be more likely to employ a security team and those with a security team aboard may be more likely to report suspicious activity. These numbers appear to reinforce the importance of armed security in fending off pirates: no vessel with security aboard was successfully attacked in 2013. They also demonstrate the proactive stance taken by armed security teams. In our definitions, the defining element between suspicious approaches and attacks is overt hostile action such as gunfire or an attempt to board. By our definition, suspicious approaches included no gunfire or overt hostile action by suspected pirates, leading to the possibility that the suspected pirates were not actually pirates. Even in this case, 27% of vessels reporting a suspicious approach and security aboard reported firing warning shots to deter suspected pirates.

Prevalence of Armed Security

Incident	Number of incidents	Number of incidents with armed security	Reported security team use of weapons
Suspicious approaches	145	100	27
Attacks	23	10	8
Hostage-taking	4	0	0
TOTAL	168	110	35

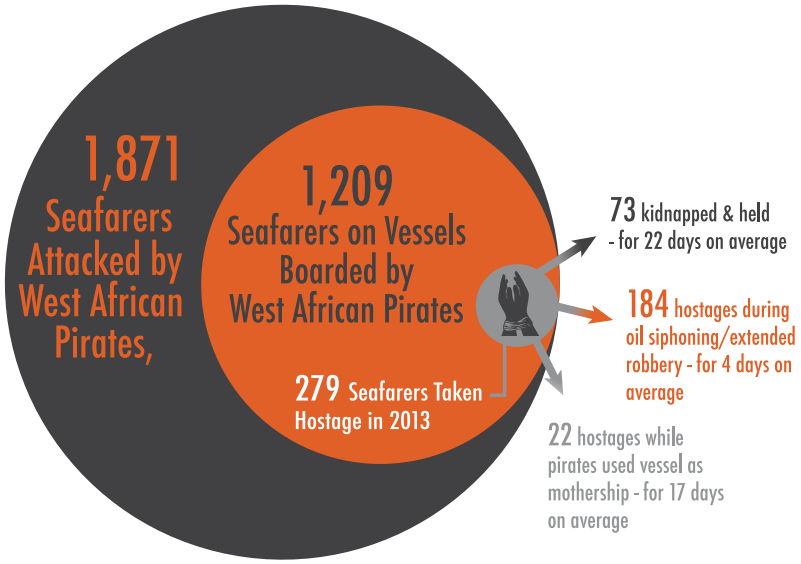
WA WEST AFRICA

Summary

In 2013 1,871 seafarers were attacked by West African pirates. Of these seafarers, 1,209 were on vessels boarded by West African pirates and 279 seafarers were held hostage for some period of time. Of the 279 hostages, 206 seafarers were detained while 73 were abducted for ransom.

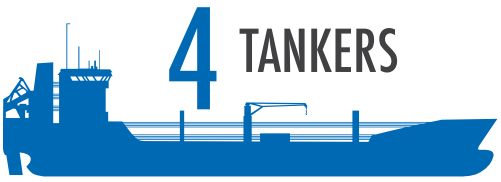
Number of suspicious approaches

In the OBP data set, five vessels reported experiencing suspicious approaches in 2013. Like the suspicious approaches in East Africa, not enough information was available from reports to determine how many seafarers experienced



suspicious approaches. This is highly likely to be an under-representation of the true numbers of suspicious approaches: the significant difference between the number of suspicious approaches in East and West Africa reflects the lack of dedicated reporting structures that exist in West Africa; unlike East African piracy, where structures such as MSCHOA and UKMTO exist to compile reports, few similar structures exist specifically for West African waters. Alternately alongside this explanation, it could also reflect different tactics: with the prevalence of embarked security in the Indian Ocean, the high rate of reported suspicious approaches could represent pirates testing the defenses of vessels before deciding to attack. West African pirates may not be using this tactic with the frequency of Somali pirates.

Number of Suspicious Approaches



Number of attacks

OBP found a total of 1,871 seafarers and 100 vessels attacked in 2013. By OBP's definitions, 56 of these attacks were successful: they were able to achieve their goal of robbery or hostage-taking. The remaining attacks were unsuccessful.

Number of Attacks

Vessel Type	Number	Crew members impacted	Successes
Tankers	32	682	16
OSV	21	308	15
Containers	8	159	2
General Cargo	10	155	5
Fishing Vessel	19	367	15
Bulk Carriers	5	109	1
Other	5	91	2
TOTAL	100	1871	56

Hostage attacks

The 100 attacks above included both robbery and attempts to take hostages. The complex nature of hostage attacks occurring in West Africa led OBP to distinguish between hostages detained and hostages abducted for ransom. A total of 42 vessels and 731 seafarers were involved with attacks including hostage-taking in 2013. Of these seafarers, 206 were detained onboard their vessels for a period of time, but not abducted; 73 were abducted to be used as hostages held at a location separate from their vessels; and 452 seafarers were neither abducted nor detained. In the latter category, this includes vessels where the pirates boarded and separated some crew from others to take as hostages, but did not retain control of the vessel for longer than the time required to identify and abduct some of the crew.

Hostage attacks

Vessel Type	Number	Hostages detained	Hostages abducted	Crew members neither held hostage nor abducted	Total crew members impacted
Tanker	13	152	11	86	249
OSV	12	34	25	114	173
FV	13	19	25	209	253
Container	2	0	9	29	38
General Cargo	2	1	3	14	18
TOTAL	42	206	73	452	731

Embarked armed security

OBP also tracked whether vessels experiencing pirate activities in West Africa were secured with an armed security team onboard. Only 8.7% of incidents reported explicitly mentioned armed security onboard, however for those that did mention it, many (7 out of 9 or 77.8%) also reported shots fired by security.

Armed Security Engagements

West Africa	Number of incidents	Number of incidents with security	Reported security team use of weapons
Suspicious approaches	5	2	2
Attacks	100	7	5
TOTAL	105	9	7

Data Limitations and Reporting Challenges

As mentioned above, Oceans Beyond Piracy acknowledges that the numbers reported in this section are different from those reported by other agencies in 2013. This reflects the challenges of deriving consistent statistics where multiple reporting centers collect independent data. This also reflects that fact that there is no enforceable requirement for vessels or flag states to convey these reports to international reporting agencies. Since there is no obligation to promulgate or share these reports with the public, it remains a challenge to assess the extent of these crimes and their impact on seafarers, fishermen, and local populations.

The numbers reported here likely suffer from similar issues as previous reports. That is, due to the emphasis on open-source data, incidents such as hostage-taking that have more serious or public impacts are more likely to be accurately represented than are incidents such as suspicious approaches. The same is potentially true regarding under-reporting of incidents in which there may have been a more extensive exchange of gunfire and possible casualties. It is believed that security concerns and local considerations on the West Coast also lead some ship owners and companies to withhold reports of some incidents or to keep the level of detail to a minimum. Because of these limitations, the numbers reported here should be considered a “best guess” estimate of the order of magnitude of the problem rather than a definitive count of incidents.

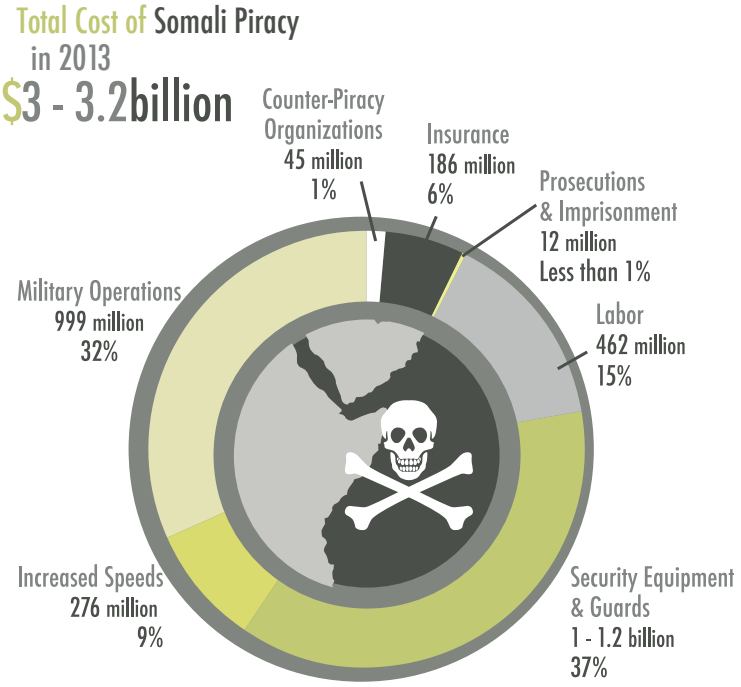
SECTION 2: EAST AFRICAN PIRACY

Introduction: The State of Somali Piracy

Somali piracy continued its decline in 2013. Attacks by Somali pirates dropped to even lower levels than 2012, leading to a significant drop in the economic and human costs of maritime piracy. Our data indicate that in 2013, no merchant vessel was successfully attacked. While the exact cause of this decline is impossible to identify, an important trend that may relate to the decline of piracy was the continued use of private security aboard vessels off the coast of Somalia, as well as the continued international navy presence.

This section of the report includes three elements: First, we analyze the economic cost of Somali piracy. Secondly, we look at the human cost of piracy in the region. Finally, we provide our analysis of what these elements suggest for trends in Somali piracy.

Key findings:



- The overall cost of Somali piracy is down by almost 50%. The total cost for 2013 was $3 billion-3.2 billion; down from $5.7 billion-6.1 billion in 2012. This cost downturn is mainly driven by reduced costs for ship transit patterns across the High Risk Area, such as reduced speeds and less re-routing by merchant vessels crossing the High Risk Area. Other significantly lower costs include insurance costs, and reduced costs for prosecutions and imprisonment as venues shift to less costly jurisdictions.
- The improving security situation in the Indian Ocean is leading shipping companies to seek more cost-effective countermeasures, including a shift towards smaller and less expensive private security teams and a significant reduction in rerouting and high-speed transits of the region.
- Despite 117 hostages thought to be released in 2013, the stated goal of the counter-piracy community of zero attacks and zero hostages (the “zero-zero” goal) has not been met. At the time of writing this report, up to fifty-four seafarers remain held hostage by Somali pirates, and pirates retain the ability to test and attack vessels. All current hostages are viewed by OBP as high-risk hostages.
- While exposure to violence is down, the human cost of piracy continues to be borne by seafarers who suffer attacks and remain at risk, as well as by local Somalis who are negatively impacted by piracy. In addition, private security contractors themselves could potentially be impacted in the long term by piracy, as these contractors are exposed to physical threat, the risk of long-term emotional distress related to combat, and potential legal threats.

The Economic Cost of Somali Piracy

As with previous reports, this year's report sets out to assess the economic impact of maritime piracy by looking at nine cost categories used in tracking direct and opportunity costs associated with piracy. An overview of the categories examined and a brief overview of findings follows.

Cost Categories Assessed by OBP

1. **Ransoms and recovery:** These are costs associated with payments to pirates for the release of hostages and hijacked vessels. OBP estimates that $21.60 million was spent on ransoms in 2013. This number shows a decrease of 32% from the $31.75 million spent on ransoms in 2012, and reflects the decrease in hostages taken and held in 2013. In addition to the cash ransoms paid to pirates, it is estimated that as much as an additional 100% of the ransom value goes to cover the negotiations and delivery of the ransom. Therefore, this cost category can be as high as $43.2 million. However, similar to previous years, we do not include these costs in the total cost of piracy as they are assumed to be covered by piracy-related insurance products which are being calculated separately.
2. **Military operations:** This category includes costs related to the ongoing deployment of international naval forces to protect shipping in the Indian Ocean, as well as surveillance, coordination, and counter-piracy operations undertaken by national militaries. In 2013, the estimated costs are $999 million, which is a decrease of 8.4% compared with the 2012 estimate of $1.09 billion. Though holding fairly steady, the slight decrease is largely due to a gradual drawdown of forces from the major multinational missions of the European Union Naval Force (EU NAVFOR), Operation Atalanta, the North Atlantic Treaty Organization (NATO) Operation Ocean Shield and the Combined Maritime Forces (CMF) Combined Task Force 151 (CTF 151) while the presence of independently deployed naval forces has increased slightly.
3. **Security equipment and guards:** These costs include equipment used by ships to deter pirate attacks as well as costs of private security teams. Total costs for security in 2013 are estimated by OBP to be between $1.02 billion and $1.18 billion. This is a reduction of between 33% and 43% from the estimated $1.65-2.06 billion spent in 2012. One major reason for this decrease is a reduction in the estimates for Privately Contracted Armed Security Personnel (PCASP). Based on data provided to OBP on the numbers and structure of security teams, estimates for vessels using security teams have fallen to 35-40% from 50% in 2012. We have estimated costs looking at both four and three-person security teams. Furthermore, increased competition in the maritime security industry has led to lower prices per transit and increased use of smaller and cheaper teams. The reduction in costs in this category also reflects updated costs for security equipment installed on merchant vessels.
4. **Re-routing:** This category tracks costs associated with significant deviation from the most direct route across the Indian Ocean for vessels that choose to hug the coasts in order to reduce the risk of pirate attacks. Continuing the decline noted in the 2012 report, our analysis finds no evidence that re-routing remains a common practice for vessels transiting the Indian Ocean. Automatic Identification System (AIS) data for 2013 suggest that the percentage of commercial vessels in the Indian Ocean along the direct route to and from the Gulf of Aden has returned to its pre-piracy baseline. This does not suggest that re-routing has completely ceased, but it does suggest that re-routing is not taking place on a large enough scale to distort the traffic patterns of commercial vessels in the Indian Ocean. Therefore, costs in this section are estimated at $0 for 2013, down from $290.5 million in 2012.
5. **Increased speed:** This category tracks costs attributable to vessels using increased speed above the optimal level for fuel use as a protective or evasive measure. Self-reported vessel speeds in the 2013 AIS data suggests that speeds in the region are much closer to optimal fuel use than in previous years. While the percentage of tankers and cargo vessels exceeding optimal speed at some point in their transit

remains relatively high (46.6% and 41.7% respectively), average speed across the transit is much closer to optimal than it was in previous years. Due to this decrease in speed, the cost for increased fuel use in 2013 is estimated at $276.2 million. This is a significant decline from 2012.

6. **Labor:** Labor-related costs include the cost of seafarer pay during captivity as well as the increased hazard pay due to seafarers transiting High Risk Areas (HRA). OBP estimates that labor costs related to piracy totaled $462.1 million in 2013, down slightly from the estimate of $471.6 million in 2012. The primary reason for this decline is due to the significantly reduced estimates for captivity pay, down from $5.3 million in 2012 to $694,710 in 2013. This decline reflects the significantly lower number of seafarers in captivity in 2013.

7. **Prosecutions and imprisonments:** Costs in this category include those associated with the international legal response to piracy including the costs of investigations, prosecutions, trials, and post-conviction imprisonment of pirates. Estimates for prosecution and imprisonment costs in 2013 totaled $12.2 million, down from $14.89 million in 2012. This decline is largely attributable to the decreasing costs related to piracy trials, which dropped 30% in 2013. This drop appears to be related to the continuing shift of prosecution from expensive European and North American venues to less costly ones in African countries. In addition, the per-trial cost for European venues dropped significantly after the completion of the trial of pirates suspected of attacking *MV Taipan*. Despite the lower costs associated with trials, more trials were completed in 2013 than in 2012: 31 as compared with 21.

8. **Insurance:** Our total estimate for the cost of piracy-related insurance related to Somali piracy is $185,703,266, equaling a 66% decline from 2012. This decline reflects the decline in Somalia-based piracy and, in some cases, very sizeable downwards premium adjustments and/or no-claims rebates to ship owners. Additionally, the use of PCASP onboard vessels has resulted in increased deductions to overall insurance premiums due to their effectiveness as a piracy deterrent. This downward trend in piracy-related insurance costs is consistent with our projection in the 2012 ECOP report that, with the downward trend in Somalia-based piracy attacks on vessels, costs would continue to decline in 2013.

9. **Counter-piracy organizations:** Administrative costs, as well as contributions to organizations dedicated to countering piracy, including those addressing its root causes through capacity-building, are tracked in this category. Total costs for 2013 are estimated at $44.7 million. The year saw a significant increase in funds contributed to counter piracy organizations as compared with $24.08 million in 2012. This increase indicates that the international community has begun to shift its efforts toward a commitment to seek long-term solutions to piracy by investing more money in capacity-building programs.

Total Cost of Somalia-Based Piracy 2013

	Low	High
Cost of Military Operations	$998,586,838	$998,586,838
Cost of Security Equipment and Guards	$1,015,752,137	$1,177,302,507
Cost of Re-routing	0	0
Cost of Increased Speed	$276,154,781	$276,154,781
Cost of Labor	$462,134,710	$462,134,710
Cost of Prosecutions and Imprisonment	$12,187,694	$12,187,694
Cost of Insurance	$185,703,266	$185,703,266
Cost of Counter-piracy Organizations	$44,708,922	$44,708,922
TOTAL	$2,995,228,348	$3,156,778,718

Note that total costs of up to $43.2 million to cover ransoms and related expenses have not been counted in this total, as these costs are assumed to be reimbursed by insurance companies.

COST OF RANSOMS AND ASSOCIATED PAYMENTS

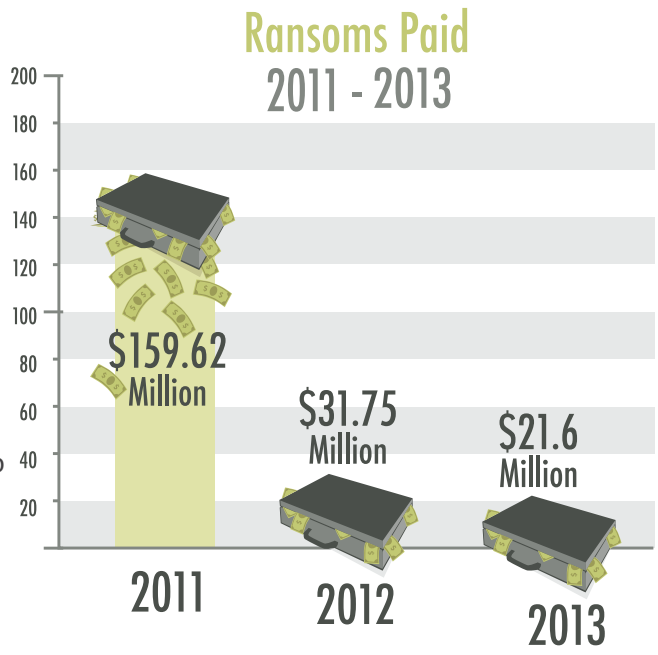
Three ransom payments were made to Somali pirates in 2013 with a total maximum payout of $21,600,000. This represents a significant decrease of 32% from 2012 where an estimated $31.75 million was paid. However, the average ransom payment for 2013 increased by 81% over 2012, from $3.968 million in 2012 to $7.2 million in 2013. This is due in large part to the $13 million ransom payment for the release of *MT Smyrni* and its 26 crewmembers on March 10, 2013.[1]

Ransom Payments and Hostage Situation Duration, 2012-2013

	2012	2013
Number of vessels released after ransom payment	8	3
Average number of days that released hostages were held captive	316	567
Average ransom payment	$3.968 million	$7.2 million
TOTAL RANSOMS PAID	$31.75 million	$21.6 million

As shown in the graphic, while the average duration of hostage captivity and the average ransom payment increased from 2012 to 2013, the total dollar amount of ransoms paid decreased by an estimated $10.15 million, or 32%, in 2013. Additionally, only three vessels were released in return for ransom during 2013 as opposed to eight vessels in 2012, which demonstrates a 62.5% decline.[2] See Appendix C for full details on OBP's estimates of ransoms paid in 2013. In terms of the economic cost of ransom payments, the fact that the average ransom payment in 2013 rose by 81.5% from 2012 demonstrates that, overall, the cost of releasing a vessel from Somalia-based piracy has grown substantially despite the decline in total ransoms paid.

In addition to the actual ransom payment, ship owners incur other associated costs, such as crisis consultant fees, legal fees, medical and psychiatric care for crewmembers held hostage, or other associated costs.[3] These associated costs frequently equal the amount of the ransom payment, thereby increasing the total cost of ransoms and associated payments by 100%, or up to $43.2 million total. Both ransoms and associated costs, however, tend to be covered by insurance policies designed specifically to address piracy, such as Kidnap and Ransom (K&R) insurance. As has been the case in previous reports, we do not count the cost of ransoms in the total economic cost estimates as these and the related expenses have been calculated as part of the cost of insurance.



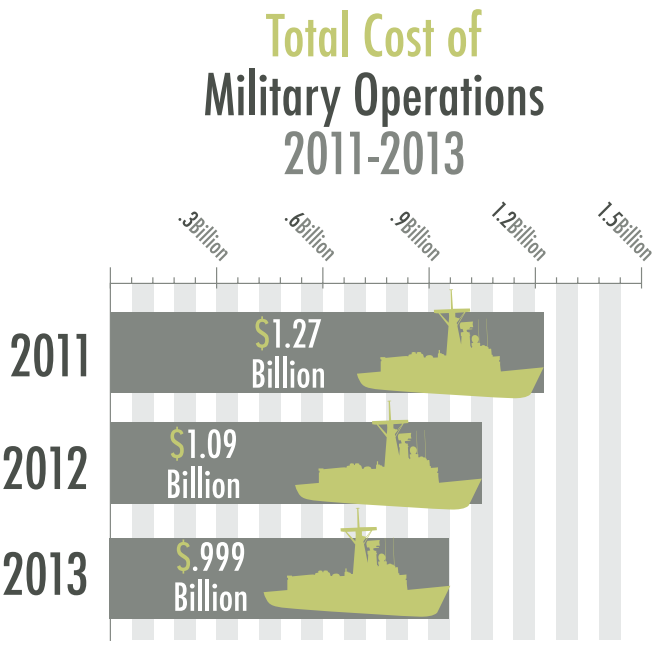
1 gCaptain Staff, "Ransom Paid…Somali Pirates Release MV Royal Grace and MT Smyrni" [Update 2], *gCaptain* (March 11, 2013) retrieved from http://gcaptain.com/ransom-paid-somali-pirates-release/

2 Bellish, J. (2012). The Economic Cost of Maritime Piracy. Oceans Beyond Piracy. (pp.12) Retrieved from: http://oceansbeyondpiracy.org/sites/default/files/attachments/View%20Full%20Report_1.pdf.

3 Piracy – The Insurance Implications (2011). Marsh Inc. (pp.5) Retrieved from: http://www.igpandi.org/downloadables/piracy/news/Marsh%20Piracy%20implications.pdf.

COST OF MILITARY OPERATIONS

Over the past several years, one of the primary tools for suppressing piracy has been the deployment of multinational naval forces to the Western Indian Ocean and the Gulf of Aden. The main objectives of naval vessels are to (1) deter pirate action groups from taking to sea, (2) disrupt pirate action groups that do get to sea, (3) escort humanitarian vessels and shipping traffic in the Internationally Recognized Transit Corridor (IRTC); and (4) respond to reported attacks and threats. The three main coalitions of naval forces that have been fighting piracy in the Western Indian Ocean continued operating throughout 2013. These forces are the EU NAVFOR Operation Atalanta, NATO Operation Ocean Shield, and the CMF CTF 151. In addition to these coalition forces, individual countries, or so-called 'independent deployers', such as China, India, Indonesia, Iran, Japan, Malaysia, and Russia have committed significant naval forces to tackle piracy and escort their respective ships. Including the coalitions and independent deployers there were between 15 to 20 navy vessels deployed on counter-piracy missions at any given time in 2013. This number could vary greatly from week to week as ships detached for national tasking, other priority missions in the region and for required logistics. Additionally, patrol aircraft and Unmanned Aerial Vehicles (UAVs) were deployed to monitor activity from the sky.



2013 saw a continued reduction in naval vessels deployed by the "Big 3"—CMF, EU NAVFOR and NATO, evident in the decrease in their administrative budgets, operating and fuel costs for these missions, and decrease in cost of vessel protection detachments due to fewer humanitarian escorts. However, the decrease in these forces is mostly offset by the continued number of independently deployed vessels in the region. While independent vessels are deployed to the region for counter-piracy missions, they also devote a significant amount of time to tasks unrelated to counter-piracy, a level of specificity we are unable to calculate. The time spent on tasks not related to counter-piracy has been accounted for in our calculations.

For the purposes of this study, in 2013 the costs of military efforts associated with counter-piracy include: the administrative budgets of the three major international coalition operations, their vessel protection detachments, the additional fuel and operating costs of all surface and air vessels associated with deployments, the cost of UAV deployment, the cost of Shared Awareness and De-Confliction (SHADE) meetings, and the estimated costs of independently deployed vessels.

A. *Administrative Budgets of Naval Operations*

The total administrative budgets of Operation Atalanta, Operation Ocean Shield and CTF 151 decreased by $1.8 million, or 8%, from 2012 and totaled $21 million in 2013. The difference speaks to the overall decrease in size of each mission, although the total continues to be diminutive in contrast to the operating cost of each mission. Each mission's administrative costs are borne by the mission itself, while vessels are contributed by a variety of nations with the costs borne by the donating country. The administrative costs include operational headquarters and theater headquarters aboard flagships, miscellaneous services, and transport provided by funding

mechanisms such as the Athena Committee of the European Union, which funds EU NAVFOR through member state contributions.[4, 5]

The majority of expenditures relating to the deployment of national vessels are borne by the donor country. As an example, the costs of deployment for Spanish vessels deployed as a part of Operation Atalanta will be paid for by Spain, despite the fact it is part of an international force. Thus, the administrative costs are the only shared costs that do not come directly out of country specific budgets. The table below shows the breakdown of the estimated $21 million total administrative budgets for the three international forces.

Administrative Costs 2013

Mission	Cost
EU NAVFOR Operation Atalanta	$10.2 million[6]
NATO Operation Ocean Shield	$5.4 million[7]
CMF CTF 151	$5.4 million[8]
TOTAL	$21 million

Contributing Nations Include:

EU NAVFOR Operation Atalanta	NATO Operation Ocean Shield	CMF CTF 151	Independent Deployers
Spain, Germany, Belgium France, Netherlands, Norway, Portugal, Sweden, Italy, Estonia	Italy, Turkey, USA, Denmark, Netherlands, Norway, Ukraine	Australia, Japan, Pakistan, South Korea, Turkey, UK, USA	China, India, Iran, Japan, Malaysia, Russia

B. *Cost of Naval Vessel Deployment*

Because the costs of operating vessels are borne by the countries that deploy them, the fuel and operating costs of vessels are calculated separately from the administrative costs. We also calculate the cost of independent deployers separately prior to combining the different costs in order to be sure to take into account the different operating cost levels across the globe. For instance, it generally costs less to operate a Chinese vessel than it does an American vessel, due to discrepancies in elements such as wages and equipment costs.[9]

The following is a breakdown of the average availability of surface vessels and aircraft deployed and engaged in counter-piracy operations at any given time by EU NAVFOR, NATO, CMF and all independent deployers off East Africa. Although independent deployers coordinate to varying degrees with the "Big 3"—some navies do not coordinate at all. These are the best estimates OBP was able to make based on open source data available regarding deployment schedules and from discussions with naval experts. The estimates represent an upper bound, as many of the vessels spend significant portions of time on domestic operations while simultaneously deployed for counter-piracy missions.[10]

4 More information can be found here: http://www.consilium.europa.eu/policies/common-security-and-defence-policy-(csdp)/financing-of-csdp-military-operations.

5 EUNAVOR Mission. (2013). Retrieved from: http://eunavfor.eu/mission.

6 Divided 2013–2014 budget posted on their website by 2 and converted to USD.

7 Since data was not available for the administrative costs of NATO's Operation Ocean Shield or CTF 151, we have estimated that their administrative budgets are approximately half that of EU Operation Atalanta. This is consistent with ECoP 2012.

8 Ibid.

9 Wardell, J. Search for MH370 to be most expensive in aviation history. (2014, April 8). Reuters. April 8, 2014. Retrieved from: http://www.reuters.com/article/2014/04/08/us-malaysia-airlines-costs-idUSBREA3709520140408.

10 The numbers of total vessels deployed at any given time for EUNAVFOR, NATO, CTF 151 and independent deployers were arrived at through rigorous research through publicly available data as well as OBP interviews with naval and counter-piracy experts.

Vessel Distribution

	EU NAVFOR Operation Atalanta	NATO Operation Ocean Shield	CMF CTF 151	Independent Deployers
Surface Vessels	5.5	2	1.75	9.5
Patrol Aircraft	3	0	1	2
Helicopters	5			

Grand Total Operating Cost

	Operating Cost		Fuel Cost	Total
	Independent Operators	Coalition Operations		
Surface Vessels	$58,820,000	$168,728,400	$684,901,155	$912,449,555
Aircraft	$4,732,800		$34,845,339	$39,578,139
TOTAL	$232,281,200		$719,746,494	$952,027,694

See Appendix D for full details on how these vessel costs were calculated.

The total cost of operation and fuel for surface and air vessels associated with counter-piracy this year was $952,027,694, a slight decrease from 2012. This decrease reflects the continued drawdown of Operation Atalanta, Operation Ocean Shield and CTF 151 operations off the Somali coast, which is largely offset by the increased presence of independent deployers.

C. *Cost of UAV Deployment*

Unmanned Aerial Vehicles, or drones, continued to be deployed in 2013, although there are indications that the mission of drone detachments may be shifting significant operating hours towards counterterrorism or on-shore operations.[11] To address the potential broadening of mission, we adjusted our methodology by decreasing the duration of missions per day. However, due to the fact that details of drone operations and missions are classified, it is difficult to know exactly how many and for how long UAVs are used for counter-piracy at any given time. The table below shows a conservative estimate using some of the more commonly deployed UAVs.

Cost of UAV Deployment[12]

Type	Number of Units	Hourly Cost	Duration of Mission per Day	Total Operational Cost
Ship-based[13]	1	$1804	6	$7,901,520
Land-based[14]	2	$1457	5	$5,318,050
			TOTAL	$13,219,570

11 For example, a US drone was shot down by Al-Shabaab in early 2013. *See* Aislinn Laing, "US drone 'shot down by al-Shabaab in Somalia,'" *The Telegraph* (May 29, 2013) available at: http://www.telegraph.co.uk/news/worldnews/al-qaeda/10086660/US-drone-shot-down-by-al-Shabaab-in-Somalia.html

12 Bellish, J. (2012). The Economic Cost of Maritime Piracy. Oceans Beyond Piracy. (pp.16) Retrieved from: http://oceansbeyond-piracy.org/sites/default/files/attachments/View%20Full%20Report_1.pdf.

13 Ship based drones are largely robotic helicopters.

14 Land based UAVs are modeled as Reaper and Global Hawk models.

D. ***Cost of Vessel Protection Detachments***

One aspect of EU NAVFOR's mission is to provide Vessel Protection Detachment (VPD) teams aboard humanitarian aid vessels from World Food Programme (WFP) and African Union Mission in Somalia (AMISOM) to further guard the goods and supplies they carry against pirates. Though EU NAVFOR has been training AMISOM personnel in VPD operations, there is little evidence to suggest the teams were operating in 2013.[15] OBP therefore calculated the cost of EU NAVFOR VPDs aboard both WFP and AMISOM vessels. These teams are armed, and accompany the vessels as they transit the HRA.[16] However, outside of the WFP and AMISOM, ship owners seem to continue to be hesitant to contract VPDs due to their higher cost, and generally only do so when national interests or regulations require this.[17] Nevertheless, Operation Atalanta escorted approximately 81 vessels in 2013, at a total estimated cost of $11,715,634.26, down nearly $8 million from 2012.

Cost of Vessel Protection Detachments Aboard African Union Mission in Somalia and World Food Programme Vessels

Program	Ships per Year	Cost per VPD Team[18]	Total Cost VPD Team
World Food Program	49	$144,637	$7,087,235
AMISOM	32	$144,637	$4,628,398
		TOTAL	$11,715,634

E. ***Cost of SHADE Meetings***

The last major cost category attributed to naval operations is the cost of the SHADE meetings. SHADE meetings are a mechanism by which the multinational navies operating in the Indian Ocean de-conflict operations and share information about planned activities. These meetings are hosted by CMF in Bahrain and held on a quarterly basis. In addition to the scheduled quarterly meetings, 2013 also included the 26th meeting originally scheduled for 2012. Costs for SHADE meetings in 2013 are estimated at $623,940, reflecting the cost associated with bringing together attendees from as many as 31 nations and organizations. Full information on this calculation is available in Appendix D.

SHADE Meeting	Meeting Date	Meeting Location	Total
26th Meeting	January 2013	Bahrain	$124,788
27th Meeting	March 2013	Bahrain	$124,788
28th Meeting	June 2013	Bahrain	$124,788
29th Meeting	September 2013	Bahrain	$124,788
30th Meeting	December 2013	Bahrain	$124,788
		TOTAL	$623,940

15 AMISOM Maritime. African Union Mission in Somalia (2013). Retrieved from: http://amisom-au.org/mission-profile/amisom-maritime/

16 EUNAVOR news: Estonian Vessel Protection Detachment Operating On A French Vessel, (2013 March 2013). Retrieved from: http://eunavfor.eu/eu-naval-force-estonian-vessel-protection-detachment-operating-on-a-french-vessel/

17 Bibi Van Ginkel, Frans-Paul van der Putten, and Willem Molenaar, "State or Private Protection against Maritime Piracy: A Dutch Perspective," Clingendael: Netherlands Institute of International Relations (April 2013): http://www.marsecreview.com/wp-content/uploads/2013/04/20130200_state_or_private_protection_web.pdf

18 Costs per team, based on an average 3 week deployment for Dutch vessels, were €105,000 with the conversion to USD completed March 24, 2014. *See* Van Ginkel, et al., "State or Private Protection against Maritime Piracy: A Dutch Perspective," supra note 15.

Cost of SHADE Meetings

Total Cost of Counter-Piracy Military Efforts

Administrative Budgets	$21,000,000
Naval Vessels	$952,027,694
UAVs	$13,219,570
VPDs	$11,715,634
SHADE Meetings	$623,940
TOTAL	$998,586,838

Approximately 95% of the total military costs associated with counter-piracy activities were made up by surface vessel and aircraft deployed to patrol and disrupt pirate action groups. This category, naval vessels, decreased by 7% from 2012 to 2013, due to a continued drawdown of coalition vessels deployed on counter-piracy missions. The remaining cost categories—administrative, UAVs, VPDs, and SHADE meetings—combined, increased nearly 30% from 2012. Accordingly, the total cost of military operations decreased by approximately 8.5% from 2012 to $998,586,838.

COST OF SECURITY EQUIPMENT AND GUARDS

Industry guidelines for best practices for vessels transiting waters at risk of Somali piracy are contained in the Best Management Practices Version 4 (BMP4).[19] These guidelines are designed to assist shipping companies and ships' crew in implementing appropriate counter-piracy precautions. BMP4 includes recommendations regarding how to conduct a vessel transit risk assessment and specific suggested vessel hardening measures and reporting procedures.[20] One important part of these security measures is the use of equipment such as razor wire and sandbags to help make the vessel a more difficult target for a successful attack. The expense of such equipment is therefore one category tracked by OBP in assessing the cost of piracy.

According to the Maritime Security Centre Horn of Africa (MSCHOA), approximately 80% of vessels transiting the HRA comply with BMP4 recommendations.[21] Our estimates of the use of security equipment are based on an assumption that 80% of at-risk ships use such equipment to some degree. To calculate the number of at-risk ships we used AIS data provided to OBP by exactEarth for vessels transiting the HRA, leading to an estimate of 65,922 transits.[22] Some of the more common counter-piracy security measures are listed and their costs are assessed in the following table:

19 BMP4. Best Management Practices for Protection against Somalia Based Piracy Version 4. (2011 August). Retrieved from: http://www.mschoa.org/docs/public-documents/bmp4-low-res_sept_5_2011.pdf?sfvrsn=0.

20 Ibid.

21 Askins, S. The Battle for Herd Immunity. (2013, April 22). Retrieved from: http://www.lloydslist.com/ll/sector/regulation/article421366.ece.

22 See Appendix B for full details on the method used for calculating transits.

Cost of Security Equipment

Type of Equipment	Unit Cost per Ship	Units per Year	Rate of Use (Low)	Rate of Use (High)	Total Cost (Low)	Total Cost (High)
Razor Wire	$1,400.00[23,24]	2.00	80%	80%	$147,665,280	$147,665,280
Water Cannons	$118,755.00[25]	.20	.25%	.83%	$3,914,283	$12,995,421
Electrified Barriers	$39,585.00[26]	.33	.75%	2.5%	$6,458,567	$21,528,559
Warning Signs	$4.50	3.00	80%	80%	$ 711,957	$ 711,957
Acoustic Devices	$21,000.00	.20	5%	15%	$13,843,620	$41,530,860
Sandbags	$1,424.16	1.00	80%	80%	$75,106,780	$75,106,780
				TOTAL	$247,700,487	$299,538,857

Cost of Armed Guards

Throughout 2013, armed guards, combined with the effective implementation of BMP, continued to play a significant role in efforts by ship owners to deter pirate attacks as mentioned by the UN Secretary-General.[27] Despite the effectiveness of armed guards, OBP estimates that 2013 saw the trend shifting from four-guard teams to teams of three or even two guards. A comprehensive data set regarding the use of PCASP in 2013 provided by one of the world's largest flag states and analyzed by Dirk Siebels, a PhD Candidate at the Greenwich Maritime Institute in London, was shared with OBP for this year's report. The data set offers a unique insight into the changes in size and composition of PCASP teams in 2013.[28]

The table below shows the development in the size of PCASP teams reported to Siebels in 2013:

	Mar-13	Jun-13	Sep-13	Dec-13
1-3 guard teams	39.06%	41.18%	41.25%	42.61%
4-6 guard teams	60.94%	58.82%	58.75%	57.39%
AVERAGE TEAM SIZE	3.63	3.57	3.58	3.55

The increased use of smaller teams is an indication of cost pressures on the shipping industry. Although Somali piracy is still considered a threat and therefore armed guards are considered necessary to protect merchant vessels, customers are seeking lower cost options in order to keep their expenses down. One way to lower

23 Cost for 70 meter razor wire retrieved from: http://www.seabird-marine.com/New%20Tricks%20Against%20The%20Somali%20Pirates.htm.

24 New products to replace razor wire are also being marketed: http://www.telegraph.co.uk/finance/businessclub/10378025/Meet-the-entrepreneurs-bringing-an-end-to-marine-piracy.html.

25 Bellish, J. (2012). The Economic Cost of Maritime Piracy. Oceans Beyond Piracy. Retrieved from: http://oceansbeyondpiracy.org/sites/default/files/attachments/View%20Full%20Report_1.pdf.

26 Ibid.

27 "Report of the Secretary-General on the situation with respect to piracy and armed robbery at sea off the coast of Somalia", 21 October 2013, Available at: http://oceansbeyondpiracy.org/sites/default/files/attachments/N1350471.pdf

28 The data set is based on the requests of ship operators for permission from the flag state for a PCASP team to be embarked on board one of their ships while transiting through a designated HRA. Upon receipt of such a request, the flag state carries out due diligence on the PMSC and then issues a Letters of Non-Objection (LONO) allowing the owner to embark a PCASP team for that transit. In 2013, more than 1500 LONOs were issued. These data represent all security teams reported to the flag state and are not specific to Somali waters. However, the vast majority of teams included in this data (more than 95%) are reported as operating in the waters off Somalia. The study behind the data set was facilitated by SAMI. For detailed information about the data, please contact Dirk Siebels at d.siebels@greenwich.ac.uk

the price of a PCASP team is by reducing the size or by choosing a team of mixed nationalities. Baltic and International Maritime Council (BIMCO) continues to advocate for a minimum of 4 man teams in GUARDCON, but accepts that where the risk analysis indicates that a 3 man team may well be sufficient.

In the past, armed guards were primarily former military forces from the United Kingdom or other Western countries. Siebels' data demonstrate that there has been a shift towards the use of more security team members from non-NATO countries. The cost of these mixed-nationality teams is often less than that of an all-Western team, due in part to salary differentials as well as a lack of standardization for training and use of armed guard teams internationally. The table below is an example from the security company Gulf of Aden Group Transits Limited and illustrates how armed security teams may be composed of team leaders from Europe with other members from the Philippines and that the price decreases with more mixed teams.

Armed Security Teams, Gulf of Aden Group Transits Limited[29]

	Diamond	Platinum	Gold Plus	Gold
British Team Leader	✓	✓	✓	
British Team Members	✓			
European Team Leader				✓
European Team Members		✓		
Filipino Team Members			✓	✓

Data provided by Siebels show a trend across 2013 towards the increasing use of non-NATO team members, with the biggest shift happening between June and September 2013:

Distribution of Nationalities of PCASP Personnel in the Siebels Data Set

	March 2013	June 2013	Sep 2013	Dec 2013
NATO country	74.84%	79.32%	69.77%	65.39%
Non-NATO country	25.16%	20.68%	30.23%	34.61%

The decreasing use of guards from the UK is evident in the following table which shows the top ten PCASP nationalities at the end of 2013:

29 Gulf of Aden Transits Limited, "Armed Security Teams," retrieved from http://goagt.org/armed-security/armed-security-teams/

Nationality of Personnel	March 2013	June 2013	Sep 2013	Dec 2013
UK	52.71%	55.27%	50.44%	34.77%
Greece	9.76%	16.03%	10.19%	23.13%
India	4.77%	7.38%	8.44%	13.56%
Ukraine	7.59%	2.74%	10.90%	6.22%
Sri Lanka	4.34%	1.27%	0.70%	3.83%
Nepal	0.87%	1.48%	2.46%	3.83%
Philippines	2.82%	3.80%	4.92%	3.67%
Poland	1.30%	0.84%	1.93%	3.35%
South Africa	0.65%	1.90%	1.05%	2.07%
Estonia	6.29%	4.43%	3.34%	1.59%

With these developments in mind, we calculated the estimated cost of armed guards for 2013 based on the estimated number of vessels using three guards and those using four guards. As with security equipment, estimates of cost were based on 65,922 transits identified from AIS data provided by exactEarth.

Of the transits in our area of interest, we believe that between 35% and 40% carried teams of armed guards. This estimate is supported with data from MSCHOA registrations as well as by our conversations with industry experts and online reports.[30,31] This year, we chose to separate our lower- and upper-bound cost estimates for the use of armed guards based on a slight change in methodology. Rather than using a low cost estimate for three guards and a high cost estimate for four guards and applying those to the total number of transits, we chose to break down the estimated size of guard teams within both the lower-bound and the upper-bound cost total. Based on data collected by Dirk Siebels, we estimate that approximately half of the vessels using PCASP in the Western Indian Ocean and Gulf of Aden used three guard teams and half used four guard teams. Estimating a 35% rate of use on the low end and a 40% rate of use on the high end, our total cost estimate for armed guards ranges from $767.1 million to $876.7 million for combating piracy off the coast of Somalia.

Cost of Armed Guards

	Lower bound	Upper bound
Number of transits	65,922	65,922
Estimated use	0.35	0.4
Number of transits with guards	23,072	26,368
N with 3-guard teams (est at 50%)	11,536	13,184
N with 4-guard teams (est at 50%)	11,536	13,184
Cost for 3-person teams at $28,500/team	$328,776,000	$375,744,000
Cost for 4-person teams at $38,000/team	$438,368,000	$500,992,000
TOTAL COST	$767,144,000	$876,736,000

Last year's estimated cost of armed guards was $1.15 billion to $1.53 billion. This decrease of 33% to 43% can be explained by several factors. First, we have seen a shift towards less expensive teams comprised of more

30 Stephen Askins, "The Battle for Herd Immunity" *Lloyd's List* (April 22, 2013) retrieved from http://www.lloydslist.com/ll/sector/regulation/article421366.ece

31 Oceanus Live, "Weekly Maritime Situation Report," Volume 3, No. 11/14 (March 8–14, 2014) retrieved from http://www.oceanuslive.org/main/DownloadAsset.aspx?uid=777.

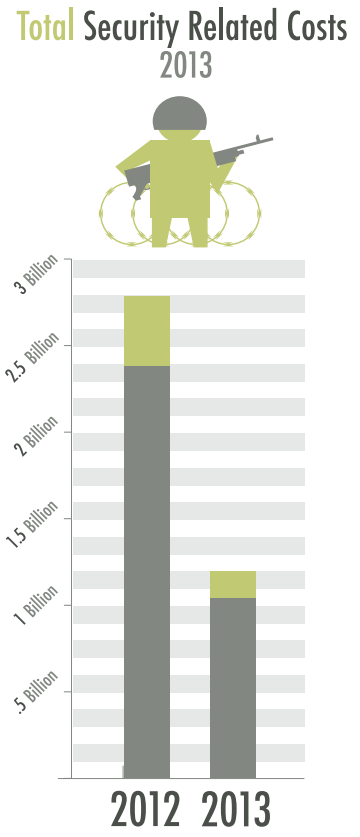
mixed nationalities.[32] In addition, we estimate that 35-40% of vessels in our area of interest employed armed guards for 2013, a decline from last year's estimate of 50%.[33] We also accounted for the mix of vessels using three and four guard teams in our calculation this year, instead of assuming that all vessels with guard teams used teams either of three or four guards as we estimated in 2012.[34]

Cost of SAMI Membership

Related to the cost of armed guards is the cost of accreditation for armed guard teams. SAMI is an association for maritime security companies and requires member companies to participate in an internal certification program to become full members.[35] To estimate the cost for SAMI membership for 2013, we calculated the average cost of a SAMI membership and multiplied that by the total number of members.[36]

SAMI Members	Cost/Member	Total Cost
189	$3,373.81	$637,650.09

The estimated cost for armed guard certification through SAMI declined in 2013, despite the addition of three members to the organization. This suggests that the average cost for SAMI membership has declined since 2012.



ISO PAS 28007 Accreditation

In addition, in 2013 some companies also had the option to seek formal ISO accreditation through ISO PAS 28007 implementation and auditing under the UKAS pilot scheme. By the end of the year approximately 15 companies had been audited by CBs awaiting auditing accreditation by United Kingdom Accreditation Service (UKAS). This has come at a cost on average of between $18,000 to $26,000, for a total of $270,000 to $390,000.

Bringing together all of the cost categories assessed by OBP, the total spent on security equipment and guards for 2013 was between $1.02 billion and $1.18 billion compared with $1.65 billion to $2.06 billion in 2012, a decrease of 38% to 43%.

Total Security Related Costs, 2013

Item	Total Cost (Low)	Total Cost (High)
Security Equipment	$247,700,487	$299,538,857
Armed Guards	$767,144,000	$876,736,000
SAMI Membership	$637,650	$637,650
ISO Accreditation	$270,000	$390,000
TOTAL	$1,015,752,137	$1,177,302,507

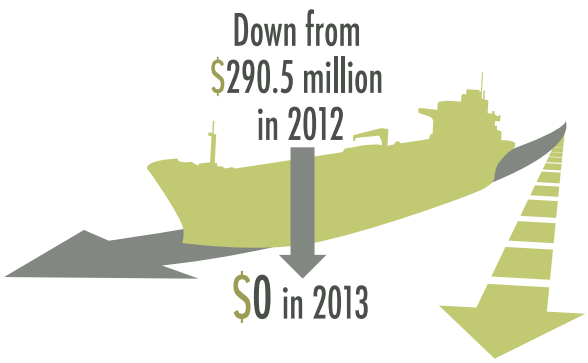
32 Liz McMahon, "Owners at Risk of Employing Unqualified Armed Guards" Lloyd's List (June 5, 2013) retrieved from http://www.lloydslist.com/ll/sector/regulation/article423880.ece

33 Bellish, J. (2012). The Economic Cost of Maritime Piracy. Oceans Beyond Piracy. (pp.20) Retrieved from: http://oceansbeyondpiracy.org/sites/default/files/attachments/View%20Full%20Report_1.pdf.

34 Ibid.

35 Security Association for the Maritime Industry, "Joining Information and Application Form," retrieved from http://www.seasecurity.org/membership/joining-information-application-form/

36 Security Association for the Maritime Industry, "Membership," retrieved from http://www.seasecurity.org/membership/



COST OF RE-ROUTING

At the peak of Somali piracy, many shipping companies made the decision to re-route their vessels around the HRA entirely, either by routing southward around the Cape of Good Hope or by hugging the northern and eastern edges of the Indian Ocean. While these routes reduced the threat of Somali piracy, they also added significant costs due to the increased distance travelled and the associated increased cost in fuel. Last year's analysis showed an annual cost of $290,509,660 in costs associated with rerouting.

This year's analysis duplicated the methods used in 2012. Using baseline data for commercial shipping transits from the year 2004-05, the year prior to Somali piracy's dramatic rise, we looked at the percentage of commercial vessels in the Indian Ocean that fell along the track describing the most direct route to and from the Gulf of Aden to the southeast corner of India as well as the percentage of vessels transiting along the Indian coast. This analysis indicates that since 2012, the distribution of commercial vessels has nearly returned to baseline: the percentage of vessels in the direct track is the same as or higher than it was in 2004-2005. See Appendix E for full information on the methods used to assess the economic effects of re-routing.

Our conclusion is that these data show no support for re-routing as an economically significant factor in 2013. This does not mean that no companies are re-routing, but it does suggest that the number of vessels choosing to re-route along the Indian coast is not large enough to impact the annual aggregate distribution of shipping. Given this, our estimate for the cost of re-routing in 2013 is $0.

This represents a sharp decline from the estimates of the number of vessels re-routing and the total cost of re-routing cited in last year's report, but it should not be interpreted to mean that the percent of vessels choosing to re-route in 2013 fell to 0 in January of 2013. Rather, this represents an aggregate of percentages across the year, and it is likely that the annual percentage of re-routing reported last year represents a steady decline across 2012 that accelerated in 2013 as more and more companies made the decision to return to the direct route.

COST OF INCREASED SPEEDS

One major cost category related to piracy is increased speeds of vessels transiting the HRA. Industry recommendations for vessel self-protection emphasize high-speed transits as an effective countermeasure against piracy.[37] However, for shipping vessels whose fuel usage is measured in tons per day, an increase in speed results in a significant increase in fuel usage and in a corresponding additional cost.

Total Cost of Increased Speeds 2013

This year's estimate used the same basic method for calculating increased fuel costs as that used for last year's report. Based on information from BIMCO regarding fuel use for cargo and tanker vessels, we calculated fuel use curves which we used to calculate fuel use rates at self-reported and ideal speeds.[38] As in 2012, we used

37 BMP4, retrieved from https://www.bimco.org/News/2011/08/~/media/Products/Publications/Pamphlets/BMP/BMP4_Low_Res_05-09.ashx

38 There were three methodological differences. Fuel use curves were updated using information on fuel use provided by BIMCO. Unlike last year, we did not feel that there was sufficient information available in our AIS data to calculate bulker speed and fuel use for 2013. Given this, estimating bulker costs would be likely to inappropriately categorize container vessels as speeding

the estimates of 12.8 knots for optimal speed for tankers and 15.1 cargo vessels, and calculated self-reported speed as a per-vessel average of all speed reported via AIS for our four four-day samples. Increased fuel cost associated with piracy was calculated as the difference between actual and ideal fuel use, and monetized using 2013 average fuel cost of $605/Metric Ton.[39] See Appendix F for full details on the steps and formulae used to calculate increased fuel cost.

Our analysis found a significant decrease in the speed of vessels transiting at higher than optimal speeds. In 2012, the estimates were that 57.21% of tankers transited at a higher rate of speed than optimal, and 41.88% of cargo vessels. In 2013, these estimates changed slightly: 46.6% of tankers in our sample and 41.7% of cargo vessels had an average daily speed of higher than ideal. However, the average reported speed fell significantly: for those vessels reporting a higher than ideal speed, the mean difference from average daily speed and ideal speed was only .71 knots for cargo vessels and .59 for tankers. This suggests that sustained high-speed transits are no longer being used extensively for counter-piracy measures, and instead vessels interested in using higher speeds are doing so for short periods of time - possibly in short bursts throughout high risk zones.

Due to this decline in the average speed over optimal speed, estimates for the 2013 cost for increased speeds is $276,154,781.

Cost of Increased Speeds

	Tanker	Cargo
Annualized number of vessel-days in our sample	23,110	42,755
Percent transiting above optimal speed	46.6%	41.7%
Estimated number of fast vessels	10,769	17,828
Average increase in daily cost	$9,177	$9,946
Subtotals	$98,825,622	$177,329,159
	TOTAL COST	$276,154,781

COST OF LABOR

As we noted in the 2012 Economic Cost of Piracy report, there are some efforts being made to ensure that seafarers transiting the HRA are properly compensated for the additional risk involved in this area.[40] The International Transport Workers' Federation (ITF) and the International Bargaining Forum (IBF) meet with international maritime employers every two years to negotiate a framework agreement for seafarer treatment in three primary aspects: social, professional and financial.[41] For the purposes of this report, the ITF/IBF Framework is important for calculating hazard pay costs associated with transiting the HRA. The most recent IBF Framework Total Crew Cost (TCC) Agreement for 2012-2014 states that seafarers are entitled to "a bonus equal to 100% of the basic wage for the durations of the ship's

bulkers. Consistent with our commitment to make conservative estimates where possible, we treated all cargo vessels as container vessels. Finally, rather than the global average for maritime fuel used last year, we used the 2013 average cost for HFO380 provided to us by BIMCO for a more specific assessment of the costs of fuel used by these vessels. If we used the 2012 average for HFO380 provided by BIMCO, it would have reduced 2012 costs to 1.18 billion.

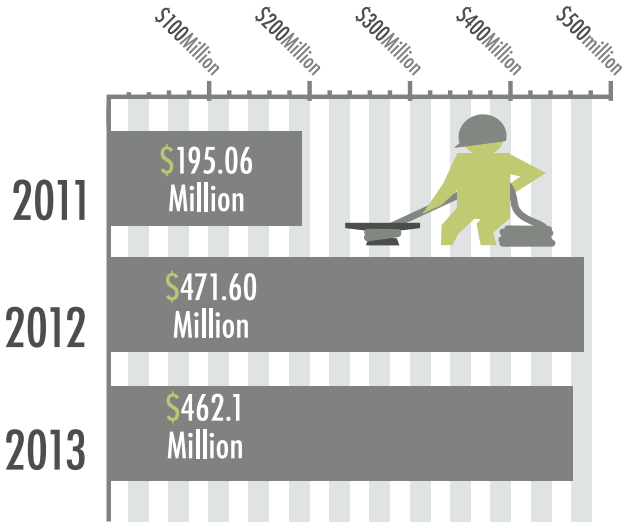
39 2013 average cost for HFO380 as provided by BIMCO.

40 Bellish, J. (2012). The Economic Cost of Maritime Piracy. Oceans Beyond Piracy. (pp.25) Retrieved from: http://oceansbeyond-piracy.org/sites/default/files/attachments/View%20Full%20Report_1.pdf.

41 ITF Seafarers. About the IBF. Retrieved from http://www.itfseafarers.org/about-IBF.cfm.

stay in a Warlike Operations area – subject to a minimum of 5 days' pay."[42] More than 600,000 of the world's estimated 1.37 million seafarers are members of the ITF.[43]

Filipino seafarers are also entitled to 200% of wages and benefits while transiting the HRA, according to the Philippines Overseas Employment Administration.[44] This regulation by a government authority is significant because estimates from the 2010 BIMCO/ISF Manpower study indicate that approximately 670,000 of the world's 1.37 million seafarers are from the Philippines.[45,46]



A new development for 2013 was the entry into force of the International Labour Organization's (ILO) Maritime Labour Convention (MLC), which became official on August 20, 2013.[47] The MLC outlines international minimum standards for seafarers, including a safe and secure work environment, fair terms of employment, decent working and living conditions, and health protection, medical care and other social protections.[48] The MLC is a significant development for seafarers eligible for hazard pay in part because it requires that, "where a collective bargaining agreement forms all or part of a seafarers' employment agreement, a copy of that agreement shall be available on board."[49] This means that, in theory, all seafarers who are eligible for hazard pay are aware of their eligibility status and are better able to ensure that they receive the extra compensation due to them for transiting the HRA. The MLC has been ratified by 56 countries, including Liberia, Panama, the Bahamas, St. Kitts & Nevis, the Philippines, Russia, Bulgaria, the Marshall Islands and Singapore.[50]

OBP's estimates for hazard pay duplicated the estimates used last year. Based on the existing agreements providing for hazard pay and the duration of transits in the Indian Ocean, we use the same estimates as last year of $10,000 per transit and an estimated 70% of transits eligible for hazard pay.

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42 "2012–2014 IBF Framework TCC Agreement," retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCgQFjAA&url=http%3A%2F%2Fwww.itfseafarers.org%2Ffiles%2Fseealsod-ocs%2F33555%2F20122014IBFFrameworkTCCAgreement.pdf&ei=ImMrU6BCqvDIAeH7gNgG&usg=AFQjCNFK645mXbCfeYdMC-4qvWnIVIs_a8A&sig2=hQfHs_9_g0CimchspBCg6Q&bvm=bv.62922401,d.aWc

43 ITF Global, "Seafarers," retrieved from http://www.itfglobal.org/seafarers/index.cfm.

44 "Filipino Seafarers to Get Double Wage When in HRA," *Officer of the Watch* (November 6, 2012) retrieved from http://officeroft-hewatch.com/2012/11/06/filipino-seafarers-to-get-double-wage-in-hra/

45 Seafarers' Rights, "Industry Statistics," retrieved from https://www.seafarersrights.org/seafarers_subjects/industry_statistics

46 BIMCO/ISF. Manpower 2010 Update: "The Worldwide Demand for and Supply of Seafarers, Highlights," retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCgQFjAA&url=https%3A%2F%2Fwww.bimco.org%2Fen%2FNews%2F2010%2F11%2F~%2Fmedia%2FAbout%2FPress%2F2010%2FManpower_Study_handout_2010.ashx&ei=nGorU9CEFoa6yQHAloHYDg&usg=AFQjCNFrwnJv2Rb4BtThKtmd_e8eEeY3kw&sig2=zVN3MZe24faM-4ML-Zb8S3w&bvm=bv.62922401,d.aWc.

47 International Labour Organization, "Six Months in Force, Eight Years in the Making: The ILO Maritime Labour Convention, 2006 is Now in Full Sail," (February 24, 2014) retrieved from http://www.ilo.org/global/standards/maritime-labour-convention/news/WCMS_236264/lang--en/index.htm

48 International Labour Organization, "Basic Facts on the Maritime Labour Convention 2006," (August 13, 2013) retrieved from http://www.ilo.org/global/standards/maritime-labour-convention/what-it-does/WCMS_219665/lang--en/index.htm

49 International Labour Organization, "Ratifications of MLC – Maritime Labour Convention, 2006," (Date of entry into force: 20 August 2013) retrieved from http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312331:NO.

50 Ibid

Cost of Hazard Pay

Hazard Pay per Transit Through the HRA	$10,000[51]
Transits per Year Through the HRA	65,922
Percentage of Vessels Disbursing Hazard Pay	70%
Hazard Pay in 2013 Due to E. Africa HRA	$461,440,000

Another labor-related cost associated with piracy is captivity pay. This is provided as additional compensation for seafarers who are held hostage by pirates. Whereas, in the hazard pay calculation, only the additional compensation for transiting the HRA is included in the cost of piracy, captivity pay includes the base wages as well because companies must continue to pay this wage without receiving any benefit of labor.

In calculating captivity pay costs for 2013, we assume a general base wage of $4,000 per seafarer for merchant vessels, accounting for salary variance among the crew members. This estimate was devised based on conversations with industry experts regarding average crew size and base pay rates. We have reason to believe that the high-risk hostages remaining in captivity at the end of 2013 did not receive any wages during the year as their companies did not play an active role in bargaining a ransom for their release. Additionally, while the remaining seafarers from *MV Orna* were released, their long-term captivity indicates these seafarers and their families may not have been compensated for their duration of captivity in 2013. This has not been possible to verify, however.

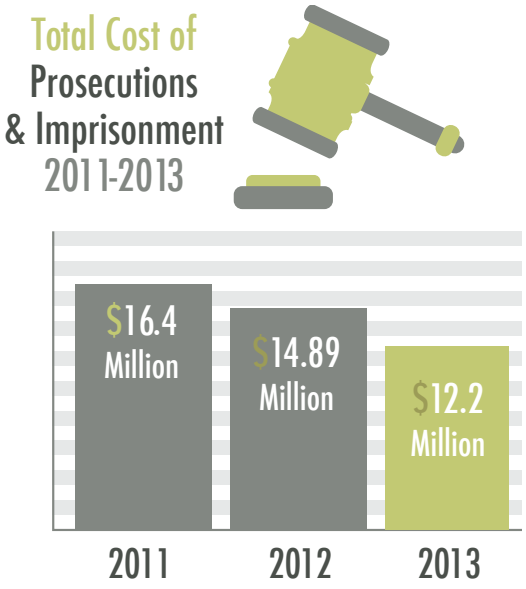
Cost of Captivity Pay

Merchant Vessel	Number of Hostages	Days in 2013	Monthly Labor Rate	Subtotal
1. Leopard	6	110	$24,000	$88,080
2. Royal Grace	21	67	$84,000	$187,320
3. Smyrni	26	69	$104,000	$239,200
			Base Wages	$514,600
			Additional Captivity Pay (35%)	$180,110
			TOTAL	$694,710

The total estimate for the cost of captivity pay for 2013 comes to approximately $694,710. The decline from 2012's estimated $5.3 million cost of captivity pay is due in part to the fact that there were comparatively fewer hostages held from merchant vessels in 2013: 82 in 2013 down from 196 in 2012. The average length of time that seafarers were held, however, increased in 2013 to 6.4 months, up from 5.4 months in 2012, with 26 seafarers still in captivity. Costs not included in this calculation include the captivity pay estimates for the 26 seafarers from three other merchant vessels who are still being held captive. As these are classified as high-risk hostages by OBP and it is unlikely that they were paid captivity pay in 2013, we have chosen to exclude them from the captivity pay cost calculation.

51 ECOP 2012, p. 26.

COST OF PROSECUTIONS AND IMPRISONMENT



Piracy affects crewmembers from over 125 countries worldwide.[52] Throughout 2013, the global community continued to make strides toward justice and rehabilitation for pirates. The United Nations Office on Drugs and Crime (UNODC) Maritime Crime Programme in particular sustained its capacity-building programs by successfully bolstering the prosecutorial and detention capabilities of regional justice ministries in the Seychelles, Kenya, Tanzania, Mauritius and now in Somalia and Somaliland through the training and mentoring of judges and prosecutors. The construction or rehabilitation of prison infrastructure, including the training of custodial corps has improved the ability to safely and securely house inmates throughout the region as well.

In 2013 the UNODC transferred nearly 50 pirate prisoners to newly built prisons in Puntland from the Seychelles, and 12 were repatriated after serving their sentences in 2013. While these costs have been mainly borne by UNODC and donor nations, the aim is to eventually hand over law enforcement and judiciary responsibility to regional institutions.

The total cost of piracy trials in 2013 dropped by 30% from nearly $9 million to slightly over $6 million. This can largely be attributed to two factors. First, the continued shift toward trials taking place in African countries where the cost is lower than European and North American countries has decreased costs, and second, the average cost of trials in Europe dropped substantially upon the completion of the case against perpetrators of the *MV Taipan* attack.[53] These factors have successfully tempered the possible increase in costs due to substantially more suspects and trials. Thirty-one trials were completed in 2013, compared to 21 in 2012.

In terms of cost associated with imprisonment, the expense has remained more or less consistent with 2012. To calculate the costs, we used a methodology similar to that employed in the Economic Cost of Somali Piracy reports from 2011 and 2012. We began with the total number of pirates held globally in 2013[54], and subtracted those held in the Seychelles, Kenya and Mauritius at the expense of UNODC (these expenses are covered in our estimate of UNODC costs). Using the ratios per region established by previous reports, we then estimated the total number of captives in each region and multiplied by the average trial cost. The steady hold on the number of pirates imprisoned and total imprisonment cost indicates that although the move is being made to lower cost detention facilities, the upfront costs have remained fairly high as UNODC and other institutions continue to build capacity both in physical space and in training.

52 World Bank. "Ending Somali Piracy: Go After the System, Not Just the Pirates," *World Bank* (April 11, 2013) available at: http://www.worldbank.org/en/news/feature/2013/04/11/ending-somali-piracy-go-after-the-system-not-just-the-pirates

53 The extremely high cost of the MV Taipan trial in Germany inflated the average cost of European trials in 2012. See ECoP 2012 for more information.

54 These were sourced from CGPCS newsletters and open source media accounts.

Cost of Piracy Prosecutions and Imprisonment

Region	Pirate Trials	Average Cost per Trial	Total Trial Cost	Pirates Imprisoned	Average per Year of Imprisonment	Total Imprisonment Cost	Total Regional Cost in 2013
Africa (less UNODC funded countries)[53]	8	$228	$1,824	659	$730	$481,070	$4,828,934
Asia	2	$7,314	$14,628	134	$376	$50,318	$64,946
Europe & Japan	8	$633,800	$5,070,400	101	$47,794	$4,827,154	$9,897,554
N. America	3	$307,355	$922,065	29	$28,284	$820,236	$1,742,301
		TOTAL	$6,008,917	923	N/A	$6,178,778	$16,533,735

Although it is difficult to say whether the capacity building efforts of UNODC will reduce costs in the long term, the outlook is positive. Yet, as mentioned in previous years, the increasing judicial standards in places like Kenya, Mauritius and Seychelles with the support of UNODC also come with increased costs, especially at the outset.

COST OF PIRACY-RELATED INSURANCE

Due to the increased risk of piracy in the BMP4 HRA and the insurance-related War Risk Area (WRA), vessels that transit this area often take out additional insurance to protect themselves from potential acts of piracy. While there are a number of insurance policies that a ship owner or charterer can purchase to mitigate against potential losses due to piracy, we have focused on the two primary forms of piracy-related insurance here: War Risk and K&R insurance:

Image: JWC WRA for Somalia-based piracy. Note that non-Somali territorial waters are excluded.

1. **War Risk insurance** covers costs associated with loss or damage to the vessel while transiting War Risk Areas defined by the Joint War Committee (JWC) which *'comprises underwriting representatives from both the Lloyd's and IUA company markets, representing the interests of those who write marine hull war business in the London market'*.[56] Through General Average, War Risk policies may also reimburse some costs associated with pirate attacks such as payments to recover the vessel, cargo and crew.[57]

   The JWC WRA for the Indian Ocean and Gulf of Aden is defined as:
   "The waters enclosed by the following boundries:
   a) On the north-west, by the Red Sea, south of Latitude 15° N
   b) on the west of the Gulf of Oman by Longitude 58° E

55 The costs of trials and imprisonment in Kenya, Seychelles, Mauritius and regions of Somalia are excluded because they are borne by the United Nations and are already calculated in the cost of counter-piracy programs.

56 Joint War Committee, available at http://www.lmalloyds.com/Web/market_places/marine/JWC/Joint_War.aspx

57 Jonathan S. Spencer "Piracy, War Risk, and General Average" Presentation given to New York Marine Insurance Day, 9/30/2011. Available at http://www.aimuedu.org/aimupapers/PiracyWarRiskandGeneralAverage.pptx.pdf

c) on the east, Longitude 78° E
d) and on the south, Latitude 12° S
excepting coastal waters of adjoining territories up to 12 nautical miles offshore unless otherwise provided."[58]

2. **K&R insurance** is more commonly associated with the actual payment of ransoms to recover a vessel's crew and cargo in the event of a pirate attack, as well as the associated legal fees, crisis consultants' fees, and even medical and psychiatric costs for crewmembers held hostage.[59] Ship owners and charterers often take out a K&R policy in addition to War Risk insurance to cover these costs, especially if the crew ends up being separated from the vessel.

The cost of maritime insurance products related to piracy remains difficult to assess due to the lack of dedicated data systems to collect information on War Risk and K&R premiums and the lack of a tracking system to differentiate between premiums received for individual war risk areas listed by the JWC. In addition to this, a number of rebates and discounts can be applied depending on various factors such as a no-claims bonus, repeat voyages, adherence to BMP4, higher speeds, embarked security teams (armed or unarmed), and whether or not a K&R policy has been purchased. Lastly, brokers will receive a commission of up to 30 percent of the quoted price.[60] According to Lloyd's Market Association (LMA) and other industry experts, total discounts and rebates can be up to 80 percent of the initially quoted price.

Comments from Lloyds Market Association

For this year's report, OBP had discussions with LMA in order to gain better insight into how War Risk premiums are calculated and the framework for discounts and bonuses that play an important part in maritime insurance markets. Lloyd's had previously provided testimony to the UK House of Lords estimating that the net global premiums for Hull War Risk and K&R insurance received by Lloyd's underwriters after deductions and discounts amounted to $250 million in 2011, the peak year of Somali piracy. Of this amount, 40-50 percent was estimated to be the annual premiums paid by ship owners for general war risk cover - not specific to any specific listed area. According to this calculation, this leaves a net amount of premiums of approximately $150 million for specific geographic areas of threat. This number is inclusive of all the 20 listed War Risk Areas defined by the JWC.

Since each of these areas varies in size and numbers of transiting vessels (the largest by far being the WRA covering the area where Somalia-based pirates operate followed by the Gulf of Guinea), a breakdown of the insurance cost of Somali and West African piracy would have to be based on an assessment of the relative size and shipping traffic in each of these two WRAs as a fraction of total net premiums and broker commissions received.

Furthermore, and as discussed with LMA, their estimated costs include estimates for the London-based War Risk and K&R market only, and do not include national War Risk Clubs and Mutuals. According to insurance sources, Lloyd's is responsible for approximately 70% of the global market for War Risk insurance, with the rest coming mostly from War Risk Mutuals, which are described below.

Overall the LMA estimates provided valuable insight to the War Risk insurance market and a useful foundation for further calculations involving other war risk insurers.

58 Joint War Committee, "Hull War, Piracy, Terrorism and Related Perils Listed Areas," (December 16, 2010) retrieved from http://www.lmalloyds.com/CMDownload.aspx?ContentKey=9e7398e8-415a-44c6-a17a-783fb412c663&ContentItemKey=cb878d50-3f6a-4b2a-84e8-57932c08d08f

59 Ibid.

60 See for example the UK War Risks' *"RENEWAL OF THE ASSOCIATION'S COVER FOR THE POLICY YEAR COMMENCING 20 FEBRUARY 2014"* available at: http://www.ukwarrisks.com/warrisks/ukwr/resource.nsf/Files/C1+2014+Rates+and+Terms/$FILE/C1+2014+Rates+and+Terms.pdf

War Risk Clubs

In order to estimate the overall cost of War Risk Insurance written by War Risk Clubs, OBP was able to obtain open source information and calculate the premiums paid to specific War Risk Clubs. These clubs are mutual clubs with a membership of ship-owners. Similar to Lloyd's underwriters, War Risk Clubs also charge an annual premium based on overall risk that amounts to approximately 40% of their gross annual premium income per year. This is sometimes known as annual coverage, annual premiums or advance contributions. The annual premium is based on a percentage of the declared hull value and is determined at the discretion of the Club.[61] Additionally, War Risk Clubs provide separate War Risk coverage for "Additional Premium Areas," which represent specific WRAs worldwide. Those additional premiums are paid when a vessel transits one of the designated WRAs.

OBP pulled gross premium income, annual coverage, and WRA global premium income for four major War Risk Clubs: The Norwegian Shipowners' Mutual War Risks Insurance Association,[62] the Arab War Risks Insurance Syndicate (AWRIS),[63] the Hellenic War Risks Club[64] and the UK War Risks Club.[65] Numbers from the Japanese Club were not available. The most recent comprehensive annual reports for the War Risk Clubs are from 2012 and therefore these are the most recent numbers we were able to use as a reference. The results are shown in the table below.

War Risk Clubs – Global Premiums 2012

	Total Global Gross War Risk Insurance Premium (USD millions)	Annual Premiums[66]	Total Global WRA Premiums 2012 (USD Millions)
Norwegian Club	38.60	15.55	23.05
AWRIS	27.20	10.88	16.32
Hellenic	37.50	15	22.50
UK	6.15	2.46	3.69
TOTAL	109.45	43.89	65.56

Some of the annual reports also demonstrate trends in no-claims bonuses provided by the War Risk Clubs to their members. For example, the Norwegian War Risks Club provided a no-claims bonus of $2.9 million in 2008, $2.5 million in 2009, $0 in 2010, $13.8 million in 2011, and $19.2 million in 2012. This trend illustrates a decline in the number of claims worldwide, indicating a potential link to the decline in pirate attacks over time, as well as a strong indicator that piracy related premiums are going down and discounts are increasing.

Based on the table above, the total amount for annual coverage (not specific to any listed area) represented 40% of the total gross premiums for 2008-2012. Consequently, approximately 60% of the gross premium income was derived from WRA premiums for listed areas globally. This is not substantially different from LMA's estimate that approximately 40-50% of the net premium for War Risk and K&R insurance would be the amount paid by ship owners as annual premiums. The annual reports do not provide a specific breakdown of how the premiums are

61 For example, the maximum advance contribution for members of the UK War Risk Club was 0.00944% of declared hull value in 2013, available at: http://www.ukwarrisks.com/warrisks/ukwr/resource.nsf/Files/C1+2014+Rates+and+Terms/$FILE/C1+2014+Rates+and+Terms.pdf

62 The Norwegian Shipowners' Mutual War Risks Assurance Association, https://www.warrisk.no/

63 Arab War Risks Insurance Syndicate, http://www.awris.com/En/html/home.html

64 Hellenic War Risks, http://www.hellenicwarrisks.com/warrisks/hwr/infopool.nsf/html/index?OpenDocument

65 UK War Risks, http://www.ukwarrisks.com/warrisks/ukwr/infopool.nsf/html/index

66 Norwegian Club confirmed at 40% of gross annual premiums, others estimated at same rate

divided between listed WRAs. However, for 2012, the Norwegian Club reports that its members had more than 2000 transits through the area affected by Somali pirates and the Greek Club reported more than 3200 transits through the same area for a total of 5200 transits between just these two clubs. From this, and other facts listed in the reports, we can derive that the largest percentage of premiums are collected from vessels transiting piracy-based WRAs.

War Risk Insurance

Based on the numbers above, information from the annual reports of the War Risk Clubs and discussions with industry experts, it is possible to make an estimation of the piracy-specific cost of insurance for Somali piracy in 2013 based on the following methodology:

In previous years, hull values for ships were based on the annual UNCTAD Review of Maritime Transport reports. However, the 2013 UNCTAD report did not include these numbers. OBP has been working with BIMCO to produce our own estimates for the current report based on information from vesselsvalue.com, Clarkson Research Services Limited and other sources from the maritime industry. The ship categories are again this year based on the information released by the Suez Canal Authorities.[67] The estimated number of vessels in the HRA is based partly on the distribution going through the Suez Canal as well as a correction for a large number of vessels going through parts of the HRA either north to south or to and from the Persian Gulf without transiting through the Suez Canal. These numbers are also supported by AIS data provided by exactEarth.

Because not all vessels take insurance and some of the traffic in the eastern and southern part of the WRA, especially including traffic at the edges of the WRA, spend negligible time in the area, it is also this year estimated that 66% of the vessels in the HRA take out insurance.

Lastly, we have lowered the rate used to calculate the pre-discount premium from 0.1% of the declared hull value of the insured vessel, which we used in the previous two reports, to 0.025%. This decision was made based on the demonstrated decrease during the last two years in the annual premiums which are calculated based on the declared hull value of insured vessels as well as discussions with industry experts. [68] The resulting base cost per vessel is used to calculate the total cost of insurance premiums after discounts and rebates have been applied.

Base Cost of War Risk Insurance Per Vessel

Ship Type	Average Hull Value	Number of vessels in the HRA	Estimated number buying insurance to cross the Indian Ocean WRA (66%)	Base Cost of War Risk Insurance Per Vessel (0.025% of hull value)
Tanker (crude and product)	$35,800,000	20,205	13,335	8,950
LNG	$140,000,000	2,903	1,916	35,000
Bulk Carriers	$22,000,000	13,400	8,844	5,500
General Cargo	$20,000,000	10,570	6,976	5,000
Container Ships	$46,000,000	13,995	9,237	11,500
RO/RO Ships	$23,666,666	902	595	5,917
Car Carriers	$45,000,000	3,888	2,566	11,250
Passenger Ships	$350,000,000	59	39	87,500

67 Suez Canal Yearly Report 2013, available at: http://www.suezcanal.gov.eg/Files/Publications/101.pdf

68 For example, the 2012 Annual Report of the Hellenic Club states that: "In May 2013, after reviewing the position in the light of the 2012 results, the Directors decided to waive the second instalment of the 2013 Advance Contribution, so that Members would benefit from an additional reduction of some 50% in the cost of their annual war risks insurance." Available at http://www.hellenicwarrisks.com/warrisks/hwr/resource.nsf/Files/2012+Review+of+the+Year/$FILE/2012+Review+of+the+Year.pdf

As mentioned above, the drop in pirate activity and the fact that the last large commercial vessel was hijacked in May 2012 have resulted in lower War Risk insurance rates in 2013. The fact that there are a large number of discounts available and that each vessel will qualify for a different rate, we have chosen to simplify our discount categories used in 2012. Assuming that all ships that take out insurance will qualify for a discount between 60% and 80%,[69] we have divided the four groups into overall discount levels of 65%, 70%, 75% and 80%. We then estimated the number of vessels that qualify for each level to calculate the total cost of war risk insurance in 2013. The calculations can be seen in the following table.

Cost of War Risk Insurance[70]

	Group 1 – 65% Discount 25% of Ships		Group 2 – 70% Discount 20% of Ships		Group 3 – 75% Discount 35% of Ships		Group 4 – 80% Discount 20% of Ships	
Ship Type	# of Ships	Subtotal	# of Ships	Subtotal	# of Ships	Subtotal	# of Ships	Subtotal
Tanker	3334	$10,443,207	2667	$7,161,056	4667	$10,443,207	2667	$4,774,037
LNG	479	$5,867,689	383	$4,023,558	671	$5,867,689	383	$2,682,372
Bulk Carriers	2211	$4,256,175	1769	$2,918,520	3095	$4,256,175	1769	$1,945,680
General Cargo	1744	$3,052,088	1395	$2,092,860	2442	$3,052,088	1395	$1,395,240
Container Ships	2309	$9,294,429	1847	$6,373,323	3233	$9,294,429	1847	$4,248,882
RO/RO Ships	149	$308,202	119	$211,339	208	$308,202	119	$140,892
Car Carriers	642	$2,525,985	513	$1,732,104	898	$2,525,985	513	$1,154,736
Passenger Ships	10	$298,134	8	$204,435	14	$298,134	8	$136,290
Total		$36,045,909		$24,717,195		$36,045,909		$16,478,129
							TOTAL COST OF WAR RISK INSURANCE:	$113,287,142

Based on the significant decline in the number of both successful and attempted attacks by Somalia-based pirates that has resulted in lower insurance rates, we have re-assessed both the levels of discounts offered by insurance underwriters as well as the number of vessels qualifying for these deeper discounts. For War Risk insurance, we estimate that the cost has dropped 69% or $252.2 million from 2012 levels to a total estimated cost to cover Somali piracy in 2013 of $113.3 million based on an estimated 43,509 transits taking insurance.

Kidnap and Ransom Insurance

In calculating the cost of K&R insurance, we used the same breakdown of ship types that we used for the War Risk Insurance estimate for vessels transiting the HRA since these would be the vessels most likely to take out piracy-related insurance. We then estimated the K&R insurance rate for each type of vessel based on conversations with industry experts, and determined the percentage of each vessel type that would likely take out a K&R policy.

69 These discounts are drawn from discussion with industry figures, and represent the combined impact of discounts discussed in previous Cost of Piracy reports by OBP, including discounts such as no-claims discounts, discounts from the presence of armed guards, and other discounts.

70 This table is similar to the one used in the 2012 Economic Cost of Somali piracy, but the groups have been ordered differently this year making it a direct comparison of the two groups difficult.

We estimated that 40% of vessels that take out War Risk insurance in the Indian Ocean WRA also take out K&R insurance at an average cost of $4,500, with the exception of container ships and RO/RO vessels, which we estimated would pay an average rate of $3,000 for K&R insurance. We then multiplied the number of vessels with a K&R insurance policy by the estimated K&R rate for each vessel type. The price for so-called 'low and slow' vessels remains higher than vessels with a higher freeboard and capacity for higher speeds. In 2013, the average rate of K&R insurance decreased significantly since 2012, reflecting tougher competition in the market, deeper discount and a perceived lower risk of capture. The rates listed in the table below are an estimated average of the rate for vessels with PCASP embarked[71] and vessels without such a team. The calculations can be seen in the following table.

K&R Insurance

Ship Type	# in WRA	% with K&R	Average Rate	Subtotal ($)
Tankers	13,335	40%	4500	24,003,540
LNG	1,916	40%	4500	3,448,764
Bulk Carriers	8,844	40%	4500	15,919,200
General Cargo	6,976	40%	4500	12,557,160
Container Ships	9,237	40%	3000	11,084,040
RO/RO	595	40%	3000	714,384
Car Carriers	2,566	40%	4500	4,618,944
Passenger Ships	39	40%	4500	70,092
			TOTAL	$72,416,124

The estimated total cost of K&R insurance to protect against Somali pirates was $72,416,124 for 2013, which is a decrease of $144,568,547, or 66% from 2012.

Summing Up:

Our total estimate for the cost of piracy-related insurance related to Somali piracy is $185,703,266, equaling a 66% decline compared to 2012. This decline reflects the decline in Somalia-based piracy and, in some cases, very sizeable downwards premium adjustments and/or no-claims rebates to ship owners. Additionally, the use of PCASP onboard vessels has resulted in increased deductions to overall insurance premiums due to their effectiveness as a piracy deterrent. This downward trend in piracy-related insurance costs is consistent with our projection in the 2012 ECOP report that, with the downward trend in Somali-based piracy attacks on vessels,and the supply-driven price reductions as more competitors have entered the market, costs would continue to decline in 2013.

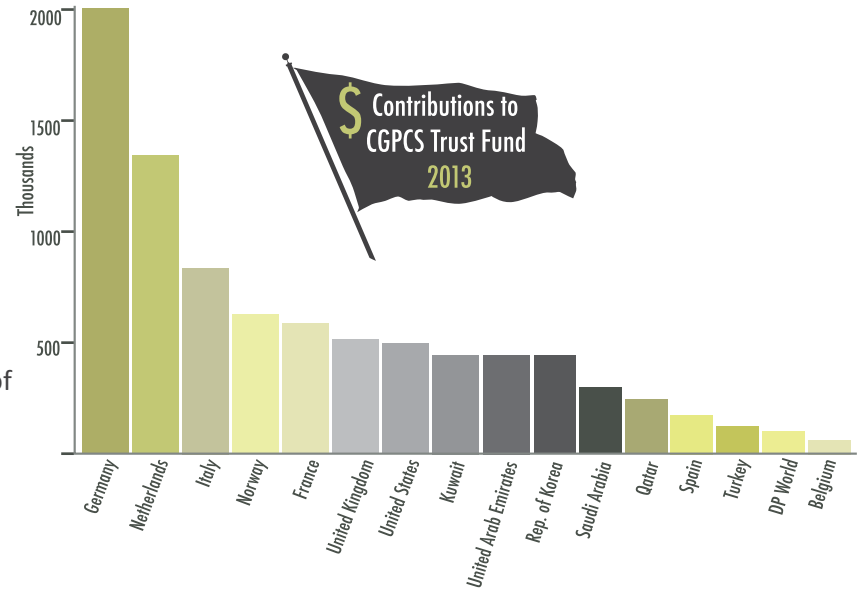
71 Prices found online for voyages with embarked PCASP teams range from $2,000 to $4,000 per voyage. Available at: https://docs.google.com/file/d/0B-Dyq-sG91dBdGtRX01MN0xpSzA/edit

COST OF COUNTER-PIRACY ORGANIZATIONS

The last major cost category is the cost of counter-piracy organizations. Governments, industry, and nongovernmental organizations further contribute to the fight against piracy by funding and supporting counter-piracy organizations. Unlike military operations, counter-piracy organizations attempt to address the root causes of piracy and seek long-term solutions towards ending this problem. This section describes counter-piracy organizations in operation during 2013 and estimates financial contributions made to their missions during the year.

A. ***CGPCS Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia: $8,744,116***[72]

The Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia ("Trust Fund") was created in 2010 by the UN Secretary-General under the United Nations Financial Regulations and Rules with the mission to help defray the costs associated with prosecutions of suspected pirates and to support the counter-piracy efforts of the Contact Group on Piracy off the Coast of Somalia (CGPCS).[73] In December 2012, the Terms of Reference for the Trust Fund were revised to transfer the administration of the Trust Fund from UNODC to the United Nations Development Programme (UNDP).[74] In 2013, fifteen countries and the marine terminal operator DP World contributed a total of $8,744,116 to the Trust Fund.



B. ***United Nations Development Programme: $3,494,677***

Along with the administration of the Trust Fund, UNDP also seeks to counter piracy through a focus on building the capacity of the criminal justice system and rule of law in Somalia. UNDP receives $2,994,677 on an annual basis from the Danish Peace and Stabilisation Fund as part of a four-year plan geared at regional stabilization in the Horn of Africa.[75] In addition, a group of oil and shipping industry companies contributed $1 million to

72 United Nations Development Group Multi-Partner Trust Fund Office Gateway, "Trust Fund Factsheet: TF to Support Initiatives of States Countering Piracy off the Coast of Somalia," (January 16, 2013) retrieved from http://mptf.undp.org/factsheet/fund/APF00.

73 Contact Group on Piracy off the Coast of Somalia, "Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia: Terms of Reference" (December 11, 2012).

74 Ibid.

75 Calculation: Denmark donation to UNDP and UNODC for counter piracy initiatives between November 2011–December 2014 (38 months)= DKK 103m about USD $18,966,290 (Exchange rates: 3/28/2014 7:56:27 AM); USD $18,996,290 divided by 38 months divided by 2 programs= ~$2,994,677.37 per program for 2013. Source: United Nations Security Council, Reports of the Secretary-General on Piracy (pp.14) (S/2012/177) March 26, 2012, retrieved from http://www.un.org/ga/search/view_doc.asp?symbol=S/2012/177; Ministry of Foreign Affairs & Ministry of Defence, "Whole of Government Stabilisation Programme for the

UNDP to be distributed during 2013 and 2014 for job development programs in Somalia, aiming at increasing opportunities and in effect deterring youth from piracy.[76]

Total Financial Contributions to UNDP (Piracy-Related), 2013

Denmark	$2,994,677
Joint Industry Contribution	$500,000

C. United Nations Office on Drugs and Crime (UNODC) (Maritime Crime Programme): $11,994,677

The UNODC remains the largest recipient of the Trust Fund's allocation, having received $11.16 million or 63% of the total allocation since 2010.[78] The UNODC Maritime Crime Programme, formerly known as the Counter Piracy Programme, seeks to develop the judicial sector's response to maritime crime in the region by implementing capacity building projects targeted at police, prosecutors, courts, and prisons.[79] The program continues to grow over the years and in 2013 had a $60 million dollar budget.[80] In calculating the economic costs of this counter piracy organization, only funds contributed to UNODC during 2013 and specifically earmarked for regional counter piracy initiatives are considered.

Total Financial Contribution to UNODC (Piracy-Related), 2013

US	$1,300,000[80]
UK	$7,700,000[81]
Denmark	$2,994,677[82]

D. Contact Group on Piracy off the Coast of Somalia (CGPCS) Meetings: $951,774

The CGCPS was created on January 14, 2009, following UN Security Council Resolution 1851 (2008) to "facilitate the discussion and coordination of actions among states and organizations to suppress piracy off the coast of Somalia."[83] The CGCPS, or "Contact Group," as it is commonly known, is a voluntary mechanism through which

Wider Horn of Africa/East Africa 2011-2014 Programme Document," (pp. 2) retrieved from http://etiopien.um.dk/en/~/media/Etiopien/Documents/Programme%20Document%20-%20Peace%20and%20Stabilisation%20Fund%20Horn%20of%20Africa.pdf

76 Shell Global, "UNDP Join Shipping Industry in Job Creation Initiative in Somalia," (February 8, 2013) retrieved from http://www.shell.com/global/aboutshell/media/news-and-media-releases/2013/job-creation-initiative-somalia-08022013.html

77 US Embassy, "IIP Digital," retrieved from http://iipdigital.usembassy.gov/st/english/texttrans/2013/10/20131022284986.html#axzz2qaKbrFYX

78 United Nations, Report of the Secretary-General on Piracy off the Coast of Somalia (S/2013/623) October 21, 2013, retrieved from http://oceansbeyondpiracy.org/sites/default/files/attachments/N1350471.pdf

79 Ibid.

80 Ibid.

81 UNODC, "Funds and Partners," Web Archive, retrieved from http://web.archive.org/web/20130830071258/http://www.unodc.org/unodc/donors/index.html?ref=menutop

82 Calculation: Denmark donation to UNDP and UNODC for counter piracy initiatives between November 2011–December 2014 (38 months)= DKK 103m about USD $18,966,290 (Exchange rates: 3/28/2014 7:56:27 AM); USD $18,996,290 divided by 38 months divided by 2 programs= ~$2,994,677.37 per program for 2013. Source: United Nations Security Council, Reports of the Secretary-General on Piracy (pp.14) (S/2012/177) March 26, 2012, retrieved from http://www.un.org/ga/search/view_doc.asp?symbol=S/2012/177; Ministry of Foreign Affairs & Ministry of Defence, "Whole of Government Stabilisation Programme for the Wider Horn of Africa/East Africa 2011-2014 Programme Document" (pp. 2), retrieved from http://etiopien.um.dk/en/~/media/Etiopien/Documents/Programme%20Document%20-%20Peace%20and%20Stabilisation%20Fund%20Horn%20of%20Africa.pdf

83 The Contact Group on Piracy off the Coast of Somalia, "Background," retrieved from http://www.thecgpcs.org/about.do?action=background

more than 80 states collectively engage in efforts to combat piracy.[84] The CGCPS is composed of five working groups, each chaired by a different nation and with a specific focus related to reducing piracy off the coast of Somalia. The CGCPS hosted two plenary sessions and nine separate working group meetings in 2013. The first plenary session and each working group meeting lasted one or two business days throughout the year. In November of 2013 a counter piracy week was held in Djibouti where the 15th plenary session was held along with several individual working group meetings. During this plenary session, chairmanship of the CGPCS was taken over by the European Union from the United States.[85]

Working Group 1, chaired by the United Kingdom, coordinated international efforts to combat piracy, including the coordination of naval operations as well as building judicial, penal and maritime capacity to handle piracy and other maritime security challenges.[86] The Capacity-Building Coordination Group (CBCG) met under working Group 1 with the purpose of facilitating regional development efforts.[57]

Working Group 2, chaired by Denmark, provided legal guidance to the CGCPS and other States and organizations working on counter-piracy initiatives, including information sharing and guidance on how to effectively prosecute suspected pirates.[87]

Working Group 3, chaired by the Republic of Korea, worked with participant states, maritime industry and labor groups to discuss methods for vessel self-protection against piracy and seafarer welfare.[88]

Working Group 4, chaired by Egypt, focused on public diplomacy efforts related to combating piracy off the Coast of Somalia.[89]

Working Group 5, chaired by Italy, concentrated on information sharing between governments, industry and law enforcement agencies, including INTERPOL, in order to disrupt pirate action groups ashore.[90]

The Trust Fund supports specific projects implemented by UN organizations and other international organizations. Attendees of the working group and plenary meetings participate at their government's or organization's expense and are not covered by the Trust Fund. An estimation of the total travel and accommodation costs incurred by participants and their respective organizations or government agencies is outlined below, however this estimation is not included in the overall expenditure of counter piracy organizations in 2013, as many times these costs are already calculated in other budgets.

84 U.S. Department of State, "Contact Group on Piracy off the Coast of Somalia: Quarterly Update," (April 17, 2013) retrieved from http://www.state.gov/t/pm/rls/fs/2013/207651.htm

85 United Nations, Report of the Secretary-General on Piracy off the Coast of Somalia (S/2013/623) October 21, 2013, retrieved from http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2013_623.pdf

86 The Contact Group on Piracy off the Coast of Somalia, "Working Group 1," retrieved from http://www.thecgpcs.org/work.do?action=workSub1

87 The Contact Group on Piracy off the Coast of Somalia, "Working Group 2," retrieved from http://www.thecgpcs.org/work.do?action=workSub2

88 The Contact Group on Piracy off the Coast of Somalia, "Working Group 3," retrieved from http://www.thecgpcs.org/work.do?action=workSub3

89 The Contact Group on Piracy off the Coast of Somalia, "Working Group 4," retrieved from http://www.thecgpcs.org/work.do?action=workSub4

90 The Contact Group on Piracy off the Coast of Somalia, "Working Group 5," retrieved from http://www.thecgpcs.org/work.do?action=workAd

Cost of Contact Group on Piracy off the Coast of Somalia (CGPCS) Meetings:[91]

Category	Meeting Month (2013)	Meeting Location	Duration (Days)	Approximate Attendees	Meeting Cost
WG 1	March	Addis Ababa	22	82	$76,636
	June	Nairobi	1	77	$68,080
CBCG (under WG1)	March	Addis Ababa	1	20	$6,300
	May	Seychelles	2	20	$7,512
	June	Nairobi	1	20	$5,800
	September	Dubai	1	20	$0 (Costs assumed to be covered in UAE conference attendance)
WG2	April	Copenhagen	2	130	$126,692
WG3	January	London	1	75	$15,268
	February	Seoul	2	100	$104,655
	May	New York	1	11	$2,860
	September	London	1	75	$15,268
WG4	March	Addis Ababa	2	50	$29,610
WG5	April	Copenhagen	1	50	$10,760
14th Plenary	May	New York	2	116	$61,733
15th Plenary*	November	Djibouti	5	207	$420,600

*included CGPCS working group meetings held during the counter-piracy week in Djibouti

H. Djibouti Code of Conduct: $602,911

The Djibouti Code of Conduct entered into force on January 29, 2009, and constitutes a collective effort among 20 countries to share information and build capacity to enable signatory countries to police and enforce their maritime domain.[92] Signatory states to the Djibouti Code of Conduct also work to rescue ships, persons and property taken by pirates, including the provision of treatment and repatriation for seafarers affected by pirate attacks.[93] Since its inception, 20 of the 21 countries eligible to sign the Djibouti Code of Conduct have done so.[94] The Djibouti Code of Conduct is being implemented by the IMO-based Project Implementation Unit (PIU) which was established in April 2010 to assist signatory states with the technical aspects of carrying out the Djibouti Code of Conduct.[95] The PIU is centered on four pillars that drive its work: Training, Capacity Building, Legal, and Information Sharing.[96] The PIU is responsible for disbursing the funds contributed to the Djibouti Code of Conduct Trust Fund.[97] The contributions and donors in 2013 are listed in the following table.

91 See appendix G.

92 International Maritime Organization, "Djibouti Code of Conduct," retrieved from http://www.imo.org/OurWork/Security/PIU/Pages/DCoC.aspx

93 Ibid.

94 Ibid.

95 International Maritime Organization, "Project Implementation Unit (PIU)," retrieved from http://www.imo.org/OurWork/Security/PIU/Pages/Project-Implementation-Unit.aspx.

96 Ibid.

97 Ibid.

Total Financial Contribution to the Djibouti Code of Conduct in 2013:[98]

Denmark	$560,000
Republic of Korea	$42,911
Total	$602,911

I. ***Maritime Security and Safety through Information Sharing and Capacity Building Project: $1,648,680***

Since 2011 the EU and IMO have jointly funded the Maritime Security and Safety through Information Sharing and Capacity Building (MARSIC) project which aims to support the Djibouti Code of Conduct through three strands: the Djibouti Regional Training Centre (DRTC), regional information sharing centers (REMISC and ISC), and capacity building for coastal states responding to piracy.[99]

J. ***EUCAP NESTOR 2013 Budget: $10,322,250***

The European Union launched EUCAP NESTOR in July 2012. It is a civilian mission with the goal to assist countries in the region to develop self-sustainable capacity for continued enhancement of maritime security, including counter-piracy and maritime governance. It is headquartered in Djibouti and is working in Somalia, Djibouti, the Seychelles and Tanzania.[100]

While the EUCAP NESTOR budget included €11.4 million for January-June 2013, the operation only spent an estimated €1.7 million from January 2013- June 6, 2013.[101] The operation had a budget of €5.8 million from June 2013-December 2013, bringing its total estimated budget, adjusted for actual expenditures for the first half of 2013, to €7.5 million for the year, or $10,322,250.[102, 103]

K. The Maritime Security Programme: $6,084,842

The Maritime Security (MASE) Programme aims to fight piracy in the Northwest Indian Ocean by tackling security problems on shore and at sea. At the beginning of 2013, MASE functioned under the MASE Startup Project and in June of 2013 shifted to full capabilities with the Regional Maritime Security Agreement and signatories by the Intergovernmental Authority on Development (IGAD) and the European Union. The EU funds the three-year program and works with IGAD, Common Market for Eastern and Southern Africa (COMESA), the Community of East Africa, and the Indian Ocean Community to support the efforts of the MASE Programme.[104]

The MASE Budget in 2013:[105]

The MASE Start up Project	$918,467
The MASE Programme	$5,166,375

98 International Maritime Organization, "Djibouti Code of Conduct, Project Implementation Unit, Edition 3," retrieved from http://www.imo.org/OurWork/Security/PIU/Documents/PIU_Brochure_3rd_edition.pdf

99 http://crimson.pp.digitalmeanings.fr/projects/cmr-western-indian-ocean-marsic-3/

100 EUCAP Nestor Factsheet, (March 2014) available at: http://www.eeas.europa.eu/csdp/missions-and-operations/eucap-nestor/documents/factsheet_eucap_nestor_en.pdf

101 House of Commons European Scrutiny Committee, 8th Report, Session 2013–2014, p. 104.

102 Ibid., p. 103.

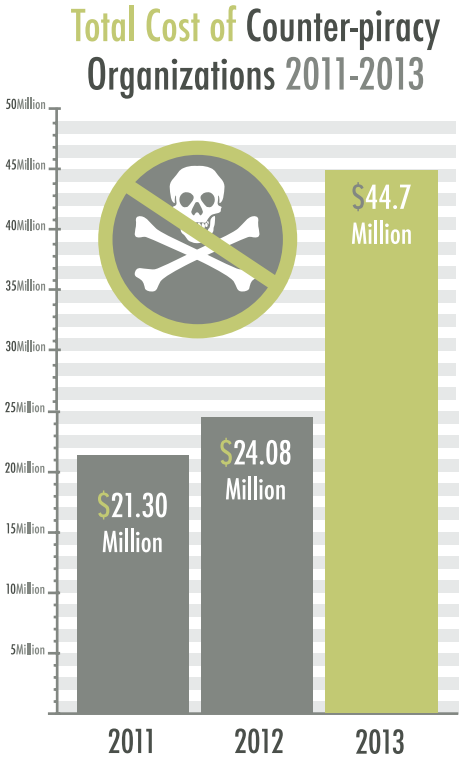
103 Conversion calculated on March 24, 2013.

104 IGAD, "IGAD, EU Sign Regional Maritime Security Agreement," (June 13, 2013) retrieved from http://igad.int/index.php?option=com_content&view=article&id=630:igad-eu-sign-regional-maritime-security-agreement&catid=46:executive-secretary&Itemid=123

105 See appendix G

L. *Critical Maritime Routes Law Enforcement Capacity Building in East Africa Project: $732,747*

Funded by the EU and carried out by INTERPOL, the Critical Maritime Routes Law Enforcement Capacity Building in East Africa Project (CRIMLEA) seeks to enhance the capacities of law enforcement agencies responding to maritime piracy in the Seychelles, Kenya, and Somalia. Notable successes of the project include the training of over 160 law enforcement personnel and the installation of an Automated Fingerprint Identification System.[106]



M. *Regional Anti-Piracy Prosecutions Intelligence Co-operation Centre: $0*

The Regional Anti-Piracy Prosecutions Intelligence Co-operation Centre (RAPPICC) opened in the Seychelles on February 25, 2013 with the goals of improving information sharing, assisting with piracy prosecutions, and building local capacity to dismantle pirate groups and their financiers.[107] Following the 15th plenary session of the CGCPS, the Government of Seychelles announced that RAPPICC changed its name to the Regional Fusion Law Enforcement Centre for Safety and Security at Sea (REFLECS^3). The Seychelles government reportedly changed the name of the center to more accurately reflect its current mission, which is three-fold: combating transnational organized crime; improving maritime shipping information sharing; and coordinating local and regional capacity-building programs.[108] The Seychelles government also decided to give legal authority to REFLECS^3 in 2013.[109] The REFLECS^3 project operates off contributions made in prior years. Further financial contributions were not made to the project during 2013.

N. *PiraT Project Budget 2013: $119,272*

The PiraT Project was funded by the German Federal Ministry of Research and Education (BMBF) to "develop a comprehensive concept for maritime security in which political risk analyses and technological security solutions are linked with legal and economic approaches."[110] The BMBF allocated just under €1 million to the PiraT project, which ran through March 2013, with a total project length of 33 months.[111] Assuming the €1 million was spent equally each month, the total cost for 2013 for the PiraT project comes to approximately $119,272.[112]

O. *Oceans Beyond Piracy, East Africa Budget 2013: $964,750*

As a project of One Earth Future Foundation, Oceans Beyond Piracy (OBP) has operated from Colorado, USA, since 2010. Through research and analysis, facilitating and attending meetings, and encouraging cross-sector

106 "Piracy Report," *Professional Security Magazine Online* (July 30, 2013) retrieved from http://www.professionalsecurity.co.uk/news/transport/piracy-report/

107 David Rider, "UK-Seychelles Partnership Sprouts RAPPICC," Neptune Maritime Security (March 1, 2013) retrieved from http://www.neptunemaritimesecurity.com/uk-seychelles-partnership-sprouts-rappicc/

108 U.S. Department of State, "Contact Group on Piracy off the Coast of Somalia: Quarterly Update," (December 24, 2013) available at: http://www.state.gov/t/pm/rls/fs/2013/219088.htm

109 Ibid.

110 PiraT, "Piracy and Maritime Terrorism as a Challenge for Maritime Trade Security: Indicators, Perceptions and Options for Action," retrieved from http://www.maritimesecurity.eu/

111 Ibid.

112 Oanda currency converter. Estimated currency conversion from euros to dollars for March 1, 2013. http://www.oanda.com/currency/converter/.

partnerships among stakeholders, OBP is committed to seeking sustainable solutions aimed at ending maritime piracy. In 2013 OBP directed 85% of its annual budget, or $964,750, to its Western Indian Ocean and Somalia program.

Total Cost of Counter Piracy Initiatives, 2013: $44,708,922

Agency/Organization	2013 Expenditure
CRIMLEA	$732,747
Djibouti Code of Conduct	$602,911
EUCAP NESTOR	$10,322,250
MARSIC	$1,648,680
MASE	$6,084,842
Oceans Beyond Piracy	$964,750
PiraT Project	$119,272
Trust Fund	$8,744,116
UNDP	$3,494,677
UNODC	$11,994,677
TOTAL	$44,708,922

ECONOMIC COST OF SOMALI PIRACY 2013 SUMMATION

In total, the annual cost of Somali piracy fell in 2013 to between $3 billion and 3.2 billion, the lowest number yet recorded by OBP in our annual assessment of the economic cost of Somali piracy. This decline reflects a number of trends, primarily the sharp decrease in successful attacks in 2013 with the associated decline in costs of ransom, and pay to hostages. The “peace dividend” is also seen in the movements by industry to lower costs by reducing the use of expensive countermeasures and in the draw-down of naval forces attached to the major international counter piracy-piracy missions.

Total Cost of Somalia-Based Piracy 2013

	Low	High
Cost of Military Operations	$998,586,838	$998,586,838
Cost of Security Equipment and Guards	$1,015,752,137	$1,177,302,507
Cost of Re-routing	0	0
Cost of Increased Speed	$276,154,781	$276,154,781
Cost of Labor	$462,134,710	$462,134,710
Cost of Prosecutions and Imprisonment	$12,187,694	$12,187,694
Cost of Insurance	$185,703,266	$185,703,266
Cost of Counter-piracy Organizations	$44,708,922	$44,708,922
TOTAL	$2,995,228,348	$3,156,778,718

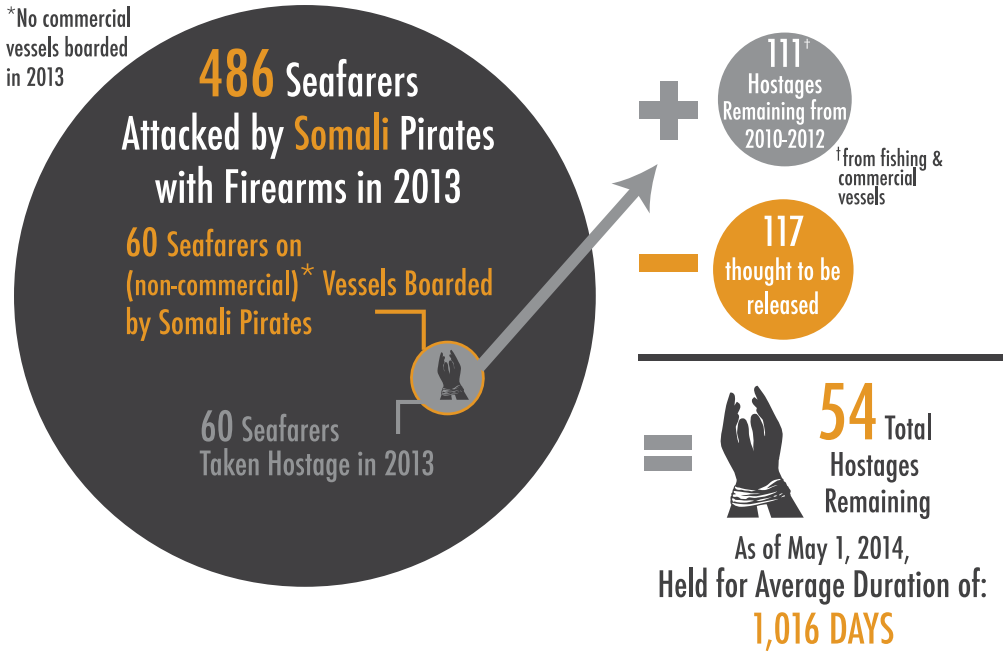
The Human Cost of Somali Piracy

With the sharp decline in Somali piracy activity described previously in this report, the number of seafarers exposed to attack showed a corresponding decline. While this is a highly positive development, the number of newly exposed seafarers does not reflect the entire human cost of piracy in 2013. By the end of 2013, 54 hostages remained in captivity, and all of these hostages are considered to be at high risk by OBP. Information available about the treatment of these hostages suggests that their conditions are abysmal, and that the risks to their health and well-being are real.

With the increasing presence of PCASP on ships, the character of the violence in the region is shifting: unlike in previous years, when the violence in the region was directed primarily by pirates against seafarers, in 2013 much more evidence exists of exchanges of gunfire between pirates and security team members, including the use of warning shots by security teams to deter suspicious approaching vessels. This change means that fewer seafarers faced attack and injury than in the past, but they were exposed to what amounts to combat occurring at their place of work. It also means that an increasing number of security teams were directly exposed to combat situations than in the past.

Finally, estimates of the human cost of Somali piracy in 2013 must include the lasting impact on seafarers who were exposed to piracy before 2013, and who are still dealing with the psychological, familial, and economic aftershocks of their experiences. An unknown number of seafarers held hostage, attacked, or otherwise impacted by piracy in prior years continue to face significant challenges in 2013.

IMPACT ON SEAFARERS



The number of attacks in the HRA off Somalia continued its four-year decline in 2013. Our data found only 23 attacks in the HRA in 2013, representing 486 seafarers attacked by Somali pirates. This is a reduction of 51% from 2012. In addition, at least 10 of the vessels attacked had armed security teams onboard, meaning that the exposure to attack for these seafarers had the character of a gun battle rather than a one-sided attack. This may mitigate the lasting impact of these attacks on seafarers by providing them with an experience in which

their vessel defended itself rather than having been subjected to an attack without the possibility of an armed response. Four small vessels were boarded in 2013, representing an estimated 60 seafarers exposed to pirates onboard their vessels, a decrease of 84% from 2012. The number of seafarers held hostage in 2013 declined 83% from 2012.

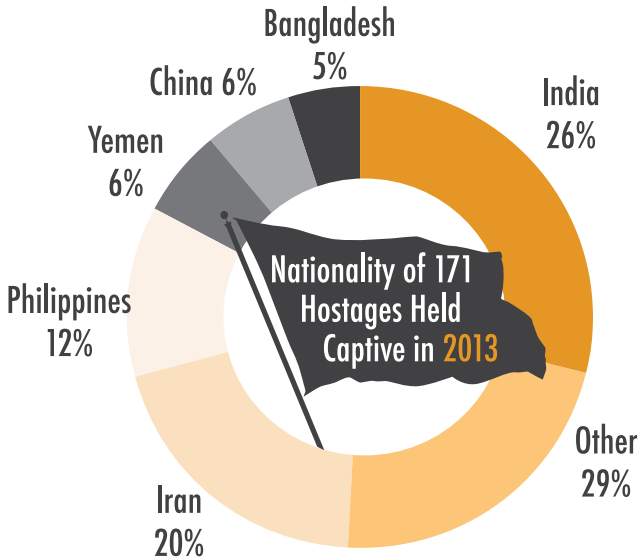
Our data set identifies 145 suspicious vessel approaches by suspected pirates. While it is likely that some of these approaches were not carried out by pirates, given the region in which the ships were sailing in and the reportedly aggressive behavior shown by the small boats, many of them likely were attempted attacks that were aborted before engagement. If all 145 incidents represented pirates approaching but not attacking ships, then, when added to the 19 unsuccessful attacks and four successful ones, this means that the success rate of Somali pirates was 2.4% in 2013 – and 0% for large international vessels such as those that had typically been the main targets of attacks in the past.

Injuries and Deaths in 2013

There were no confirmed injuries or deaths of seafarers related to piracy off the coast of Somalia in 2013. However, four seafarers who were thought to be held captive aboard *MV Albedo* when it sank at anchor in 2013 are unaccounted for.

Hostages Held Captive in 2013

Hostages held captive by Somali pirates in 2013 fall into three categories: those who were held at the beginning of 2013 and released during the year; those who were held at the beginning of 2013, but not released in 2013; and those who were captured and released in 2013. Adding these categories together, 171 seafarers were held by Somali pirates in 2013. As in previous reports, the vast majority of these seafarers are from non-Organization for Economic Cooperation and Development (OECD) countries. Of these 171 seafarers held in 2013, 117 were thought to be released during the year.



More worrying is the fact that of the up to 54 hostages remaining,[113] all are categorized by OBP as being High-Risk Hostages, exposed to a heightened risk of physical danger and long-term distress. For all seafarers held captive in 2013, the average duration of captivity was 369 days.

Abuse of Hostages

As with reports from previous years, reports from hostages released in 2013 document serious, systematic abuse and torture of seafarers held hostage by pirates. A seafarer from *MV Orna*, released on January 11, 2013,

113 This number includes the four seafarers unaccounted for and thought to be missing from *MV Albedo*.

described his abuse at the hands of pirates to the Sri Lankan newspaper the Sunday Times:

> "We were starved and tortured. The pirates would remove all our clothes and hit us with sticks covered with thorns and kick us. They would tie us up with thick rope, almost stopping our blood circulating. We could not move after the ropes were removed. The nights were cold and the days were scorching hot. We were made to stare into the glare for hours."[114]

A similar story of abuse and neglect was reported by seafarers on *MT Royal Grace*, captured in 2012 and released on March 8, 2013:

> "Physical abuse was routine. Sometimes they would tie us up and hang us upside down… [we were fed] a little rice and potato. And we didn't get food every day. I weighed only 40 kgs when I was released. If I had been in captivity for a few more days I would have died."[115]

In addition to withheld food, neglect also took the form of lack of access to medical care. When *MT Royal Grace* was released, several seafarers were released with medical problems, including one suffering from tuberculosis.

Psychological Abuse

As with reports from previous years, interviews with seafarers released in 2013 indicated they had been exposed to significant psychological abuse including degrading treatment, threats of death or violence, and claims by the pirates that they would never be released. In the case of six crew members from *MV Leopard* held hostage for 838 days and released in 2013, pirates deliberately pressed captives to display humiliating behavior in front of media cameras under threat of abuse.

> "We were made to cry and if we didn't we were beaten. I didn't want my children to see me like that, or my wife or my family. It's so frustrating," recalls Eddy Lopez.[116]

In addition to active abuse by pirates, long periods of captivity can in itself take on a form of psychological abuse. Of the four crews remaining in at the end of 2013, three have been held for well over 1000 days.

High-Risk Hostages

High-Risk Hostages

Oceans Beyond Piracy defines hostages as "High-Risk" if they meet at least two of the following conditions:

1. *They have been held for more than one year, leading to a greater likelihood of abuse or death as tensions and anxiety among both pirates and hostages increase.*
2. *They are being held on land, where there are greater risks to hostages.*
3. *No ship owner or insurance company is actively negotiating for the release of these hostages, meaning that tensions are rising and that there is no clear way forward.*
4. *The captured vessel was a sailing yacht or a fishing vessel, all of which reduce the likelihood of the hostages having insurance policies that cover ransoming.*

In OBP's assessment, hostages meeting at least two of these criteria are at significantly higher risk of lasting injury or death than hostages that meet none of these criteria.

114 Ranee Mohamed, "From the Pirates' Clutches into the Arms of Loved Ones," *The Sunday Times Sri Lanka*, January 20, 2013, http://www.sundaytimes.lk/130120/news/from-the-pirates-clutches-into-the-arms-of-loved-ones-29433.html.

115 Poulomi Banerjee, "Between Devil and Deep Blue Sea," Hindustan Times, December 29, 2013, http://www.hindustantimes.com/india-news/between-devil-and-deep-blue-sea/article1-1167357.aspx.

116 Peter Stanners, "Former pirate hostage slams 'humiliating' media coverage," The Copenhagen Post (June 5, 2013) available at: http://cphpost.dk/news/former-pirate-hostage-slams-humiliating-media-coverage.5491.html

All hostages currently held are categorized by OBP as High-Risk Hostages. The conditions that define high-risk hostages are those associated with increased danger to the hostages themselves and issues that complicate the possibility for successfully negotiating a ransom for release. The case of *MV Albedo*, captured in 2010 and still held, illustrates some of the potential dangers for high-risk hostages. Information available about the conditions of the Albedo crew allows us to use it as a case study in this report as it is likely that the conditions faced by other high-risk hostages are similar.

MV Albedo

The captive crew of *MV Albedo* illustrates the risks faced by High Risk Hostages and meets conditions 1-3 of the "High-Risk" definition. After pirates hijacked and captured the vessel in November 2010, the 22 crew members aboard faced inhumane treatment in both psychological and physical forms. In July 2011 tensions between pirates and hostages were obvious: one crew died member after being shot by pirates.[117] Pirates released seven Pakistani crew members in August of 2012, but negotiations for the release of the remaining Bangladeshi, Indian, Iranian, and Sri Lankan hostages of the uninsured vessel ceased. Conditions for the hostages continued to worsen and in July 2013 the increasingly decrepit *MV Albedo* sank at anchor and four crewmembers went missing. Aerial searches later identified lifeboats from the Albedo spotted onshore in Somalia, inferring that pirates transferred the hostages to land.[118] At the end of 2013, the remaining hostages from the crew had endured 1,131 days of captivity.

IMPACT ON SOMALIS

The human cost of piracy extends into the communities of Somalia and impacts many Somalis on a personal level. While the exact complexity of such impacts is difficult to understand and assess in its entirety, interviews with Somalis shed light on the personal toll. For one fishing company interviewed by OEF staff in Bosaso, Puntland, the impact of piracy continues to haunt the business personally and economically:

> "The pirate groups recruited our fishing crew members and some of them joined the pirate groups. Some of our former crew fishermen are now dead or in prison. Overall piracy has negatively impacted our fishing business."[119]

In other field interviews by OEF staff, Somali locals suggested that the economic impacts of piracy linger even after the community of Eyl eradicated piracy:

> "The pirate groups used to confiscate and take Volvo boats from the fishermen who used to supply fish to our company. This has negatively impacted our fishing business." [120]

Two case studies released in 2013 by the joint World Bank, UNODC, and INTERPOL study, "Pirate Trails", provided insight into the link between sex trafficking and piracy. These case studies describe how pirate networks pressured women into domestic and sexual service.[121] The 2013 UN Office to Monitor and Combat Trafficking in Persons report specifically names the pirate towns of Eyl and Haradheere as locations for sex trafficking and the exploitation of Somali women and girls, but also acknowledges that as the influence of pirates has declined over the past two years, their ability to engage in this exploitation has also declined.[122] However, alongside this decline

117 Ramola Talwar Badam, "Pirates tortured us, says freed MV Albedo sailor," The National (August 4, 2012) available at: http://www.thenational.ae/news/uae-news/pirates-tortured-us-says-freed-mv-albedo-sailor

118 EUNAVFOR, "MV Albedo Lifeboats Sighted On Somali Beach," (July 10, 2013) available at: http://eunavfor.eu/update-mv-albedo-lifeboats-sighted-on-somali-beach/

119 Quotes from fishermen in Puntland interviewed by OEF staff in early 2014.

120 Quotes from anonymous fishermen in Puntland interviewed by OEF staff in early 2014

121 World Bank, UNODC, and INTERPOL, "Pirate Trails: Tracking the Illicit Financial Flows from Pirate Activities off the Horn of Africa," (November 4, 2013) retrieved from https://openknowledge.worldbank.org/handle/10986/16196

122 United States Department of State, Office to Monitor and Combat Trafficking in Persons, "2013 Trafficking in Persons Report-Somalia," retrieved from http://www.state.gov/j/tip/rls/tiprpt/countries/2013/215653.htm

in influence and the associated decrease in funding, there is evidence that the decline in successful pirate attacks is shifting the human cost of piracy toward the shore as pirate networks reorganize in order to identify more opportunities for profitable new activities.

Many of these new activities have significant negative impacts on Somalis. A July 2013 report from the UN Monitoring Group on Somalia and Eritrea reported that "With the decline of pirate activity generally, in northern Somalia a number of criminal networks are reverting to prior, familiar patterns of illicit behavior, including armed protection of fishing activities and illegal fishing, arms trafficking, human trafficking and even trans-shipping of narcotics."[123]

Finally, despite the claims that pirates were originally protecting Somali waters from illegal, unreported and unregulated (IUU) fishing, it is important to note that piracy in fact increases the risks faced by Somali fishermen.[124] The continued presence of Pirate Action Groups (PAGs) adds to the challenges faced by fishermen because there is the dual risk of being mistaken for a pirate by shipboard armed security and of encountering pirates themselves. The growing use of armed security increases the life-threatening risk for Somali fishermen who may be mistaken for pirates by armed guards. Of 145 incidents of suspicious activity identified in the OBP data, 19% involved warning shots fired by security team members. This frequency of the use of warning shots underscores the risk posed to fishermen, as teams might fire shots before they can determine if the boat poses a threat or carries innocent fishermen. While mistaken identity is a fear within Somali communities, it should be noted that unlike previous years, this type of incident was not reported in 2013 and there were some reports that the close proximity of counter-piracy naval forces has made the fishermen more comfortable and eliminated some of the fear associated with piracy among artisanal fishermen. [125]

While there is optimism that increasing safety at sea will benefit Somali fishing communities, Somali fishermen continue to face risks associated with piracy and IUU fishing. There are reports of pirates stealing fish from fishermen,[126] and even turning to provide protection for foreign fishing vessels[127] thus robbing local fishermen of their livelihoods and decreasing their motivation to fish. Fishermen also cite violence against their person and equipment by illegal fishers as a disincentive to continue their fishing activities. This sense of fear among the fishermen, in terms of both piracy and IUU fishers, is concerning because it inhibits alternative livelihoods, such as fishing, in these coastal communities that could provide alternative livelihoods for Somalis who might otherwise choose to engage in piracy.

IMPACT ON PCASP

The increasing impact of armed security teams also meant that in 2013, security team members were more frequently exposed to potential injury or death and that potential long-term impact on those team members must be taken into consideration. Our data set found no reported cases of injury or death among armed security team members in 2013, even though eight armed security teams engaged in crossfire with pirates off the coast of Somalia during that year. All security teams were successful in repelling pirates. All of the reported crossfire

123 Kim Sook, Letter Dated 12 July 2013 from the Chair of the Security Council Committee pursuant to Resolutions 751 (1992) and 1907 (2009) Concerning Somalia and Eritrea Addressed to the President of the Security Council (S/2013/440) July 12, 2013.

124 Jeff R. Vogel, "Fishing for Answers to Piracy in Somalia," in /luce.nt/ (Creativity issue, 2012) available at: http://www.usnwc.edu/Lucent/OpenPdf.aspx?id=132&title=Creativity

125 Combined Maritime Forces, "Somali fishermen 'feel safer' with HMNZS Te Mana in sight," (January 24, 2014) retrieved from http://combinedmaritimeforces.com/2014/01/24/somali-fisherman-feel-safer-with-hmnzs-te-mana-in-sight/

126 IRIN, "Somalia: Potential Goldmine for Fishermen as Piracy Declines, "IRINNews (December 14, 2012) available at: http://www.irinnews.org/report/97049/somalia-potential-goldmine-for-fishermen-as-piracy-declines

127 Jason Straziuso, "Somali pirates now protecting illegal fishing biz," The Associated Press (July 25, 2013) available at: http://news.yahoo.com/somali-pirates-now-protecting-illegal-fishing-biz-152835584.html

events occurred between large commercial vessels and Pirate Action Groups armed with automatic rifles or rocket-propelled grenades.

In tracking the long-term impacts of exposure to violence, very little publicly available work has been done looking at rates of post-traumatic stress or other behavioral problems in private maritime security companies operating off the coast of Somalia. A study by the RAND Corporation released in 2013 examined rates of post-traumatic problems in private military contractors, including those working in the maritime sector. Of the studied private military contractors working in maritime security, 4% were identified as having probable post-traumatic stress disorder, and 12% were identified as having probable depression.[128] These rates are not dissimilar from what would be expected in the general population, although they are somewhat higher in rates of depression than a general sample,[129] suggesting that the maritime private military contractors participating in the RAND study were not excessively impacted by their experiences. While this finding is encouraging, it is also the case that the contractors identified by RAND as working in maritime security had very low rates of exposure to combat during their work as security contractors. It is possible that due to the risk of combat associated with Somali piracy, those contractors operating off the coast of Somalia may have higher rates of combat exposure than other maritime guards and therefore a greater risk of long-term problems.

In 2012, SAMI produced a guidance document detailing guidelines for psychological support for private maritime security companies.[130] In this document, SAMI acknowledges that many contractors come from military backgrounds that may have prepared them for coping with the challenges of combat, but also recommends a series of best practices including screening, peer support, and targeted support after specific events. Such an approach is likely to assist contractors in coping with the potential long-term impact of their experiences.

It is also true that the prevalence of security team members exposes the lack of consistency and in some cases the lack of clarity regarding laws governing the transport of arms in the duty of protecting ships. On October 12, 2013, the Indian Navy intercepted *MV Seaman Guard Ohio* and detained the personnel onboard for allegedly entering territorial waters of India without authorization, purchasing subsidized fuel, and possessing illegal arms.[131] In March of 2014 almost all of the crew was released from jail on bail,[132] but only after an extended period in jail under conditions that reportedly led one crew member to attempt suicide.[133] This case highlights the potential legal risk to contractors and the need for more clarity around the laws and enforcement relating to private arms in the region as well as the need for better cooperation among security providers, flag states, and littoral states.

128 Molly Dunigan et al., Out of the Shadows: The Health and Well-Being of Private Contractors Working in Conflict Environments (Santa Monica, CA: RAND Corporation, 2013). See http://www.rand.org/pubs/research_reports/RR420.html

129 Ronald C. Kessler et al., "Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication," Archives of General Psychiatry 62, no. 6 (June 1, 2005): 617, doi:10.1001/archpsyc.62.6.617.

130 Neil Greenberg, "Psychological Support for Private Maritime Security Companies," presented at the Security Association for the Maritime Industry's East-West Defence and Security Cooperation Conference (February 2014).

131 Mark Magnier, "Indians Arrest 35 Aboard U.S.-Owned Vessel Reportedly Carrying Weapons," Los Angeles Times (October 18, 2013) available at: http://www.latimes.com/world/worldnow/la-fg-wn-india-arrests-us-vessel-20131018,0,7908125.story#axzz-2vUV995BM

132 BBC, "British anti-piracy guards held in India granted bail," BBC News (March 26, 2014) retrieved from http://www.bbc.com/news/uk-scotland-glasgow-west-26748266

133 BBC, "Sailor 'Attempts Suicide' in India," BBC News (October 21, 2013) available at: http://www.bbc.co.uk/news/world-asia-india-24606031.

EA Trends and Conclusion

2013 - POSITIVE BUT REVERSIBLE TRENDS

The most significant trend for Somali piracy in 2013 was the continuing decrease in the number of attacks on ships. May 10, 2014 marks two full years since the last successful hijacking of a commercial vessel by Somalia-based pirates. Following the lowest number of reported attacks by Somali pirates since 2004,[134] in 2013 there is evidence that some in the international maritime and counter-piracy community had begun to consider the idea that Somali piracy had come to an end.[135] While Operation Atalanta and Operation Ocean Shield are expected to renew their mandates until the end of 2016 (and continue to operate as such) no official announcements have been made as of May 2014. Although a significant number of hostages were released in 2013, many remain in captivity under challenging conditions. The international community, led by the 2014 Chair of the CGPCS, the EU, has responded with a stated goal of reaching "zero-zero": zero ships and zero seafarers in the hands of Somali pirates as an important indication that the piracy model is fractured, but not yet broken.[136]

As the economic cost assessments for 2013 have shown, it appears that some countries are beginning to cautiously withdraw their naval vessels deployed to counter-piracy operations and that the percentage of vessels employing armed guards and the size of PCASP teams are decreasing. The economic costs of avoiding piracy off East Africa, re-routing and increased speeds in particular, have decreased substantially, suggesting atrophy in vessel hardening measures as the perceived threat of piracy decreases. Thus, 2013 can be described not only as a year of continued success in suppressing pirate attacks, but also a year in which the established tools used to address piracy piracy seemingly began to draw down as the lower cost estimates indicate.

This section of the report will address what the patterns of attacks suggest about the capacities of PAGs and also some of the changes in the use of private security companies throughout the year. Overall, our analysis suggests that 2013 was a year of successes in counter-piracy activity but in which the stated goal of zero-zero has not been met, and the potential remains for a resurgence in piracy if the counter-piracy structures ashore are not dismantled.

BEHIND THE NUMBERS

As evidenced by the decrease in pirate attacks and hijacking numbers delineated in the previous sections of this report, a downward trend in pirate engagements with vessels in the Western Indian Ocean and the Gulf of Aden continued in 2013. Nonetheless, pirate action groups still possess the physical capabilities and determination to resurge. As demonstrated by our data on "suspicious approaches", pirates are continuing to assess adherence to security protocol, and capabilities of vessels transiting the area to identify unarmed, vulnerable vessels. The continued attacks on smaller, less secure vessels such as dhows and fishing vessels are an indication of continued pirate activity. The low number of attacks on commercial vessels however suggests that deterrence measures such as BMP4, use of Private Military Security Companies (PMSCs), presence of navies and vessel hardening measures have been effective. If these deterrence measures are beginning to atrophy, suspicious approaches may turn into outright attacks.

134 International Maritime Bureau. 2005.

135 Already, budget cuts in Washington are expected to hit the U.S.'s antipiracy deployments…" *See* Noah Rayman, "Did 2013 Mark the End of Somali Piracy?" in *Time* (January 6, 2014) available at: http://world.time.com/2014/01/06/did-2013-mark-the-end-of-somali-piracy/

136 European Commission, "European Union to lead international counter piracy efforts in 2014," (December 23, 2013) available at: http://europa.eu/rapid/press-release_IP-13-1314_en.htm

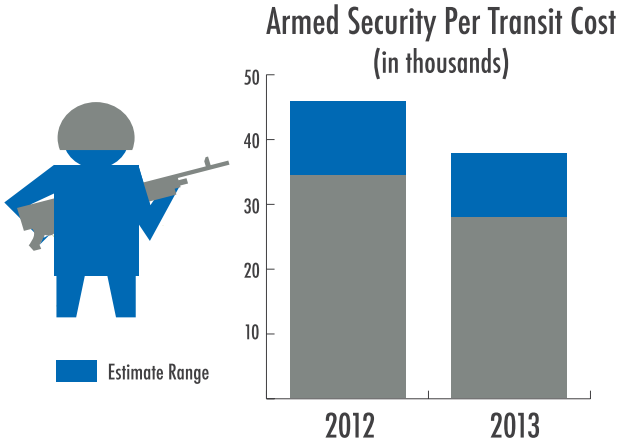
The major "zero-zero" goal of the international maritime community has still not been accomplished. While celebration is deserved for the release of all commercial vessels, substantial work must still be done in the interest of saving the lives of the 54 high risk hostages[137] who remain in pirate captivity almost three years after their capture. Moreover, the continued ability of pirates to hijack small vessels such as dhows and fishing vessels is a continued risk. While most numbers published on pirate attacks and hostages do not include figures on these vessels, it is important to remember that piracy is not only a threat to the free flow of goods, but also to the well-being of individual seafarers, regardless of their vessel size or nationality. It is evident that the number of hostages in captivity, while trending downward, remains of immediate relevance to counter-piracy work and should be prioritized by the maritime and international communities.

Declaring a short-term victory over the pirates for their inability to retain or capture new vessels is deserved, but the long-term goal of "zero-zero" remains unachieved. Furthermore, much work will remain to be done in order to continue the work of building organic Somali capacity to control their maritime domain. As we will discuss, 2013 saw the achievement of significant milestones toward building security capacity, but creating economic opportunity on the ground will require a long term commitment and cannot be expected to be accomplished in the short term. This therefore will require a continued effort by all counter piracy stakeholders to retain the ability to deter and defeat piracy at sea.

THE QUANDARY OF PRIVATE MARITIME SECURITY

Changes in Security Procedures

It is evident that preparedness by the maritime community and a focus on protective measures have been vital in reducing the number of attacks. However, in 2013 there were some indications of complacency in the adherence of vessels to security procedures. Throughout 2013 the usage rate, size, and composition of private security teams have decreased as ship owners have tested the boundaries of security requirements in search of more cost-efficient transits. The established GUARDCON recommendations maintain that teams of four armed security guards are necessary in order to achieve maximum protection onboard commercial vessels. However, BIMCO CSO Giles Noakes has noted that many ship owners have been operating successfully with teams of three or even two armed security guards.[138] This practice has been widely discussed throughout the maritime sector and is further supported by data compiled by Dirk Siebels. While the decrease in vessel hardening measure and guards aboard a vessel significantly cuts costs, it also may lead to increased future risk as pirates retain capabilities and become aware of less heavily protected vessels.



In 2012, OBP estimated that 50% of vessels transiting the HRA employed armed security at an estimated yearly cost of between $1.5 and $1.53 billion, or $34,500 - $46,000 per transit. This year, OBP estimates have shown a substantial decrease in per transit cost, down 17 - 18% to between $28,000 and $38,000 per transit. Further, in previous years teams were more consistently made up of personnel of the same nationality, predominantly UK citizens. In 2013, teams made up of various nationalities were more common, presenting issues for communication between the PCASP team and crew, the PCASP team lead and the rest of the team, and among the PCASP team itself. Teams from an array of countries may also have varying levels of training and different certification procedures.

137 See the Human Cost section in this report for high risk hostage definition.

138 Liz McMahon, "Guards told 'do not shoot,'" Lloyds List (January 31, 2013) available at: http://www.lloydslist.com/ll/sector/ship-operations/article415942.ece

Despite these challenges, flag registries have exhibited a growing acceptance of the high demand for armed security aboard vessels; with the exception of China, all of the ten most commonly registered flag states have now authorized the use of PMSCs in some capacity.[139] The efficacy of armed security in the short-term disruption of pirate attacks is undeniable, and as flag states aim to maintain their clientele it is likely that this upward trend in state authorization will continue throughout the near future.

National law regarding PMSCs clearly involves much more than just flag state authorization. PMSCs must also follow the laws of the state of the ship owner, the state where the security company is based, and the coastal state in which they are traveling. The lack of international standardization within the industry further muddies the ability to regulate security. The year 2013 in particular saw increased calls for and movement toward regulation. In addition to already established standard contracts such as GUARDCON, developed by BIMCO, that have been effective in their own right, the development of the International Code of Conduct for Private Security Providers (ICoCA)[140], the 100 Series Rules for the use of Force initiatives[141] and the implementation of ISO/PAS 28007 all toook place in 2013.

ISO/PAS 28007 allows PMSCs to demonstrate compliance through certification that they employ appropriate PCASP services and observe best practices. Further, it allows companies to follow a methodological risk assessment approach.[142] As companies increasingly seek accreditation through ISO/PAS in 2014, it is possible that it could become the new standard for certification in conjunction with existing procedures and guidance. As a result of standardization, in the future, states could require ISO certification, or even use it to entirely replace their own licensing requirements, as has been suggested in the EU.[143] This further demonstrates a move toward global standardization of armed private maritime security for vessels transiting the region while the threat remains.

It will become increasingly important that maritime and security industries continue to collaborate to achieve standard operating procedures and regulations. The efficacy of the private maritime security industry and the role it plays in the continued suppression at sea of Somali-based piracy rely heavily upon the implementation of such standards. To this end, Dirk Siebels, who has been collecting data about the use of PCASP says: "I think it would be interesting to assemble data from as many flag states as possible. After all, it is in the interest of flag states, ship operators and other stakeholders to have access to well-regulated PMSCs at competitive rates. Regulation, however, should be based on solid data."

Floating Armories

Floating armories were another issue that generated vigorous debate and concerns in some littoral nations within the HRA, such as India,[144] and a potential source of new revenue creation and a way to control the

139 Lloyd's List, "Flag State: Top 10 Ship Registers," Lloyd's List (August 2013) available at: http://info.lloydslistintelligence.com/wp-content/uploads/2013/08/Top-10-Ship-Reg.pdf

140 The International Code of Conduct Association for Private Security Service Providers (ICoCA) was created in September of 2013 with the objective to set standards based on established human rights and humanitarian law and improve accountability through an external oversight mechanism. Companies signatory to the code agree to a specified level of quality and compliance. Although this code is focused on land-based security, its relevance to the maritime realm will be determined by clients' preferential treatment for contracting members.

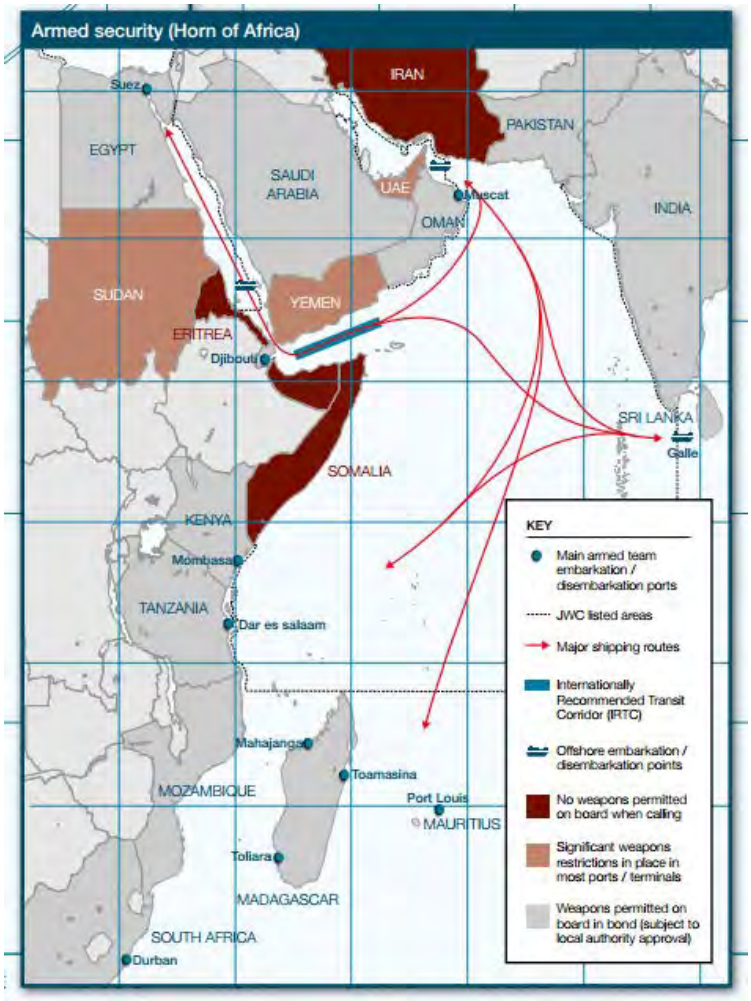
141 100 Series Rules website available at: https://100seriesrules.com/

142 LRQA, "ISO/PAS 28007 Private Maritime Security Certification," Lloyd's Register LRQA (2013) retrieved from http://www.lrqa.co.uk/standards-and-schemes/ISO-PAS-28007/

143 Dirk Siebels, "Shipping Industry Looking Forward to ISO Standard for Private Maritime Security Providers," gCaptain (February 10, 2014) available at: http://gcaptain.com/shipping-industry-iso-standard-for-private-security/

144 "Navy Sounds Alarm on Floating Armouries," The Times of India (December 4, 2013) available at: http://timesofindia.indiatimes.com/india/Navy-sounds-alarm-on-floating-armouries/articleshow/26815225.cms

flow of weapons into port in others, such as Sri Lanka.[145] Generally, floating armories charge a per day fee for storage of weapons or ammunition for armed guard teams on board vessels transiting the HRA. This helps ships avoid the costly and time-consuming process of using officially approved armories onshore and dealing with the bureaucracy of extra port visits to collect guards and/or arms for guard teams.[146] Some companies run floating armories only for their own guards and do not rent weapons or storage space to third parties.[147]



By using floating armories, ships can pick up weapons before transiting the HRA and drop them off again when they are out of the HRA and no longer need them.[148] Based on our research, we have concluded that there are at least three known sites for floating armories, at Galle, Muscat/Fujairah, and in the Red Sea,[149,150] with estimates regarding the total number of floating armories ranging between 15 and 20 at any given time. See also the image at left where these sites are marked as 'offshore embarkation/disembarkation points.'

Control Risks Maritime Risks Sub-Map of Armed Security, Horn of Africa[151]

145 Lloyd's List, "Sri Lanka Launches Floating Armoury," Lloyd's List (September 25, 2012) available at: http://www.lloydslist.com/ll/sector/regulation/article408159.ece (subscription required).

146 Oscar Rickett, "Piracy Fears over Ships Laden with Weapons in International Waters," The Guardian (January 10, 2013) retrieved from http://www.theguardian.com/world/2013/jan/10/pirate-weapons-floating-armouries

147 William H. Watson, "AdvanFort Offshore Support Vessel (OSV) network safely floats past growing 'floating armory' debate," Advantfort.com (May 28, 2013) retrieved from http://www.advanfort.com/Will%20OSVs%20FINAL.pdf; see also Katharine Houreld, "Piracy Fighters Use Floating Armories," Bloomberg Businessweek (March 22, 2012) retrieved from http://www.businessweek.com/ap/2012-03/D9TLKOVO0.htm

148 Ibid.

149 Massive Floating Armories Filled with Weapons Are a Pirate's Sweet Dream," The Guardian (January 10, 2013) retrieved from http://www.businessinsider.com/massive-floating-armories-filled-with-weapons-are-a-pirates-sweet-dream-2013-1; See also Houreld, supra note 145

150 Avant Garde Maritime Services, "Services," at http://avantmaritime.com/services; see also Horizon Security Solutions, "Maritime Security," at http://www.horizonsecuritysolutions.co.uk/security-services/maritime-security,

151 Control Risks, "RiskMap Maritime 2014," retrieved from http://www.controlrisks.com/en/riskmap/maritime

The data compiled by Dirk Siebels shows that throughout 2013 floating armories were increasingly used as embarkation and disembarkation points as shown in the table below.[152]

Floating Armories usage as percent of total transits	Jan 2013	Mar 2013	Jun 2013	Sep 2013
Embarkation	25.78%	29.32%	38.13%	34.86%
Disembarkation	24.22%	24.81%	36.88%	34.86%

The increased use of floating armories is an indication of the usefulness and convenience they offer PMSCs. However, it also introduces new legal issues and points of contention for the security industry. While floating armories generally operate outside the jurisdiction of coastal states, when they enter a country's territorial waters the laws of that country prevail.[153] *MV Seaman Guard Ohio*, mentioned previously in this report,[154] was one example of a littoral country detaining a floating armory based on its national laws.[155]

Despite the opposition of some regional states to let these vessels enter their waters, some littoral countries have developed their own system. Sri Lanka and Djibouti have both deployed state regulated floating armories, whose streamlined approach could bode well for future standardization.[156,157]

Additionally, in August 2013 the UK Department of Business Innovation and Skills began issuing licenses allowing PMSCs to use floating armories while ensuring compliance with for example the ISO/PAS 28007 certification guidelines.[158] After lengthy discussion the UK Home Office in early 2013 outlined a way forward for UK-flagged floating armories in a letter to the Security in Complex Environment Group. The letter notes that although there are issues of implementation that must be worked through, the UK plans to bring floating armories under the authority of UK law. These advances suggest that countries and entities involved in the complex issues of floating armories are be beginning to address the lack of regulation and standardization within flag state law.

FROM SUPPRESSION TO SUSTAINABLE SOLUTIONS

Capacity Building

As the number of attacks and hijackings off the coast of East Africa calms to a more manageable level, the focus of global counter-piracy work is shifting to more sustainable, long-term solutions that emphasize coastal development and capacity-building in Somali communities. The year 2013 has shown a marked increase in the implementation of planned initiatives to train communities in alternative livelihoods and maritime security, and in cultivating effective prosecutorial teams.

The emphasis placed on rule of law capacity-building throughout 2013 is largely due to the shift in emphasis from arresting low-level pirates to high-level targets, such as Mohamed Abdi Hassan ("Afweyne/Big Mouth") who was captured by Belgian officials in a remarkable Hollywood-style ploy.[159]

152 These numbers are a very conservative estimate and only count floating armories where specified in the LONOs. Other locations given may also have been a floating armory, which means the actual percentage is likely much higher.

153 S. Anandan, "'Floating armoury' poses a legal conundrum," The Hindu (October 16, 2013) available at: http://www.thehindu.com/news/national/floating-armoury-poses-a-legal-conundrum/article5237673.ece

154 See the Human Cost of Somali Piracy.

155 StratPost, "Floating armories, pvt armed guards worry navy." StratPost (December 6, 2013) available at: http://www.stratpost.com/floating-armories-pvt-armed-guards-worry-navy

156 Liz McMahon, "Sri Lanka launches floating armoury," Lloyd's List (September 25, 2012) available at: http://www.lloydslist.com/ll/sector/regulation/article408159.ece

157 See "Massive Floating Armories Filled with Weapons Are a Pirate's Sweet Dream" supra note 147.

158 Liz McMahon, "UK gives go ahead for floating armouries," Lloyd's List (August 3, 2013) available at: http://www.lloydslist.com/ll/sector/regulation/article427433.ece

159 Raf Casert, "Mohamed Abdi Hassan, Somali Pirate Known As Afweyne, Arrested by Belgium," The Associated Press (October 14, 2013) available at: http://www.huffingtonpost.com/2013/10/14/mohamedabdi-hassan-arrested_n_4097572.html

According to quarterly updates from the CGPCS, at least 100 individuals were prosecuted for piracy related crimes in 2013. Yet, EU NAVFOR's pirate action group disruptions numbers are down 220% from 2012, and 460% from 2011. In an evident shift in efforts from suppression at sea (including PAG disruptions), the number of trainings EU NAVFOR completed for regional entities were up 300% from 2011.[160] The significant increase in training begins to tell the story of a possible shift in naval efforts towards increased involvement in building regional capacity.

Nevertheless, a continued lack of operational clarity in defining whether apprehension and detention of alleged pirates is included in counter-piracy missions continues to spur lingering suspicion of navies pursing a policy of catch and release.[161] This could mean that thousands of individuals once actively engaged in piracy still harbor the determination and capabilities that led to the rise of piracy in the first place.

However, capacity building of and standardization in the rule of law sector has been quite effective thus far. UNODC's Counter-Piracy Programme, which was renamed the UNODC Maritime Crime Programme in April 2013, has been particularly effective in implementing its programs to build prosecutorial infrastructure and prisons, while EUCAP Nestor and others have ambitious plans to strengthen maritime governance and address the root causes of piracy. Further, the change from RAPPIC to REFLECS^3 to incorporate a wider range a maritime threats is a positive indication that anti-piracy capacity building will be well positioned to tackle other threats in terms of both suppression and prosecution. Finally, in an increased tread toward capacity building funding, in 2013 the Trust Fund to Support Initiatives of States Countering Piracy off the Coast of Somalia approved 10 projects worth a total of $4.9 million.[162] While the extensive planning of capacity building projects has been fruitful, the global counter-piracy community is anxiously awaiting further progress on implementation of capacity building initiatives to create the security conditions needed to prohibit pirates from having safe havens ashore.

The Somali Maritime Resource and Security Strategy (SMRSS), developed in 2013, provides a framework for program development in the maritime sector specifically addressing maritime law enforcement, security, safety, and response and recovery. Ideally, this strategy will steer the development of effective maritime and coastal security structures and institutions.[163] In the fall of 2013 the strategy was endorsed by the Somali Federal Government, all the regions and Somaliland.[164,165,166] This critical collaboration was generated through participation in the Kampala Process and has since been mentioned in UN Security Council Resolution 2125,[167] and endorsed by the President of the Federal Government, Somaliland and Somali regions. The creation and collective endorsement of the SMRSS will be crucial to the future of communication between regions moving forward.

160 EU NAVFOR, "Countering Piracy off the Coast of Somalia: Latest News," EU NAVFOR Somalia (2014) at: http://eunavfor.eu/

161 Carl Conradi, "Children in Marine Piracy: Our Work in 2013," Dallaire Initiative, childsoldiers.org (2013).

162 United Nations, Secretary-General's report on the situation with respect to piracy and armed robbery at sea off the coast of Somalia (S/2013/623) October 21, 2013, at http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2013_623.pdf

163 The Federal Republic of Somalia, The Somali Compact (2013), pg 7 at: http://www.pbsbdialogue.org/The%20Somali%20Compact.pdf

164 Somaliland Counter Piracy Office, "Progress and Priorities," (November 11, 2013) pg. 7.

165 "Puntland Rejects Coastal Agreement Between the Federal Government and Atlantic Marine and Offshore Group," Puntland Post (August 3, 2103) at http://www.puntlandpost.com/somalia-puntland-rejects-the-coastal-agreement-between-the-federal-government-atlantic-marine-and-offshore-group/

166 Galmudug Presentation to Working Group 1 (November 10, 2013)

167 United Nations Security Council Resolution 2125 (S/RES/2125) November 18, 2013, see http://oceansbeyondpiracy.org/sites/default/files/attachments/N1356844.pdf

COORDINATION

As the focus of international and regional communities shifts from suppression of piracy at sea to land-based solutions, increased coordination outside the realm of naval missions has been evident. Regionally in 2013, the Kampala Process[168] morphed into the Regional Maritime Coordination Mechanism (RMCM) and ramped up efforts to expand the presence of development partners in Somalia. Further, the RMCM has made a concerted effort to involve all Somali stakeholders in regional and local governance and development. The RMCM is the only forum that brings together the Federal Government, Somaliland, Puntland and Galmudug to collaborate on how best to develop and implement maritime legislation and Somali prosecutorial capacity.[169]

The Contact Group on Piracy off the Coast of Somalia has also made a significant effort to coordinate the vast array of actors in anti-piracy work. In 2013, CGPCS met for its 14th and 15th plenary sessions with the aim of better integrating its work with that of the Federal Government of Somalia and the regions to ensure the effectiveness and sustainability of CGPCS efforts. As a part of CGPCS, Working Group 1 has developed the Capacity-Building Coordination Group and the Capacity-Building Coordination Platform, a tool for promoting transparency, collaboration, and deconfliction of initiatives. Though its creation raises hope for increased coordination and implementation of projects, its success depends on rate of stakeholder buy-in and usage. As pirate attacks and hostage-takings at sea continue to decline, it is paramount that the international community should not assume that the fight is over, but continues to shift focus and resources to sustainable solutions that target drivers of piracy at its root.

168 The Kampala Process was established as a mechanism to incorporate the Somali regions, the Federal Government, the African Union, UNPOS and the Intergovernmental Authority on Development in anti-piracy initiatives.

169 See "Kampala Process," Oceans Beyond Piracy (2014) at: http://oceansbeyondpiracy.org/matrix/kampala-process

SECTION 3: WEST AFRICAN PIRACY

Introduction: The State of West African Piracy

Last year's Human Cost of Maritime Piracy report was the first OBP report to address the issue of piracy and armed robbery at sea off the coast of West Africa. This year's report follows the precedent set last year, tracking the cost of piracy and armed robbery at sea by criminals operating off of the West African coast. In last year's report we based our analysis on IMB numbers, while this year's report uses our method of open-source data collection.[1] This change makes it impossible to directly compare numbers, but reports tracking piracy from the IMB and the United Nations Institute for Training and Research (UNITAR) show a stable rate or even a slight decline in West African piracy from 2012 to 2013.[2]

There is some risk of reductionism in combining the figures for both piracy and armed robbery in East and West Africa in the same report. Fundamentally, maritime crime on both coasts is related to instability on shore,[3] but piracy off West Africa is distinctly different from, and unrelated to, Somali piracy in many significant ways related to historical, legal, and geographical differences between the two regions. Most significantly, attacks off West Africa occur in both territorial waters (those extending 12 nautical miles from the coast) and international waters (those waters beyond the 12 nm territorial zone). Because of this, security structures differ: only local forces may legally provide armed security within territorial waters. Given that the majority of piracy-related incidents in West Africa during 2013 occurred within 12nm of a coast, those incidents fell within a specific country's jurisdiction and protection. Unlike in the Indian Ocean, where Somali authorities still lack a coast guard or navy with the capability to project power at sea, West African states have both the legal responsibility and in some cases the naval resources to respond to armed robbery, in effect changing the tactics that the pirates need to use and the regulatory and judicial tools available to counter piracy.

West African piracy is also distinct because the region has many ports actively involved in both international and regional maritime trade. As such, vessels not only transit through the region, but also enter into ports to load or unload cargo. Unlike Somali pirates who prey mainly upon ships transiting through the region, West African pirates may attack ships passing through the region or ships berthed or anchored and waiting to berth. This changes the character of the challenges faced by ships dealing with piracy off West Africa in that they must have security systems in place to address threats both while under way and while stopped. The existence of a large institutional infrastructure ashore that ships engage with also provides opportunities for West African pirates to more directly access intelligence about the routes, content, and structure of the ships themselves, through (it is suspected) accessing the information shared with the maritime sector in the region.[4]

In addition to the legal differences, the prototypical attacks in West African waters are different from those associated with Somali pirates in other ways. For the past few years, Somali piracy has been unique because of its use of a "kidnap and ransom" method in which both crews and ships have been held for ransom for months or years at a time. As West African pirates operate in areas with developed central governments and in-port policing, they lack the capacity to capture ships and hold them for ransom for extended periods of time. Instead, pirates in West African waters have developed three models of piracy:

1 See the "Piracy By the Numbers" section of this report for more information about the data set used this year

2 E.g. Philippe Leymarie, Philippe Rekacewicz, and Agnes Stienne, "UNOSAT Global Report on Maritime Piracy: a geospatial analysis 1995–2013," *UNITAR* (2014). Retrieved from https://unosat.web.cern.ch/unosat/unitar/publications/UNITAR_UNOSAT_Piracy_1995-2013.pdf

3 Arguably, this is the root of all maritime piracy. *See* Robert Haywood and Roberta Spivak, *Maritime Piracy* (Oxford, UK: Routledge, 2012).

4 Steven Beardsley, "For a Different African Piracy Problem, Navy Seeks Solutions on Shore," *Stars and Stripes* (January 21, 2014). Available at: https://mapsengine.google.com/map/u/0/embed?mid=zRknXaJvxFb4.kZ0rEZerOaWQ&pli=1

1. **Robbery** is defined as any incident in which the intent is to board the vessel and steal ship stores, equipment, and/or the crew's personal effects. The robbers are usually armed with guns, knives, or other light weapons. In some instances, the robbers do not intend to engage the crew, but sneak aboard the vessel undetected, steal items of interest, and then slip away without being noticed. In 2012's Human Cost of Maritime Piracy report, we referred to this approach as "subsistence piracy." In other instances the robbers do engage the crew and hold them at knife- or gunpoint, but only for long enough to carry out the theft.

   June 19, 2013–*The Langenes, a general cargo ship, was attacked 25nm SW of Conakry, Guinea. During the incident, five robbers armed with machine guns boarded the anchored vessel. The robbers threatened the crew, stole the ship's cash and the crew's personal belongings and escaped.*[5]

2. **Kidnap for Ransom** mirrors the incidents in East Africa. Pirates carry out an attack with the explicit intent to hijack the vessel and hold the crew hostage while they negotiate a ransom payment. Hostages are usually taken to an undisclosed location on land while negotiations are carried out.

   October 23, 2013–*The supply vessel C-Retriever was attacked and boarded by pirates as it was underway off Nigeria. Wren Thomas, the vessel's captain, and his chief engineer were taken hostage and brought ashore. They were released 18 days later after a ransom of $2 million dollars was paid.*[6]

3. **Oil Theft** is the most complex of the three piracy models and requires a much more sophisticated and coordinated effort. Vessels carrying refined oil product are targeted and attacked specifically for the value of the oil cargo they are carrying. Once the vessel is hijacked the crew is often forced to navigate the vessel to an unknown location where the cargo can be lightered either to another vessel or to a storage facility on land. The refined oil product then finds its way into the black market. Eventually, the oil product makes its way back into the clean, mainstream supply and is sold domestically or in the global marketplace.

5 ICC International Maritime Bureau, "Piracy and Armed Robbery Against Ships Report for the Period 1 January–31 December, 2013," available at http://www.ship.sh/attachment/files/2013_Annual_IMB_Piracy_Report.pdf

6 Rob Almeida, "Kidnapped Off Nigeria – An American Ship Captain Unveils the Truth," *gCaptain* (April 4, 2014). Retrieved from https://gcaptain.com/captain-wren-thomas-kidnapped-off-nigeria-c-retriever/. *See also* Daily Post Staff, "MEND asks Nigeria, South Africa governments to release Okah's brothers," *the Daily Post* (November 17, 2013), retrieved from http://dailypost.ng/2013/11/17/mend-asks-nigeria-south-africa-governments-to-release-okahs-brothers/

> February 3, 2013–*Twelve heavily armed pirates with guns boarded and hijacked the tanker Gascogne while it was underway. They sailed the tanker to Nigeria and stole the oil cargo. In this instance, vessel and crew valuables were also stolen. The vessel and her 17 crewmembers were released two days later, on February 5th. During the incident, two crewmembers were injured.*[7]

In many instances, as with the *Gascogne* incident, pirates are opportunistic and tend to carry out more than one of the above models of attack at the same time. While the initial intent of the attack was oil theft, the armed robbery model was also utilized.

In 2013, OBP noted an increase in piracy-related incidents in West Africa as compared to the year prior, but this does not indicate that the actual threat of piracy dramatically increased in the region during that period. As mentioned, inconsistencies in reporting and a lack of transparency in such reports complicate the estimation of true piracy trends in the region. The data suggest a shift away from oil siphoning and toward the highlighted threat of kidnap for ransom. This trend is complemented by an increase in attacked seafarers from OECD countries, who appear to be specifically targeted for ransom over non-OECD seafarers.

Some key findings from our analysis of West African piracy are the following:

- There is some indication of a shift in attacks toward kidnap for ransom instead of or alongside theft of cargo. In particular, this risk is heightened for western and non-local crew, who may be targeted specifically for kidnapping.
- Piracy in West Africa is more closely tied to criminal activity ashore than Indian Ocean piracy is, meaning that piracy poses a more direct threat to littoral communities and regional states than Somali piracy does.
- The systems of information-sharing and coordination efforts that characterized counter-piracy operations in the Indian Ocean are less well-developed in the West African region, although promising steps are being taken by regional actors.

Definitions: West African piracy

Defining West African piracy is complicated by the fact that there is no universally agreed-upon area that this term refers to. Entities that have established high-risk or -warning areas in West Africa include the IBF, the Joint War Committee, and the Marshall Islands. Unlike the Indian Ocean, where all of these areas largely correspond with each other, there is significant variation in the areas in West Africa covered by these differing definitions. To address that, OBP includes several different areas in our calculations of the costs associated with West African piracy.

OBP defines our Area of Interest (AOI) as being the large region that encompasses the majority of all attacks reported to the IMB off the western coast of Africa. Specifically, we define this region as the box encompassed by 12 degrees north and the equator and 11 degrees east and 27 degrees west. This corresponds to the waters off the western coast of Africa from roughly Guinea-Bissau to Gabon. Unless otherwise specified, when OBP refers to "West African piracy" we are referring to all attacks in this AOI.

In calculating insurance costs and costs of security equipment, we used the more restrictive War Risk Area (WRA) as defined by the Joint War Committee. This region was defined as a box between 6.7 and three degrees north and 8.5 and one degree east. The use of security provisions is highly encouraged while in the WRA but because recommendations vary on regions outside of the WRA, costs associated with security equipment and activities were calculated using only the WRA parameters.

7 2013 IMB Piracy Report, supra note 5.

The Economic Cost of West African Piracy

First Order Costs of West African Piracy

SoP Calculations–2013

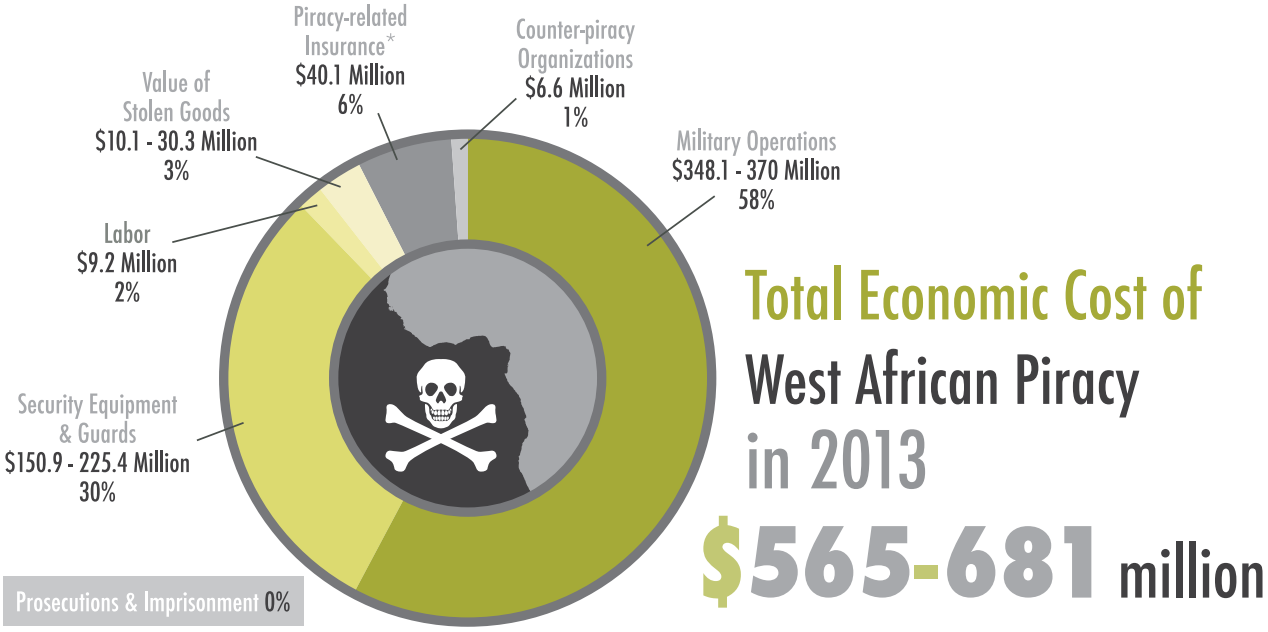
Piracy in West Africa is quite different in nature from piracy off the coast of Somalia, and the economic categories included in this analysis reflect those differences. First, because piracy in West Africa often focuses on theft of crew and vessel property as well as cargo, we have added a category specifically addressing this issue. Second, West African piracy has not elicited the kind of international military response that Somali piracy has, and the costs associated with international responses reflect that reality. Finally, the traffic patterns of vessels in West Africa subject to attack are significantly different than those off the coast of Somalia: because pirates target vessels close to port or anchorage areas or within territorial waters while vessels are approaching the shore, the opportunity for vessels to use increased speeds and rerouting to avoid attack are reduced. Accordingly, we did not include these costs in our analysis. As a result, the economic cost of West African piracy includes eight cost categories.

Overview of Costs:

1. **Cost of Military Operations**: Naval and counter-piracy forces of countries in the region represent the primary institutional structures engaging in active suppression of pirates in West African waters. Information about specific institutional budgets is limited, but OBP's estimates for this category include an assumption that 5-10% of the budget of the Nigerian Navy, as well as $326 million from the budget of the Nigerian Maritime Administration and Safety Agency, are devoted to counter-piracy operations. Our estimate for these costs is between $348.06 million and $370 million.
2. **Cost of Security Equipment and Guards**: As with Somali piracy, counter-piracy measures used in West Africa include vessel hardening equipment such as razor wire and sandbags, as well as armed guards. However, the legal structure for the use of armed guards is significantly different in that national laws restrict the presence of armed civilians and instead require the use of national security personnel. The use of security personnel remains relatively common, and estimates of this cost category range from $150.9 million to $225.4 million.
3. **Costs of Labor**: Labor costs include hazard pay accruing to seafarers in the IBF High Risk Area, as well as captivity pay for seafarers held hostage. OBP's estimates of these costs comes to $9,193,651.
4. **Costs of Prosecutions and Imprisonment**: OBP could find no definitive claims of any prosecutions of pirates in West Africa in 2013. In Nigeria, recent reports suggest that jurisdictional elements limit the ability of the Nigerian Maritime Administration and Safety Agency to prosecute suspected pirates, resulting in no prosecutions for that period. In the absence of information demonstrating prosecution, OBP has estimated costs for this item as $0 for 2013.
5. **Value of Stolen Goods**: The business model of West African piracy has historically included more theft of goods than Somali piracy has. In particular, pirates in West Africa have demonstrated the ability to rob tanker vessels of petroleum products, leading to a significant cost to companies. OBP's analysis of the cost of stolen goods finds a range of $10.1 million to $30.27 million, with the large majority of the cost coming from estimates of oil stolen from tankers reported as attacked in 2013.
6. **Costs of Ransoms and Recoveries**: Seventy-three seafarers were kidnapped for ransom by West African pirates in 2013. OBP's assessment of costs associated with ransom and recovery found a cost of $1.57 million for that year. However, similar to our calculations of Somali piracy, we do not include these costs in the total cost of piracy as they are assumed to be covered by piracy-related insurance products which are being calculated separately.
7. **Costs of Piracy-related Insurance**: As in the Indian Ocean, this cost category tracks both War Risk insurance and Kidnap and Ransom insurance. Estimates for this cost category are based on transits through the War Risk Area, and come to $40,101,863 in 2013.

8. **Counter-piracy Organizations and Maritime Capacity-building Efforts**: Because of the close connection between criminal activities on land and maritime piracy, the distinction between capacity-building and counter-piracy operations is less clear in West Africa than in the Indian Ocean. Accordingly, this cost category includes both explicitly focused counter-piracy organizations and maritime capacity-building efforts focusing on stability and judicial institution-building. Costs associated with this category are estimated at $6.64 million for 2013.

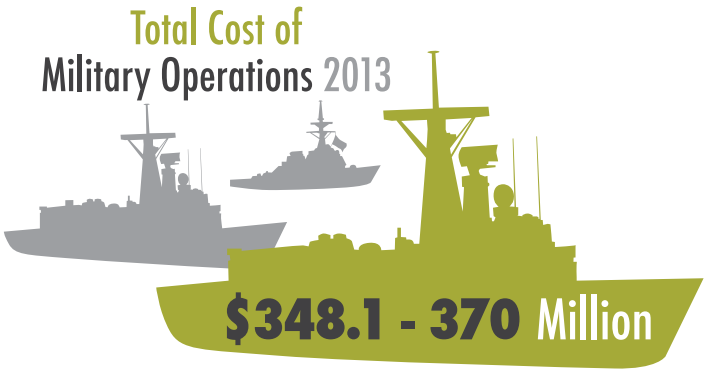
In total, our estimates find that the total economic cost associated with West African piracy in 2013 was between $564.9 million and $681.4 million.



*Up to $1.6 million in Ransoms & Related costs are assumed to be covered by insurance; therefore not included separately.

COST OF MILITARY OPERATIONS

Several countries in West Africa allocate military resources to address the problem of piracy. However, consistent with the rest of OBP's findings off West Africa, explicit information regarding the number or extent of naval forces engaging in counter-piracy operations is not publicly available. While details of naval budgets for regional states are often available, it is difficult to disaggregate these budgets in order to isolate the costs attributable to piracy. OBP looked for piracy-related military expenses in countries in the WRA, although no significant costs were found outside of Nigeria.



The budget of the Nigerian Navy (NN) in 2013 was approximately $441,186,000.[8] This includes the costs of operations to combat theft of crude oil, illegal bunkering, illegal, unregulated, and unreported fishing, and piracy and armed robbery, among myriad other maritime crimes.[9] In particular, the Nigerian Navy has committed significant resources to their No Crude Oil Theft program (COT), which exists to deter pirates (and other maritime

8 Federal Government of Nigeria, "2013 Budget," retrieved from http://www.budgetoffice.gov.ng/2013-budget_details/11.%20Summary_Defence.pdf

9 Chiemelie Ezeobi, "Nigerian Navy Ensuring Maritime Security," *African Defense* (December 16, 2013) retrieved from http://www.african-defense.com/?p=4397

criminals) from attempting to hijack tankers and otherwise abscond with oil products in Nigeria's waters. The exact amount and identity of assets allocated to the COT are changing as well as unreliably reported. As with most navies, the majority of the Nigerian Navy's budget is devoted to administrative, training, and nonoperational expenses.

Operational costs alone, including fuel cost, non-salary personnel costs, and maintenance, make up 27.5% of the Nigerian Navy budget.[10] From this 27% of operational costs, we inferred that the COT program was a major priority of the navy, representing up to one-third of the total operational expenses. We therefore used the estimate of operational costs for counter-piracy as representing 5-10% of the total Nigerian Navy budget. This resulted in a cost of approximately $22,059,300 to $44,118,600 in 2013.

The NN also takes part in Operation Prosperity, a joint naval operation with Benin to patrol and protect the Exclusive Economic Zones (EEZ) of both countries.[11] The budget allocation figures from each country for this mission, however, were unavailable at the time of this writing. The Nigerian Maritime Administration and Safety Agency (NIMASA) has also been one of the major players in military suppression of maritime crime off West Africa, although maritime safety and security is only one of ten services it provides. Though NIMASA is funded by the Nigerian government, its monetary allocations have frequently been questioned.[12, 13] As with naval costs, the lack of publicly available information about the details of NIMASA's budget makes it difficult to identify its total budget or the proportion dedicated to counter-piracy. There are reports that NIMASA provided $326 million to Global West Specialist Vessels Limited, a company devoted to countering maritime crime, run by ex-militant leader Chief Government Ekpemupolo (aka Tompolo). Reports suggest this figure comprises 50% of NIMASA's budget, which would put the entire 2013 NIMASA budget figure at $652 million—a figure larger than the entire naval budget.[14] This is consistent with reports that the 2014 budget is 97 billion Nigerian Naira, or US $600.1 million.[15]

Our goal in estimating the direct economic costs of piracy is to identify expenditures by institutions and the international community that would not have been made if it were not for the problems caused by piracy. Accordingly, when counting naval costs we count only direct operational expenditures. This approach does not apply to institutions such as NIMASA that exist largely to combat piracy, which is their core mission. That being the case, we based our estimates for NIMASA expenses relating to piracy–the reportedly $326 million payment to Global West Specialist Vessels Limited–on the assumption that the entirety of this contract would not be necessary if not for the problem of piracy.

The Nigerian institutions described above expend the majority of identifiable economic costs. Other regional actors have similar institutions, but for each of those there are reasons to believe that they incur no direct costs associated with piracy. Aside from Nigeria, Togo and Benin run a joint anti-piracy program, but it consists mainly of arranging for shippers to employ Togolese and Beninese military members on ships transiting within their waters.[16] As these guards are trained by French and American militaries and are paid by the shippers, this program does not seem

10 For reference, at the peak year of expenses associated with overseas operations for the US Navy (fiscal year 2008), overseas contingency operational costs made up only 16% of the US Navy budget, with standing operations and maintenance costs making up an additional 24%. *See* Joseph P. Malloy, "Department of the Navy FY 2013 President's Budget," (2012) available at: http://www.finance.hq.navy.mil/FMB/13pres/DON_PB13_Press_Brief.pdf

11 Chiemelie Ezeobi, "Navy Warns Pirates to Keep off Nigeria's Maritime Area," *This Day Live* (May 30, 2013)retrieved from http://www.thisdaylive.com/articles/navy-warns-pirates-to-keep-off-nigeria-s-maritime-area/148933/

12 "On the controversial contract between NIMASA and GWVS on Nigeria's maritime domain security." *Ships and Ports* (February 6, 2012) available at: http://shipsandports.com.ng/on-the-controversial-contract-between-nimasa-and-gwvs-on-nigerias-maritime-domain-security/

13 "Cabotage Act, vessel fund, and many unanswered questions," *Daily Independent* (2014) retrieved from http://dailyindependentnig.com/2014/01/cabotage-act-vessel-fund-many-unanswered-questions/

14 Godwin Oritse, "Reps query NIMASA over payment of $326m to Tompolo's firm," *Vanguard* (October 14, 2013) retrieved from http://www.vanguardngr.com/2013/10/reps-query-nimasa-payment-326m-tompolos-firm/

15 *See* John Ameh "Budget: NIMASA to spend N86bn on salaries, stationary." *Punch* (Feb 24, 2014). Available at: http://www.punchng.com/business/business-economy/budget-nimasa-to-spend-n86bn-on-salaries-stationery/. Conversion from Nigerian Naira (97 billion) made April 23, 2014.

16 BUDD Group, "Togo Implements New Anti-Piracy Measures in a joint-venture with Ocean and Land Security," (February 2, 2013) available at: http://www.budd-pni.com/news-art-the-budd-group.asp?ID_A=1231

to cost either Togo or Benin any money.[17] The Ghanaian military does not have any anti-piracy programs, but it participates in the Ghana Maritime Authority (GMA), which recently built a $23.5 million facility and launched a new Vessel Traffic Management and Information System at a cost of $17 million.[18] Notably, the GMA does not explicitly address piracy,[19] although it is referred to as one of the issues under the domain of the GMA.[20] Accordingly, there is no evidence of a GMA or Ghanian piracy-specific cost of military operations that would not be included in normal operating costs of standing security institutions.

Although there is evidence that Cameroon has acquired assets that would assist with counter-piracy operations,[21] there is no public and documentable evidence that the Cameroonian military has piracy-specific assets programs or assets in place.

Given the lack of available information on these issues, our estimate for military expenditures should be treated as a general estimate rather than as a detailed figure. With that caveat, our estimates for regional costs associated with counter-piracy activities are between $348,059,300 and $370,118,600.

COST OF SECURITY EQUIPMENT AND ARMED GUARDS

In 2012, the Round Table of International Shipping Associations, supported by the NATO Shipping Centre, released interim guidelines for protection against piracy in the Gulf of Guinea region.[22] These guidelines are intended to be an adjunct to BMP4 and discuss how best practices initiated for countering piracy in Somali waters can be adapted for use in West African piracy. One element emphasized in the interim guidelines is the use of security equipment as a deterrent to pirates. Because many attacks in West African waters take place while vessels are at anchor or are berthed, the interim guidelines note that "Vessel hardening is likely to be quite effective in this region."

Given these recommendations, we based our analysis on the presumption that it was appropriate to carry over our assumptions from Somali piracy about vessel hardening usage. A review of publicly available discussions of vessel hardening methods found no evidence that there were significant differences in the tools being proposed for vessel hardening in the Gulf of Guinea from those used in the Indian Ocean. Given this, we duplicated our analyses for security equipment used in the previous section, and focused our analysis on vessels transiting the WRA.

AIS data provided by exactEARTH and analyzed by OBP provided an estimate of 19,550 transits through the WRA. These transits differ significantly from those in the Indian Ocean, however. Because the majority of vessels tracked in the Indian Ocean are transiting through the region rather than making multiple transits across the region, the Indian Ocean data include many fewer instances of one vessel making multiple transits. In contrast, West African waters involve many more instances of vessels touching at a port and then leaving, a maneuver that constitutes two transits by one vessel. To address this, and in addition to the AIS data provided by exactEARTH, vessel counts for

17 Cristina Barrios, "Fighting Piracy in the Gulf of Guinea," *European Union Institute for Security Studies Brief,* Issue 20 (May, 2013) available at: http://www.iss.europa.eu/uploads/media/Brief_20.pdf

18 "Security Boosted in Ghana's Maritime Domain," *Ghana News Agency* (August 14, 2013) retrieved from http://graphic.com.gh/archive/General-News/security-boosted-in-ghanas-maritime-domain.html

19 Ghana Maritime Authority, "Divisions of GMA," http://www.ghanamaritime.org/en/about-us/divisions-of-gma.php

20 "Security Boosted in Ghana's Maritime Domain," supra note 18.

21 Guy Martin, "Cameroon Navy receives new patrol vessels, landing craft ," *Defenceweb* (December 11, 2013) retrieved from http://www.neptunemaritimesecurity.com/cameroon-navy-receives-new-patrol-vessels-landing-craft/

22 BIMCO, "Interim Guidelines for Owners, Operators, and Masters for Protection against Piracy in the Gulf of Guinea Region" (2012). Available at https://www.bimco.org/~/media/Security/Piracy/Gulf_of_Guinea/2012-12-20_RT_agreed_GoG_anti-piracy_guidance.ashx

these estimates were supplemented by information provided to OBP by Genscape's VesselTracker service regarding the number of port visits to major ports in the region. The VesselTracker data report a total of 6,300 visits to major ports in our AOI. This is consistent with AIS numbers: if each visit represents an inbound and an outbound transit, then there were 12,600 port-related transits in the region and an additional 6,950 transits representing vessels passing through the area without stopping at a major port. Based on these data, we used numbers of 6,300 port visits to define a conservative estimate of the number of vessels potentially using security equipment.

Cost of Security Equipment

Type of Equipment	Unit Cost per Ship	Units per Year	Rate of Use (Low)	Rate of Use (High)	Total Cost (Low)	Total Cost (High)
Razor Wire	$1,400.00[23]	2.00	80%	80%	$14,112,000.00	$14,112,000.00
Water Cannons	$118,755.00[24]	.20	.25%	.83%	$374,078.25	$1,241,939.79
Electrified Barriers	$39,585.00[25]	.33	.75%	2.5%	$617,229.11	$2,057,430.38
Warning Signs	$4.50	3.00	80%	80%	$68,040.00	$68,040.00
Acoustic Devices	$21,000.00	.20	5%	15%	$1,323,000.00	$3,969,000.00
Sandbags	$1,424.16	1.00	80%	80%	$7,177,766.40	$7,177,766.40
TOTAL					$23,672,113.76	$28,626,176.57

Cost of Armed Guards

Using armed guards in West Africa is much more complicated than using them off the coast of Somalia because of national laws restricting the presence of international teams of armed guards in territorial waters in West Africa.[26] Instead, vessels requiring armed security must hire teams of local guards, often military personnel, from the countries that administer their respective territorial waters.[27] Local armed guard teams in West Africa are often hired through an intermediary agency, which further removes the ship owners and charterers from the vetting and hiring processes.[28] In Nigeria, for example, armed guards must be hired through a Nigerian registered and Nigeria Security and Civil Defence Corps (NSCDC) licesed company, which is often done through a joint venture.

Due to the complexity of employing armed guard teams in West Africa, vessels have a number of options available to them when transiting the territorial waters of West African nations. The two most common scenarios are:

1. The ship owner or charterer may employ PCASPs while transiting international waters, but must disembark them prior to entering territorial waters. Alternatively, the PCASPs may lock their weapons and ammunition in a facility inspected by local officials before entering the territorial waters. The vessel will then transit the waters with either an unarmed team or hire a local team for protection.

23 Cost for 70 meters razor wire retrieved from http://www.seabird-marine.com/New%20Tricks%20Against%20The%20Somali%20Pirates.htm.

24 ECoP 2012.

25 Ibid.

26 Stephen Askins, "ISO 28007 and the East/West Africa Paradox," Ince & Co. (January 15, 2013) retrieved from http://incelaw.com/ourpeople/stephen-askins/blog/iso-28007-and-the-east-west-africa-paradox

27 Ibid.

28 Liz McMahon, "Hijacking Reignites Debate over Ransoms," *Lloyd's List* (February 11, 2013) retrieved from http://www.lloydslist.com/ll/sector/Insurance/article416490.ece

2. Upon reaching territorial waters the vessel may choose to hire local security personnel, often a naval or police detachment. If a ship owner opts to take this route he may decide to hire a trained nonregional security guard to act as an unarmed team member or leader of the local security team.

In 2013, the BIMCO drafted guideslines for the use of GUARDCON that would apply specifically to West Africa. The new guidelines were released in February 2014.[29] This document lays out guidance for the use and contracting of private security in West Africa, and may be a useful step in establishing a better framework for the use of private security in West Africa.

This complexity regarding the different structures of private security complicates the assessment of the cost of private security. Based on discussions with security providers and open-source information, OBP's assessment of the costs of security were based on the following assumptions:

1. Approximately 10% of transits clipping the WRA will retain the use of international (usually Western) embarked security teams, at a cost of up to $28,000 per transit.[30]
2. Up to 40% of transits including a port visit will retain national private security at a cost of $3,000-$5,000 per day.[31] An estimated 15% of these port visits will also hire a Western team leader at a rate of $1,000 per day.[32]

The information on private security use provided to OBP by Dirk Siebels included some information about embarked security team use on the West Coast. In Siebels' data set, the security teams included were comprised entirely by local nationals, and the average duration aboard the vessel was 13.8 days. Based on these data, we calculated the cost of local teams assuming a 13.8 day transit duration. Based on the distribution of costs reported for embarked security teams, we chose to use the estimate of $3,000-$5,000 per day for regional embarked security teams.

Cost of Embarked Security Teams

Total Transits	Rate of Use of Embarked Security Teams	Ships w/Embarked Security Teams	Total (Low)	Total (High)
6,950 non-port (Western teams)	10%	695	$19,460,000	$19,460,000
6,300 port visits (regional teams)	36%	2,268	$93,895,200	$156,492,000
6,300 port visits (regional teams with Western team lead)	4%	252	$13,910,400	$20,865,600
TOTAL			$127,265,600	$196,817,600

Based on these estimates, the total cost for embarked security teams in West Africa is estimated to be between $127,265,500 and $196,817,600.

When costs for security equipment and armed guards are summed, the total cost for private vessel protection activities comes to between $150,937,613.76 and $225,443,776.57.

29 BIMCO, "Guidelines for the Use of GUARDCON When Engaging PMSCs as Intermediaries to Employ Local Security Guards within Territorial Waters," BIMCO Special Circular. No. 1 (February 20, 2014).

30 Price estimated based on a four-man embarked security team for a seven-day transit through the WRA.

31 Prices drawn from security industry interviews and publicly posted prices including those available at http://goagt.org/emailers/goagt-west-africa/

32 Ibid.

COST OF LABOR

The additional labor costs due to vessels transiting the HRA also come into play in West Africa, as seafarers are exposed to increased risk of attack. The International Bargaining Forum lists the Gulf of Guinea, including territorial waters, ports, and inland waterways of Nigeria and Benin, as one of the High Risk Areas where seafarers are eligible for double basic wages for the duration of the transit, so OBP based our analysis on this area.[33] In addition to major commercial vessels crewed by ITF members operating in the region, regional traffic in West Africa also includes many local vessels whose crews may be less likely to belong to the ITF. Given this factor, for 2013, OBP estimates that approximately 40% of vessels transiting the IBF HRA in West Africa are disbursing hazard pay, totaling $8,862,048.

Cost of Hazard Pay

Hazard Pay per Transit Through the HRA	$5,260[34]
Port visits per Year Through the IBF HRA	4,212[35]
Percentage of Vessels Disbursing Hazard Pay	40%
Hazard Pay in 2013 Due to W. Africa HRA	$8,862,048

The second labor-related cost associated with piracy is captivity pay, which is additional compensation for seafarers who have been held hostage by pirates. Whereas, in the hazard pay calculation, only the additional compensation for transiting the IBF HRA is included in the cost of piracy, captivity pay includes the base wages as well because companies must continue to pay this wage without receiving any benefit of labor.

In calculating captivity pay costs for 2013 in West Africa, we assumed that all seafarers aside from fishing crew receive general base wages during times of captivity.[36] These base wages are estimated to be $4,000 per seafarer per month, accounting for salary variance among crewmembers.[37] In addition to base wages, as with hazard pay, we estimated that rates of vessels likely to disburse captivity pay are lower in West African waters, so we used the same estimate of 40% as was used with hazard pay in calculating how many seafarers accrued an additional 35% of base wages as part of a captivity payment. See Appendix H for the full list of vessels used to generate the analysis of captivity pay.

Base Wages	$290,880
40% of vessels disbursing an additional 35% Captivity Pay	$40,723.20
TOTAL	$331,603.20

33 International Bargaining Forum, "IBF List of Warlike and High Risk Designations, with Main Applicable Benefits (as of 1st April 2012)" Annex 1 to ITF Circular No 068/S.17/D.20/SS.7/2012, retrieved from www.itfseafarers.org/files/seealsodocs/33553/IBF%20War%20Zones.pdf.

34 Figure derived from an estimate of 20 seafarers aboard a vessel with a base pay of $4,000/month receiving double wages for two days of transit in the West Africa HRA. The estimate of 20 seafarers is calculated from the average number of seafarers onboard vessels that experienced piracy related incidents in Nigeria, according to the 2013 IMB data.

35 Port visits from cargo, tanker, and passenger ships to Cotonou, Lagos, Onne, and Harcourt ports as provided in port visit data from VesselTracker.

36 Excluding fishing-related seafarers from captivity pay reflects discussions with industry experts suggesting that fishing vessels were less likely to receive captivity pay.

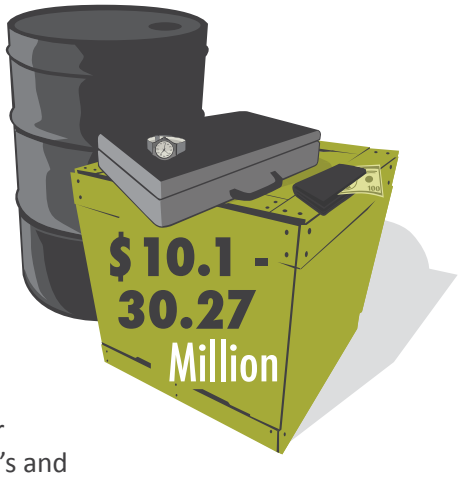
37 This estimate was devised based on conversations with industry experts regarding average crew size and base pay rates.

COST OF PROSECUTIONS & IMPRISONMENT

Prosecution of pirates in West African waters is in some ways less complicated than prosecution of Somali pirates because the presence of national judicial institutions clarifies, in principle, which institution is responsible for prosecuting pirates. In practice, however, a lack of clarity about institutional powers and structures, and challenges to institutional capacity in West Africa, have made it difficult for judicial institutions to prosecute suspected pirates. In the case of Nigeria, NIMASA reports that it has successfully arrested suspected pirates, but lacks the prosecutorial authority to try suspects, resulting in no prosecutions to date.[38]

OBP's review of open-source literature and reports by counter-piracy institutions is consistent with this complaint: we were unable to identify any reports of trials of suspected pirates in our area of interest in West Africa during 2013. This may not reflect a complete absence of prosecutions; the limits of open-source data collection mean that it's entirely possible that such trials are taking place but are not being reported. However, in the absence of any data demonstrating prosecutions, we are unable to make an estimate for this cost category. Therefore, costs associated with prosecutions and imprisonments are estimated at $0 for 2013.

VALUE OF STOLEN GOODS



In the past several years, West African piracy has focused on a "theft of goods" model, in which pirates board vessels in order to steal the cargo or the personal property of the seafarers. Given the large oil industry in West Africa and the number of vessels in the region exporting oil and importing refined petroleum, one of the major targets of pirates has been the oil industry. Corresponding theft of crude oil from refineries and pipelines onshore, also known as "bunkering," is also a significant threat. Cost estimates for instances of oil theft in West Africa, including both bunkering and piracy, range from about $2 billion to $12 billion per year.[39, 40] The Joint War Committee, which comprises underwriting representatives from both the Lloyd's and the International Underwriting Association's company markets in London, estimates that between $2 million and $6 million worth of oil is stolen per pirate attack in the Gulf of Guinea.[41] OBP's data set identified thirteen reports of tankers being attacked in 2013, of which only three included sufficient information to be counted as documented reports of oil theft, one of which was thwarted by the navy's successful rescue of the *MT Norte*. See Appendix I for a full list of attacks. In addition to these three documented cases of oil siphoning, OBP's analysis identified up to an additional three that may have involved oil siphoning. Applying the JWC estimate to our 5 incidents of oil theft results in between $10 million and $30 million lost due to piracy. Due to the reports of under-reporting of attacks, it's possible that this number is an under-estimation of costs in this category, but we are unable to document any additional cases of oil siphoning.

Another aspect of stolen goods lost to piracy in West Africa includes theft of personal belongings and cash from a

38 John Iwori, "Nigeria: Lack of Prosecution Powers Weakens NIMASA's Fight Against Piracy," *This Day Live* (January 24, 2014) retrieved from http://allafrica.com/stories/201401241135.html

39 MacKenzie C. Babb, "U.S. Welcomes U.N. Assessment of Maritime Piracy in West Africa," U.S. Department of State (October 21, 2011) retrieved from http://www.africom.mil/Newsroom/Article/8662/us-welcomes-u-n-assessment-of-maritime-piracy-in-w.

40 Maritime Executive, "Commercial Launch of Typhon Maritime Security Service," *Maritime Executive* (January 28, 2013). Retrieved from http://www.maritime-executive.com/article/Commercial-Launch-of-Typhon-Maritime-Security-Service/.

41 "Lloyd's Market Joint War Committee," http://www.lmalloyds.com/Web/market_places/marine/JWC/Joint_War.aspx

vessel's crew. Research from the UNODC estimates that between $10,000 and $15,000 worth of goods are stolen per pirate attack in West Africa.[42] Based on the IMB's 2013 Piracy and Armed Robbery report, 18 vessels in our area of interest for West Africa reported personal property thefts.[43] This brings the estimated total value lost to between $180,000 and $270,000 for 2013. However, it is possible that due to incomplete reporting the actual amount of losses was much higher.

Cost of Personal Property Theft, 2013

Number of Vessels Reporting Personal Property Theft	Estimated Loss ($10,000 per attack)	Estimated Loss ($15,000 per attack)
18	$180,000	$270,000

Combining both of these estimates, the total estimated cost for stolen goods is between 10.1 million and 30.27 million.

COST OF RANSOMS AND RECOVERIES

Information about ransoms paid in West Africa is often not released publicly. For both companies operating in the areas and criminal groups that could become direct targets of investigation and prosecution, there appear to be incentives to keep the number and cost of ransoms quiet. This makes estimation of these costs complicated. According to OBP's analysis, pirates subjected 73 seafarers to kidnap for ransom tactics in our area of interest off West Africa during 2013. For many of these kidnap for ransom situations, initial reports confirmed the kidnappings, but declarations of ransoms paid for seafarer releases are not publicly available.[44] There were two exceptions. News reports covering the release of the Captain of the *Saint Patrick* placed his ransom at around $82,440.[45] Following the release of two American seafarers from the *C-Retriever*, MEND rebels released a press release claiming that a ransom of $2,000,000 was paid for their release.

OBP discussion with security analysts suggests that the MEND figure is inflated, but the reported ransom for the Captain of the *Saint Patrick* is consistent with other ransoms paid in the region. Based on this discussion, we calculated costs at a conservative estimate that 10% of the 70 other seafarers taken hostage were ransomed at a cost of $82,000 per seafarer. In addition, we reduced the ransoms for the *C-Retriever* crew to $1,000,000 for both crew. This comes to a total of $1,574,000. As stated in the Overview of Costs sections, we do not include these costs in the total cost of piracy as they are assumed to be covered by piracy-related insurance products which have been calculated separately. See Appendix J for a full list of kidnappings in the OBP data set.

COST OF PIRACY-RELATED INSURANCE

The two main types of insurance most commonly taken out by ship owners to cover their vessels against piracy are War Risk insurance and K&R insurance.[46] While policy details vary on an individual basis, these two primary types of

42 United Nations Office of Drugs and Crime, *Transnational Organized Crime in West Africa: A Threat Assessment*, p.51 (February, 2013) available at: http://www.unodc.org/toc/en/reports/TOCTAWestAfrica.html

43 ICC International Maritime Bureau, supra note 5.

44 "The Changing Dynamic of West African Maritime Crime in 2013/2014," *Gray Page* (March 3, 2014) retrieved from http://www.graypage.com/changing-dynamic-of-west-african-maritime-crime-20132014/

45 Est. UK£50,000; *see* Rod Mills, "Pirates threatened to burn Scots skipper to death," the Scottish Express (December 30, 2013) retrieved from http://www.express.co.uk/news/uk/451029/Pirates-threatened-to-burn-Scots-skipper-to-death. Converted to USD for 12/31/13 via http://www.oanda.com/currency/converter/.

46 For additional information see the insurance section of the economic cost analysis for the Indian Ocean in this report.

piracy-related maritime insurance cover claims in West Africa similar to those they cover in the Indian Ocean.

Total Cost of Piracy-related Insurance 2013

$40.1 Million

The current War Risk Area for the West African Gulf of Guinea region is defined by the JWC as Togo, Benin, Nigeria, and the Gulf of Guinea waters of the Beninese and Nigerian EEZs north of Latitude 3N. This definition was established in the Joint War Risk Committee Circular JWLA21, released in June of 2013.[47] Prior to the release of this circular, the last update to the War Risk Area for this area was August of 2011, when the JWLA18 circular added Benin and the Gulf of Guinea waters. Before these changes the War Risk Area was limited to Nigeria and all offshore installations.[48]

In calculating the cost of War Risk insurance for West Africa, OBP used the same proportions of vessel type breakdowns and hull value estimates that we used for the Somalia-based piracy section. Based on conversations with industry experts, we decided to modify the methodology we used in 2012 for the cost of piracy-related insurance. For 2013, we estimated that approximately 67% of the vessels transiting the West Africa HRA would take out War Risk insurance for their transit through the WRA. The estimates for the cost of War Risk insurance in West Africa were also informed by the available data regarding gross premiums paid to War Risk Clubs for general War Risk coverage as well as premiums paid for Additional Premium Areas, or higher-risk transit areas. We also used the same methodology we used for calculating the cost of piracy-related insurance for Somalia-based piracy, using four different levels of discounts: 65%, 70%, 75%, and 80%. We then divided the number of vessels into each of those four categories to determine the total cost of War Risk insurance for West Africa.

Vessel counts were based on VesselTracker and exactEARTH AIS data for counts of "tanker," "cargo," and "passenger" vessels. Each broad category was broken into an estimated number of each specific subtype of tanker or cargo vessel using the distribution of these subtypes in data about vessel distribution provided by BIMCO.

Based on our calculations, the total cost of War Risk insurance for West Africa in 2013 was $25.2 million.

Base Cost of War Risk Insurance

Ship Type	Number in HRA	Number in WRA taking War Risk Insurance	Hull Value	Base Cost of War Risk Insurance (0.025% of Hull Value x Number of vessels taking insurance)	Base Cost Per Vessel
Tankers	6,249	4124.34	$35,800,000	$36,912,843	$8,950
LNG	898	592.68	$140,000,000	$20,743,800	$35,000
LPG		0	$71,000,000	$0	$17,750
Bulk Carriers	1,899	1253.34	$22,000,000	$6,893,370	$5,500
General Cargo	1,498	988.68	$20,000,000	$4,943,400	$5,000
Container Ships	1,984	1309.44	$46,000,000	$15,058,560	$11,500
RO/RO	128	84.48	$23,666,666	$499,840	$5,917
Car Carriers	551	363.66	$45,000,000	$4,091,175	$11,250
Passenger Ships	43	28.38	$350,000,000	$2,483,250	$87,500

47 "Hull War, Piracy, Terrorism and Related Perils, Listed Areas," Joint War Committee, JWLA/021 (June 12, 2013) available at: http://www.lmalloyds.com/CMDownload.aspx?ContentKey=dfa8eb7f-0832-4bf9-a18e 7bf7f7c87ceb&ContentItemKey=8a6b56bc-7b03-4370-8ad5-2f31e7f2f8de

48 "Hull War, Strikes, Terrorism and Related Perils, Listed Areas," Joint War Committee, JWLA/018 (August 1, 2011) available at: http://www.lmalloyds.com/Web/market_places/marine/JWC/JW_Bulletins/JWLA018.aspx

Total Cost of War Risk Insurance

	Group 1–65% Discount 25% of Ships		Group 2–70% Discount 20% of Ships		Group 3 –75% Discount 35% of Ships		Group 4–80% Discount 20% of Ships	
Ship Type	Number of Ships	Subtotal	Number of Ships	Subtotal	Number of Ships	Subtotal	Number of Ships	Subtotal
Tanker	1031	$3,229,874	825	$2,214,771	1444	$3,229,874	825	$1,476,514
LNG	148	$1,815,083	119	$1,244,628	207	$1,815,083	119	$829,752
Bulk Carriers	313	$603,170	251	$413,602	439	$603,170	251	$275,735
General Cargo	247	$432,548	198	$296,604	346	$432,548	198	$197,736
Container Ships	327	$1,317,624	262	$903,514	458	$1,317,624	262	$602,342
RO/RO Ships	21	$43,736	17	$29,990	30	$43,736	17	$19,994
Car Carriers	91	$357,978	73	$245,471	127	$357,978	73	$163,647
Passenger Ships	7	$217,284	6	$148,995	10	$217,284	6	$99,330
Subtotal		$8,017,296		$5,497,574		$8,017,296		$3,665,050
Total Cost of War Risk Insurance: $25,197,215								

OBP used methodology for calculating the cost of K&R insurance in West Africa similar to that used for calculating costs in the Somalia-based piracy section. We estimated that 40% of vessels that take out War Risk insurance in the West Africa WRA also take out K&R insurance, at an average cost of $4,500, with the exception of container ships and RO/RO vessels, which we estimated would pay an average rate of $3,000 for K&R insurance. Applying these estimates to the number of vessels in the WRA taking out K&R insurance brings the total estimated cost of K&R insurance for the West Africa WRA to $14.9 million.

Total Cost of K&R Insurance

Ship Type	Number in WRA taking War Risk Insurance	Percentage with K&R	Average Rate	Subtotal
Tankers	4124	40%	$4,500	$7,423,812
LNG	593	40%	$4,500	$1,066,824
Bulk Carriers	1253	40%	$4,500	$2,256,012
General Cargo	989	40%	$4,500	$1,779,624
Container Ships	1309	40%	$3,000	$1,571,328
RO/RO	84	40%	$3,000	$101,376
Car Carriers	364	40%	$4,500	$654,588
Passenger Ships	28	40%	$4,500	$51,084
TOTAL				$14,904,648

In sum, our estimate of the total cost of piracy-related insurance in West Africa in 2013 was $40,101,863.

COST OF COUNTER-PIRACY ORGANIZATIONS & MARITIME CAPACITY-BUILDING EFFORTS

Capacity-Building

Often characterized as isolated criminal activity, piracy and armed robbery at sea in West Africa cannot be viewed in a vacuum. Maritime insecurity in the Gulf of Guinea is a regional problem that encompasses many transnational organized crimes, including piracy and armed robbery at sea, money laundering, illegal arms and drugs trafficking, illegal oil bunkering, crude oil theft, human trafficking and smuggling, maritime pollution, illegal, unregulated, and unreported fishing, illegal dumping of toxic waste, maritime terrorism and hostage-taking, and vandalization of offshore oil infrastructure. West Africa's strategic location as a route between the Americas and Europe, coupled with its natural resources and lack of full governance capacity in the maritime domain, create an environment in which these maritime crimes can flourish. Additionally, it is the interconnected nature of these crimes that demands an integrated approach to combating maritime crime throughout the region. Because of this, the distinction between capacity-building and counter-piracy programs is more blurred in the case of West Africa than in the case of Somali piracy. To account for this, OBP's analysis of costs includes an assessment of those costs relating to capacity-building programs designed to combat maritime crime in general as well as those with a direct counter-piracy focus.

The year 2013 saw an increased awareness by both regional and international leaders in regard to the interwoven nature of maritime insecurity in the region. This prioritization of criminal activity, which affects global trade, oil prices, seafarers, and the people of West Africa, has produced a number of capacity-building initiatives aimed at combating insecurity in the waters of the Gulf of Guinea.

International Maritime Organization Efforts

The IMO has long been a leader in combating maritime crime in West Africa. With assistance from the Maritime Organization for West and Central Africa, the IMO laid the groundwork for the Code of Conduct Concerning the Repression of Piracy, Armed Robbery against Ships, and Illicit Maritime Activity in West and Central Africa (see further description below) through the development of a Memorandum of Understanding for the establishment of a subregional coastguard network in 2008. The network's goal of creating a framework for building regional maritime cooperation and a stable maritime environment was realized with the signing of the Code of Conduct in Yaoundé, Cameroon in June of 2013. In addition to laying the foundation and supporting the development of the Code of Conduct, the IMO promotes a phased approach to capacity-building and seeks to foster further cooperation among regional states.[49] The IMO supports a comprehensive approach to maritime insecurity and has initiatives focused on identifying gaps and inconsistencies in maritime strategies, improving port security, and promoting a holistic approach to combating maritime crime in the region as well as supporting the development of legal structures to faciliate prosecution of maritime crimes.

Among the initiatives led by the IMO is the West and Central Africa Maritime Security Trust Fund. The Trust Fund, started in June of 2013, was created in response to discussions held at the 92nd session of the IMO Maritime Safety Committee as a way to further support capacity-building in the Gulf of Guinea. In 2013, the Trust Fund received approximately $266,095 in donations from China and the UK.[50]

49 International Maritime Organization, "Strengthening Maritime Security in West and Central Africa," retrieved from http://www.imo.org/MediaCentre/HotTopics/piracy/Documents/west%20africa%20Maritime%20Security.pdf

50 International Maritime Organization, "Press Briefings: Japan gives one million dollar boost to Gulf of Guinea fund," (March 17, 2014) retrieved from http://www.imo.org/MediaCentre/PressBriefings/Pages/06-japanfund.aspx#.U0MHIfldWyp

CRIMGO

The Critical Maritime Routes in the Gulf of Guinea (CRIMGO) Programme is a European Union initiative designed to "help governments across West and Central Africa to improve safety of the main shipping routes by providing training for coastguards and establishing a network to share information between countries and agencies across the region."[51] CRIMGO, a three year project which launched in 2012 and began implementation in January of 2013, aims to achieve their goals through:

- The set-up of a regional maritime security and safety training function
- The initialization of a regional maritime information-sharing function
- An improved coastguard function (maritime law enforcement) in key coastal states, and
- The development of a joint operational coordination capacity through common exercises[52]

The Programme was budgeted at €4.5 million, or approximately $6.2 million, for 2013, and benefits the seven regional nations of Benin, Cameroon, Equatorial Guinea, Gabon, Nigeria, Sâo Tomé and Principe, and Togo.[53]

OBP West Africa

As a project of One Earth Future Foundation, Oceans Beyond Piracy has operated in Broomfield, Colorado, USA since 2010. Through research and analysis, facilitating and attending meetings, and encouraging cross-sector partnerships among stakeholders, Oceans Beyond Piracy is committed to seeking sustainable solutions aimed at ending maritime piracy. In 2013 Oceans Beyond Piracy directed $117,350, 15% of its annual budget, toward its West Africa program.

Uncounted costs:

In addition to the activities detailed above, four initiatives were identified but not included in estimates of cost due to a lack of information:

MTISC-GoG

In addition to the multitude of international organizations and regional initiatives, capacity-building in the Gulf of Guinea is an endeavor also being undertaken by private entities such as the Oil Companies International Marine Forum (OCIMF). The OCIMF initiative the Maritime Trade Information Sharing Centre for the Gulf of Guinea (MTISC-GoG) seeks to develop national and regional maritime situational awareness. MTISC-GoG is located at the Regional Maritime University in Accra, Ghana. Although it has not launched officially, it has successfully completed a trial run as part of the United States Africa Command's (AFRICOM) naval exercise Obangame Express in February 2013.[54] It is hoped that the information-sharing center will open in 2014.

UNODC Regional Programme for West Africa

The UNODC is another organization that employs a comprehensive approach to combating maritime insecurity in the Gulf of Guinea region. Projects of the UNODC target transnational organized crime and focus on issues such as piracy and armed robbery at sea, drug trafficking, and terrorism. Budget costs for this organization are not accounted for as donor countries have not specifically earmarked their respective contributions for counter-piracy related efforts.

Regional Organizations

In addition to the efforts detailed above, there are many more initiatives taking place at both state and regional levels to combat piracy and other transnational organized crimes in West Africa. For example, the regional organizations the Economic Community of West African States (ECOWAS), the Economic Community of Central African States (ECCAS), and the Gulf of Guinea Commission (GGC), aside from taking part in the writing of the Code of Conduct, also facilitated an agreement to host the Interregional Coordination Centre on Maritime Safety and

51 "New EU Initiative to Combat Piracy in the Gulf of Guinea," European Commission, IP/13/14 (October 10, 2013) http://europa.eu/rapid/press-release_IP-13-14_en.htm?locale=en

52 EU CMR, "Critical Maritime Routes Information Portal," http://www.crimson.eu.com/projects/cmr-gulf-of-guinea-crimgo-3/

53 "New EU Initiative to Combat Piracy in the Gulf of Guinea," supra note 52.

54 Oil Companies International Marine Forum, "In Focus: OCIMF initiative improving maritime safety in the Gulf of Guinea," Issue 1 - March 2013 Newsletter, retrieved from http://www.ocimf.com/news/newsletter-march-2013#c2

Security in Central and West Africa, in Yaoundé.[55] These regional organizations have also provided support to UN, EU, and national agencies seeking to implement programs designed to combat maritime insecurity.

Code of Conduct

Among initiatives to combat maritime crime in the Gulf of Guinea, the "Code of Conduct Concerning the Repression of Piracy, Armed Robbery against Ships, and Illicit Maritime Activity in West and Central Africa,"[56] signed in Yaoundé, Cameroon in June 2013, is one of the most comprehensive efforts to address insecurity in the region and is the culmination of years of efforts to address crimes in the Gulf of Guinea through regional cooperation. Written and developed by ECOWAS, ECCAS, and the GGC with the support of the IMO, the Code of Conduct builds off of the existing Memorandum of Understanding in regard to the integrated coastguard function. Additionally, the Code of Conduct incorporates many elements of its east coast counterpart, the Djibouti Code of Conduct, but expands the scope to incorporate the multitude of transnational organized crimes that occur in the Gulf of Guinea. Focuses of the Code of Conduct include topics such as information-sharing, deterring piracy and other illicit maritime activities, and issues of prosecution, including encouraging signatories to pass relevant national legislation. While protecting national sovereignty, the Code of Conduct recognizes the need for a coordinated response to crimes committed in the Gulf of Guinea.

Estimated Contributions by Organization

Organization	2013 Donations
Critical Maritime Routes in the Gulf of Guinea	$6,200,000 (EU)[57]
The West and Central Africa Maritime Security Trust Fund	$266,095.00[58, 59]
OBP West Africa Budget	$170,250.00
TOTAL	$6,636,345

Conclusion

Information relating to West African piracy is significantly more difficult to come by than information relating to Somali piracy. This reflects two critical differences between the regions: the lack of international information-sharing and a centralized reporting structure used by regional actors as found in the Indian Ocean region, and the complex relationship between piracy and other forms of maritime crime in West Africa. As a result of this lack of information, estimates about costs are more speculative than those related to Somali piracy. For those cost categories where information is available, OBP's total cost estimates for piracy in West Africa are between $566.47 million and $683.01 million.

55 Valentine Mulango, "Cameroon to Host Anti-Piracy Centre," *the Cameroon Daily Journal* (June 26, 2013) http://cameroonjournal.com/cameroon%20to%20host%20.html

56 International Maritime Organization, "Code of Conduct Concerning the Repression of Piracy, Armed Robbery against Ships, and Illicit Maritime Activity in West and Central Africa," http://www.imo.org/OurWork/Security/WestAfrica/Documents/code_of_conduct%20signed%20from%20ECOWAS%20site.pdf

57 "Press Briefings: Japan gives one million dollar boost to Gulf of Guinea fund," supra note 51

58 Ibid.

59 Calculation: United Kingdom donation to the Trust Fund in 2013=UK£100,000, or about $166,095 (Exchange rates: 4/08/2014 10:23:12 AM) Added to a $100,000 donation from China.

Human Cost of West African Piracy

The human cost of piracy in West Africa is more difficult to quantify than the economic cost, but is undoubtedly significant. Due to the historical focus on theft of goods rather than kidnap for ransom, pirates operating off West Africa have had less financial incentive to keep seafarers healthy than those who emphasize kidnap for ransom. Perhaps for this reason, the rate of violence associated with attacks in West Africa is high and there is greater potential for long-term impact to seafarers' physical or mental health. In addition to the risk to seafarers, piracy in West Africa is closely connected to inland maritime crime and instability in the littoral states, leading to a significant impact on local communities. This section of the report attempts to lay out the dimensions of groups affected by West African piracy.

Inland Waterway Violence and other Maritime Crime

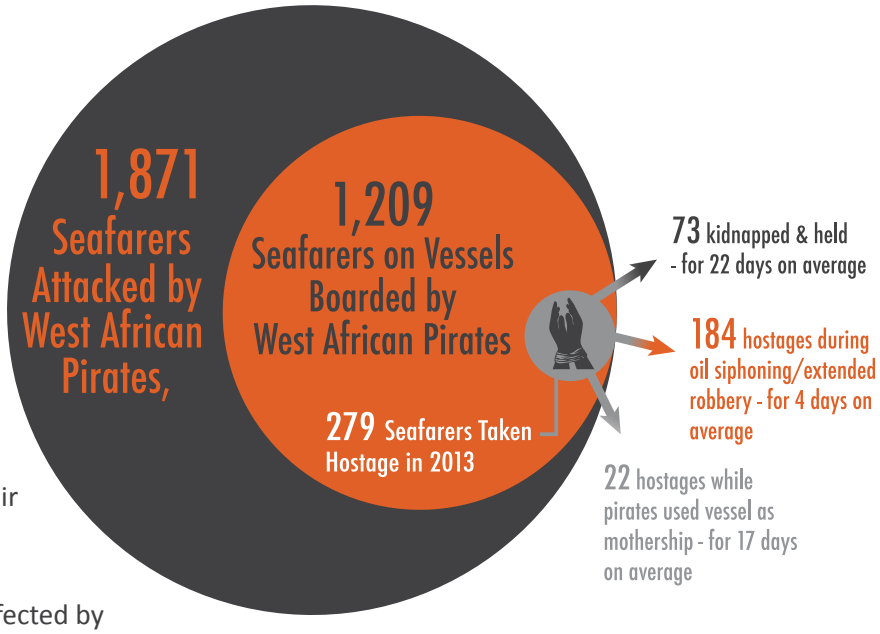
OBP is interested in the economic and social impact of attacks occurring at sea. Legally, these attacks constitute piracy if committed outside of a state's territorial waters, and armed robbery against ships if committed within them. In considering West African piracy, there is an additional category of crime that has been largely excluded from our analysis: those attacks occurring on inland waterways in the West African region. Because OBP has defined our area of interest as those attacks occurring on the high seas and in coastal waters, these attacks were not included in our analysis. Treating them as separate from attacks on inland waterways may obscure the fact that in the case of West Africa, the same militant groups that attack ships at sea are suspected of involvement in inland attacks as well,[60] and the impact of these groups on local communities may be significant.

Although not explicitly a focus of our analysis, our data collection process did identify some information about inland waterway attacks. We identified 37 inland attacks resulting in more than 27 deaths including casualties among civilians, seafarers, security personnel, and militants. In addition, these attacks preyed directly on local community members[61] as well as on international companies operating in the area.

IMPACT ON SEAFARERS

Seafarers exposed to pirate attack

OBP estimates that 1,871 crewmembers were exposed to attacks within our area of interest in 2013, with 1,209 crewmembers onboard ships boarded by pirates in the region. In 2013, 279 seafarers spent time as hostages of West African pirates, indicating that hostage rates are up from those we reported in 2012. Of these 279 seafarers, 73 were abducted by pirates. These crewmembers were not held for just a brief period of time while the pirates used the ship for their own ends, but were taken off the ship and held for ransom.

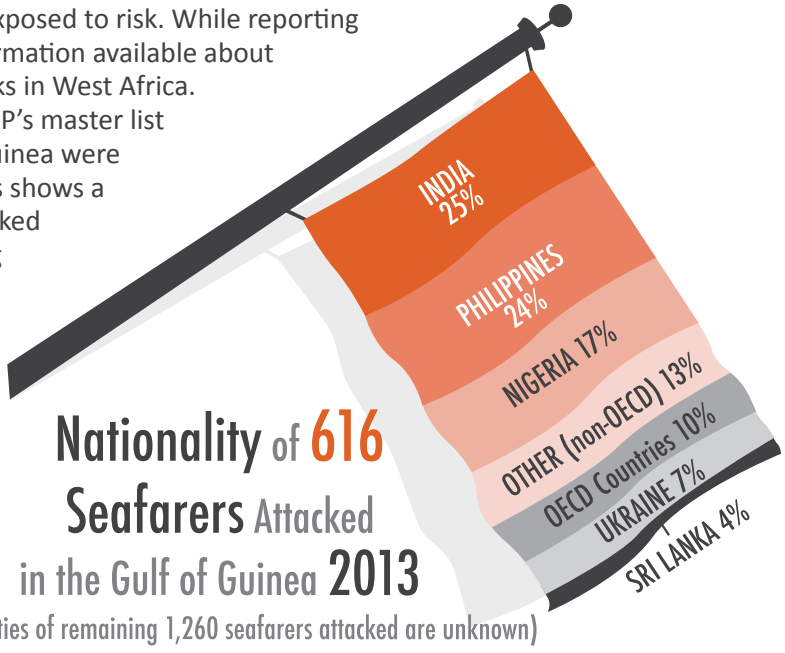


The distribution of seafarer nationalities affected by

60 For example, the Movement for the Emancipation of the Niger Delta (MEND) claimed to have taken custody of two crewmembers kidnapped from the *C-Retriever* in 2013, although these claims have not been substantiated; *see* Fox News, "Nigerian group claims pirate kidnappings netted $2m ransom," *FoxNews.com* (November 18, 2013): http://www.foxnews.com/world/2013/11/18/nigerian-group-claims-pirate-kidnappings-netted-2m-ransom/

61 Emma Amaize, "Pirates Molest, Rob Market Women in Delta," *Vanguard News* (June 16, 2013) accessed March 4, 2014, at http://www.vanguardngr.com/2013/06/pirates-molest-rob-market-women-in-delta/

piracy is different in West Africa than in the Indian Ocean region, reflecting the different characteristics of ships operating in the region and exposed to risk. While reporting inconsistencies exist, there remains a gap in the information available about the nationalities of seafarers exposed to piracy attacks in West Africa. With this caveat, when adjusting for unknowns in OBP's master list of events, 10% of seafarers attacked in the Gulf of Guinea were from OECD countries. Compared with past years, this shows a large increase in the number of OECD seafarers attacked by pirates. There is also some information suggesting that once they boarded the ships, the pirates differentially targeted certain nationalities: a Pentagon official reported in 2013 that in the pirate attack on the *C-Retriever*, pirates separated the crew by nationality and kidnapped the American seafarers.[62] In June of 2013, there were reports that after pirates boarded the MDPL *Continental One*, only Indian and Polish crewmembers were seized from the vessel.[63] In February of 2013, the offshore supply tug *Armada Tuah 101* was attacked and six foreign crewmembers were taken hostage while nine Nigerian crewmembers were not.[64]



Nationality of 616 Seafarers Attacked in the Gulf of Guinea 2013
(Nationalities of remaining 1,260 seafarers attacked are unknown)

Injuries and deaths in 2013

The heightened violence associated with West African piracy includes a larger incidence of gun battles between pirates and regional armed forces or private security than was reported in attacks in the Indian Ocean. The increased violence in the region was associated with more deaths in West Africa than off Somalia. Two seafarers were killed in 2013 by pirates: a crew member of FV *Orange 7* was killed in March when pirates attacked,[65] and a Filipino seafarer was killed during an attack on MV *Pyxis Delta* in February.[66] In addition, an engineer from MT *Leo* remains missing after last being seen aboard a pirate vessel that sank in a storm.[67] Counting known fatalities, seafarer fatalities in West Africa have declined by 60% since 2012. In addition, there were 12 nonfatal seafarer injuries in 2013 reported in the OBP data set.

Hostages held captive in 2013

Unlike Somalia-based piracy, which has tended to emphasize a standardized modus operandi where both the ship and crew are held for ransom for an extended period, West African piracy has been characterized by a diversity in the types of attacks. In considering the number of hostages held in West Africa in 2013, OBP has identified three categories of hostages in this region:

62 Luis Martinez et al., "Pirates Said to Single Out Americans in Ship Attack," *ABC News* (October 24, 2013) http://abcnews.go.com/Blotter/pirates-seize-americans-off-ship-nigerian-coast/story?id=20668855

63 "Pirates attack ship off Nigeria, kidnap four – sources," Reuters (June 19, 2013) http://uk.reuters.com/article/2013/06/19/uk-nigeria-piracy-idUKBRE95I0PO20130619

64 "Tug Attacked Off Nigeria, 6 Foreign Crew Kidnapped," *OceanusLive*, n.d., retrieved from http://www.oceanuslive.org/main/viewnews.aspx?uid=00000635

65 "Pirates Kidnap Three in Offshore Nigeria Attack - Sources," Reuters (March 7, 2013).

66 Pia Lee-Brago, "Pinoy Seafarer Killed by Pirates in Nigeria," *The Philippine Star* (February 7, 2013) http://www.philstar.com/headlines/2013/02/07/905861/pinoy-seafarer-killed-pirates-nigeria

67 Ammar Shahbazi "Six months on, Waiting for a Man Lost at Sea," *the News* (September 28, 2013). Accessed at http://www.thenews.com.pk/Todays-News-4-204875-Six-months-on-waiting-for-a-man-lost-at-sea

1. **Hostages detained while pirates control the vessel:** Crewmembers are held while pirates engage in oil siphoning, cargo theft, or extended robbery of the vessel. Target vessels are usually oil tankers or supply vessels.
    - Crewmembers are generally detained as captives for several days while the pirates control the vessel. In OBP's data set, these crews were held for four days on average.[68] This average duration of captivity is consistent with 2012.
    - In 2013, 184 seafarers were detained as hostages during an extended robbery or oil siphoning.
2. **Hostages detained onboard a hijacked vessel being used as a mother ship to launch other attacks from:** Similar to extended robbery, in this category crews are detained while the pirates use the vessel for their own purposes. Target vessels are usually fishing vessels.
    - In our data set, the duration of captivity was about 17 days.
    - In 2013, 22 seafarers were held hostage onboard while their vessel was used as a mother ship.
3. **Hostages held for ransom aboard ship or abducted for ransom:** Crewmembers are held until a ransom can be obtained. Hostages held for ransom aboard ship are captured with their vessel and ransomed as a package. This model is not common in West Africa. Hostages abducted for ransom are taken off the ship to a separate location until a ransom can be identified.
    - The duration of captivity averaged 22 days in 2013. In these situations, a ransom was most likely paid and ship stores were possibly stolen as well.
    - Captains from fishing vessels and seafarers from offshore supply vessels were the most susceptible to this form of hostage-taking.
    - In 2013, pirates kidnapped and held 73 seafarers. Attacks in West Africa in 2013 showed an increase in kidnap & ransom attacks over those reported in 2012, a potentially worrying trend. Due to the increased risks associated with being held on land and the violence associated with hostage-taking, the potential long-term risk to health or well-being of seafarers is more severe.

Abuse of seafarers

The violence associated with pirate attacks in West Africa is severe. Rates of attack with deadly weapons are high: the IMB's report for 2013 found that of 52 attacks or attempted attacks reported by the IMB in the West African region, 67% of all events involved guns. Of those events that specifically included the presence of weapons, 88% involved events in which guns were used. The level of violence directed against seafarers during and after boarding is significant. In one report, hijackers gained control of the MT *Adour*, fired guns in the air, and beat the crew.[69] A representative of the Lagos Seafarer Welfare Center, speaking to the BBC, reported forms of abuse against hostages that included cigarette burns and amputated fingers.[70] Considering this increase in these forms of abuse, the rates of injury and death in West African piracy were higher than the rates relating to Somali piracy.

Psychological abuse

As with physical abuse, psychological abuse of hostages appears to be fairly widespread. Detailed evidence about abuse and mistreatment of seafarers exposed to West African piracy was captured in an interview with Captain Wren Thomas III, captain of the *C-Retriever*, who speaks about the attack on his ship in October of 2013:

> *"They treated us like animals. It's about as close as a person could get to being a POW. Some of them were*

68 Hostage duration was calculated as per-crewperson average days in captivity. Where information was unavailable about crew size, average crew size based on vessel type was used.

69 International Maritime Organization, "Reports on Acts of Piracy and Armed Robbery against Ships," (August 13, 2013).

70 Mike Thomson, "Pirates Shift Focus From Somalia To West Africa," *Here & Now* (NPR, August 5, 2013) http://hereandnow.wbur.org/2013/08/05/pirates-west-africa

particularly cruel to us. The stifling air was filled with smoke from crack and pot the entire time."[71]

Upon Captain Thomas's return home, his behaviors demonstrated symptoms of posttraumatic stress.[72]

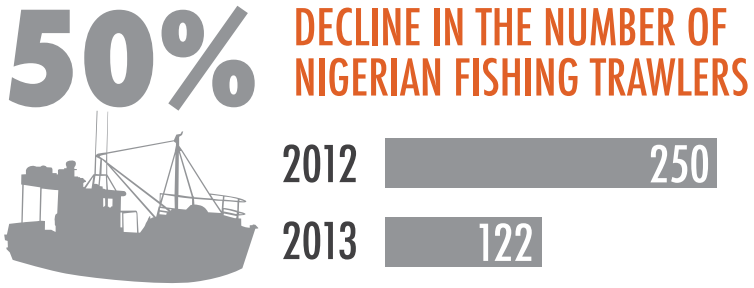
> *"Up until I got help and put on proper meds I wanted to end my life. Every time I was alone in my house, [I] was trying to figure out which gun I was going to use. When I was driving, I was trying to figure out how I could do it in my truck. I would get so engrossed in wanting to kill myself that I would get dizzy."*[73]

Captain Thomas is not alone in having faced psychological abuse inflicted by West African pirates. A Scottish captain held hostage by Nigerian pirates reported that these pirates told him that if his ransom was not paid, they would burn him alive.[74] Both of these reports indicate that there are West African pirates who are abusive in ways likely to contribute to the long-term impact on seafarers.

Legal risks to seafarers

Several incidents in 2013 suggest that there are developing issues related to piracy with regard to legal threats against seafarers. In July of that year, Captain Sunil James and a seafarer named Vijayan of the ship MV *Ocean Centurion* were arrested in Togo on suspicion of collusion with pirates after they reported a pirate attack. Despite pressure from the Indian government and the Maritime Piracy Humanitarian Response Programme, the Togo government released the two on humanitarian grounds only after the death of Captain James' son.[75] No evidence has been publicly presented supporting the claim that Captain James was in collusion with pirates. In addition, seafarers and private security guards who were aboard MV *Myre Seadiver* when it was seized by the Nigerian government in 2012 remained under indictment on arms smuggling charges in Nigeria throughout 2013, although, fortunately, eight seafarers were released in September with charges withdrawn.[76]

Impact on West African citizens



As discussed, the region's violence and instability funded by piracy has significant impacts on local communities. The same criminal networks that engage in piracy engage in attacks on inland waterways as well, leading to robbery and abuse of local citizens. In addition, the economic impact of piracy on the local fishing industry may be significant, as pirates attacked 19 fishing vessels in 2013 and held 23 seafarers from fishing vessels hostage, demanding ransoms for their release. In most cases the targets for kidnap and ransom were the captains of the fishing vessels. These incidents align with a trend, reported by the Nigeria Trawler Owners Association, in the decline of fishing trawlers. The association noted that in 2013 only 122 fishing trawlers were a part of the association as compared with 250 in years prior; maritime crime was cited as the reason for the reduction in numbers.[77]

The reduction in fishing trawlers points to a lost economic opportunity for many fishermen and their families. The fishing industry employs over 10,000 Nigerians and piracy-related activity threatens these individuals attempting to execute their jobs.[78]

71 Almeida, supra note 6.

72 Almeida, supra note 6.

73 Almeida, supra note 6.

74 Mills, supra note 46.

75 "Indian Sailors Released in Togo," *BBC News* (December 19, 2013) available at http://www.bbc.com/news/world-asia-india-25443589

76 Ministry of Foreign Affairs of the Russian Federation, "Press release about trial against Russian MV Myre Seadiver crew in Nigeria," (July 9, 2013).

77 Misbahu Bashir, "Nigeria: Piracy threatening fishing in country," *AllAfrica.com* (May 30, 2013) retrieved from: http://allafrica.com/stories/201305301332.html

78 Stella Odueme-Omona, "Trawler owners raise alarm over attack by pirates," Ocean Protection Services Ltd. (May 30, 2013) retrieved

IMPACT ON SHIP GUARDS AND PRIVATELY CONTRACTED ARMED SECURITY PERSONNEL (PCASP)

There is little information available about the impact of piracy on PCASP themselves. The RAND study released this year represents the only publicly available study of PCASP, and there was insufficient information in it to identify where contractors were operating. The higher rates of violence associated with West African piracy suggest that the long-term impact on PCASP should be more significant than in the Indian Ocean, but currently there are no data available to assess this. There were no reports of injuries or deaths of PCASP in the area covered by the OBP report, but, as discussed in the section on other maritime crime, there were deaths associated with pirate activity on inland waterways.

As in East Africa, incidents in 2013 suggest that one risk to PCASP in West Africa is a lack of clarity around laws relating to the presence of arms aboard ships. In 2013 seven crewmembers of the armed security ship MV *Myre Seadiver* remained under arrest in Nigeria on charges of arms smuggling after their ship was seized by the Nigerian government in 2012.

from http://www.oceanprotectionservices.com/wordpress/?p=4342

Trends and Developments–West Africa

CHANGING GEOGRAPHIC SCOPE

A report on the distribution of pirate attacks released by UNITAR in 2014 tracked a trend toward widening geographic risk in West African waters. Historically, vessels most at risk for attacks have been those in port areas or those offshore, waiting to berth. The UNITAR analysis tracked the distribution of attacks in West African waters and concluded that there has been a shift in attacks, away from ports and into international waters.[79] This report argues that while incidents in territorial waters remain fairly consistent, the area where ships are most vulnerable is now the high seas. OBP's data set is consistent with this, finding that only between 20% and 30% of attacks occurred in port or anchorage areas. Although ironically in 2013 and to date this year, there has been a return to attacks within territorial waters closer to shore.

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Not only have attacks off West Africa continued to spread toward international waters, they have spread geographically, leading the Joint War Committee's expansion of the War Risk Area in 2013 to include waters off Togo. In July 2013, MV *Cotton*, an oil products tanker, was hijacked off the coast of Gabon, 200nm south of the site of the previous most southerly attack.[82] In an even more robust expansion of attacks, MT *Kerala* was attacked off Angola in early 2014.[83] As a result, the Norwegian Maritime Authority expanded its security level 2 zone west to include Cote d'Ivoire and expanded its recommended security area much farther to the south.

CHANGES IN SCOPE OF ATTACKS

When considering the types of attacks, it is difficult to declare a trend based on the relatively few cases of kidnap for ransom reported. Despite this, there were several reasons to believe that there may be the beginnings of a shift in the use of kidnap for ransom as a model used by West African pirates. The apparent sorting of seafarer crews and active selection for kidnapping of international crews rather than locals, as is claimed to have happened in the case

79 Leymarie et al., supra note 2.

80 Leymarie et al., supra note 2.

81 Leymarie et al., supra note 2.

82 Jonathan Saul and Jean-Rovys Dababy, "Update 10-Pirates hijack tanker off Gabon as shipping risks spread," Reuters (July 17, 2013) available at: http://www.reuters.com/article/2013/07/17/us-tanker-pirates-gabon-idUSBRE96G0P220130717

83 "Missing Vessel Feared Hijacked: Nigerian Pirates Launch Most Southern Attack to Date," *Dryad Maritime* (January 1, 2014) retrieved from http://www.dryadmaritime.com/2014/01/21/missing-vessel-feared-hijacked-nigerian-pirates-launch-most-southern-attack-to-date/

of the OSS *C-Retriever*, suggests pirates are beginning to see the potential for ransom of international seafarers.[84] Information about ransoms is often not publicly available, as such information can distort future negotiations for the release of seafarers, but in the case of *C-Retriever,* Movement for the Emancipation of the Niger Delta rebels claimed to have received a $2 million ransom for the kidnapped American seafarers.[85] The increase in reported kidnappings for ransom found in the OBP data also suggests that West African pirates may be beginning to see this as a lucrative model. This may indicate a trend of movement toward kidnap and ransom instead of or alongside a theft of cargo model.

CONTINUING CHALLENGES IN REPORTING AND INFORMATION-SHARING

The diversity of actors in West Africa contributes to the challenges associated with underreporting and information-sharing. The institutions established for the reporting of piracy are underresourced and there is suspicion that underreporting is frequent. BIMCO guidelines suggest that the best way to alert authorities to an attack is through the Regional Maritime Rescue Coordination Centre (RMRCC) in Lagos, but a leading maritime insurer notes that subsequent reporting of attacks from the RMRCC to the military or coast guard in the region "cannot be guaranteed."[86] Further, although use of the IMB's Piracy Reporting Centre is also available and encouraged on the west coast, IMB estimates that only one-third of attempted attacks are actually reported to them.[87, 88] OBP's data may reflect this underreporting, as rates of suspicious approaches in our data are significantly lower as a proportion of reported attacks than those off Somalia. In addition, details of such events may also be obscured. Only nine of the 105 incidents recorded by OBP were reported as having armed security aboard, which, if true, represents a much lower use of armed security than is generally estimated in West Africa.

CONTINUING CHALLENGES TO LOCAL, INTERNATIONAL, AND PRIVATE INSTITUTIONAL CAPACITY

"It is doubtful whether there is any [regional] country that has a navy powerful enough to combat piracy alone"[89]

The enormous geographic scope of the area threatened by pirates poses a significant challenge to naval response in the Indian Ocean and in West Africa. In the case of West Africa, this challenge is compounded by the limited institutional capacity of littoral states.

Nigeria, the coastal country with the most naval personnel, has a total naval fleet of approximately 75 vessels, although not all of those may be operational at any given time.[90] Further, although the US has urged the Nigerian government to improve its port security system, many ports do not abide by the International Ships and Ports Facility Security code convention, and NIMASA has indicated that it does not have a mandate to close any terminal that is not compliant. As described in the section on the economic cost of piracy, institutional limits to NIMASA's authority have also been blamed for the lack of prosecutions of suspected pirates.

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84 Luis Martinez et al., "Pirates Said to Single Out Americans in Ship Attack," *ABC News* (October 24, 2013) http://abcnews.go.com/Blotter/pirates-seize-americans-off-ship-nigerian-coast/story?id=20668855.

85 Rob Almeida, "$2 Million in Cash Allegedly Paid to Release American Hostages in Nigeria," *gCaptain* (November 16, 2013) available at: http://gcaptain.com/million-cash-paid-release-c-retriever/

86 GARD, "Piracy in the Gulf of Guinea–an update," *GARDAlert* (March 21, 2013) http://www.gard.no/ikbViewer/Content/20735008/Gard%20Alert%20Piracy%20in%20the%20Gulf%20of%20Guinea%20-%20an%20update.pdf

87 *See* Barrios, supra note 17.

88 IMB reports consist of 42% of total attempted attacks Oceans Beyond Piracy was able to compile; quite a few attempted attacks occurred without any reports to anti-piracy centers or open source publications whatsoever.

89 Freedom C. Onuoha, "Piracy and Maritime Security in the Gulf of Guinea: Nigeria as a Microcosm," Al Jazeera Center for Studies (June 12, 2012) available at: http://studies.aljazeera.net/en/reports/2012/06/201261212321011333 3.htm

90 "Nigeria Military Strength," *Global Fire Power* (February 2, 2014) retrieved from http://www.globalfirepower.com/country-military-strength-detail.asp?country_id=Nigeria

Regional Naval Manpower	
Nigeria	8,000
Cote d'Ivoire	900
DRC	6,703
Equatorial Guinea	120
Gambia	70

International navies have continued to provide some naval and operational training through exercises such as Obangame Express and African Partnership Station. Nevertheless, there remains little international presence in the area as international navies lack mandates and funding to operate in the territorial waters where the majority of attacks have occurred in the past. In the case of private companies, legal structures restrict the presence of armed international guards and require the use of local guards, thereby limiting the ability of international companies to operate in the Gulf of Guinea. Initiatives to address the relationship between international and local security companies have been developed, including the Secure Anchorage Area (SAA) and the release of the GUARDCON West Africa standard contract. The Secure Anchorage Area off the coast of Lagos is a zone patrolled by private firms in collaboration with the Nigerian Navy. Armed patrol boats transit around anchored vessels while they wait to berth, offering another layer of protection for anchorage and ship-to-ship transfers. Though the effectiveness of the SAA remains uncertain, partnerships such as this that are fully insured and meet all security and maritime standards could be effective models for protection from piracy and armed robbery off West Africa. GUARDCON West Africa will affect all private maritime security companies off West Africa by including local security in the guidance.[91] Although 2013 saw BIMCO continuously pushing back plans for the implementation of the revised guidelines due to legal complexities, a special circular was issued in February of 2014.

A DEVELOPING CAPACITY-BUILDING AND COORDINATION FRAMEWORK

A significant and long-standing problem with piracy off West Africa is the lack of a legal framework for dealing with maritime crime in littoral states. NIMASA and the Joint Task Force publish reports that consistently claim the capture of scores of pirates and other maritime criminals. The OBP data set estimates that more than 550 individuals were detained in 2013 for maritime crime, but there are no reports of prosecutions. Until local navies are equipped and trained to collect evidence and process criminals or another entity emerges to handle prosecution procedures, prosecutions are unlikely to increase.[92] Further, while all West African countries have signed and ratified the Convention on the Law of the Sea, these international laws have not yet been incorporated into the domestic legal or prosecutorial frameworks.[93]

Piracy and armed robbery at sea in West Africa reflect instability ashore. Therefore, it is important not only to target the sea with suppression measures, but to apply shore-based solutions that counter the root causes of piracy.

REGIONAL COORDINATION AND INITIATIVES

The 6,000 km of coastline spanning the Gulf of Guinea is composed of numerous states, each with its own laws, languages, and conflicts, all of which have complicated coordination. Alongside the shared problem of piracy, these states have pre-existing disputes over borders and control over EEZs at sea.[94] [95] These disputes greatly impede

91 "Guidelines for the use of GUARDCON when engaging PMSCs as intermediaries to employ local security guards within territorial waters," BIMCO (February 2014) http://www.norclub.no/assets/ArticleFiles/20-2-14-GUARDCON-guidelines-within-territorial-waters.pdf

92 IRIN, "West Africa: Defining piracy in the Gulf of Guinea," *IRINNews* (December 10, 2012) retrieved from http://www.irinnews.org/report/97004/west-africa-defining-piracy-in-the-gulf-of-guinea

93 *Chronological lists of ratifications of, accessions and successions to the Convention and the related Agreements as at 29 October 2013*, United Nations Division for Ocean Affairs and the Law of the Sea (September 20, 2013) http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm

94 Some disputes: Nigeria and Cameroon, Equatorial Guinea and Cameroon, Gabon and Equatorial Guinea, Ghana and Cote d'Ivoire

95 Ukeje, Dr. Charles; Mvomo ela, Prof. Wullson. *African Approaches to Maritime Security – the Gulf of Guinea*. Friedrich Ebert Stiftung.

the ability of neighboring countries to coordinate naval or capacity-building efforts no matter what the proposed benefits may be. All criminal activities inland and off the coast of West Africa including armed robbery, piracy, oil theft and illegal refining, and illegal fishing are connected in that the same conditions that allow one to exist also allow the others. Initiatives to stem piracy must therefore be intimately intertwined with those that address other forms of maritime and land-based crime.

Although progress has been made in the discussion of regional initiatives, little has been done, even at the state level, to coordinate and implement them. For example, the Gulf of Guinea Guard Force, an integrated coast guard network to cover the Gulf, has been discussed since 2007, yet no concrete plans to initiate its work have been published.[96] While ECOWAS hopes to follow the lead of ECCAS in the creation of the Regional Coordination Centre for Maritime Security of Central Africa, progress has been stalled by border conflicts and politics.[97] There has also been discussion of the two regional entities cooperating on the development of an Interregional Center for the Coordination of Maritime Security in the Gulf of Guinea supported by the Gulf of Guinea Commission and the UN Regional Office for Central Africa.[98]

In June of 2013 a Summit of Heads of States and Governments of West and Central Africa formally adopted the *Code of Conduct concerning the prevention of piracy, armed robbery against ships and illicit maritime activity in West and Central Africa*. The Code, generally based on the Djibouti CoC, calls upon West and Central African states to develop a regional counterpiracy strategy.[99] The Summit also validated the Memorandum of Understanding and the common declaration by ECCAS, ECOWAS and GGC member states on the implementation of a regional framework for maritime security. Following this discussion, the next challenge is in translating the declarations into concrete action, the effectiveness of which Operationalizing these plans is key and depends heavily on the ability of the regional countries to work effectively with each other.

INTERNATIONAL COORDINATION AND INITIATIVES

While the effort to counter piracy off the coast of Somalia has seen a sizable and effective response by governments, international navies, international organizations, the maritime industry, and NGOs, the outlook for West Africa is quite different from that of Somalia. In light of the sovereignty of the countries of West and Central Africa, the ability of the international community to operate in coastal waters is significantly decreased. Nonetheless, the international community has done a substantial amount of planning for the coordination of initiatives. In 2013 the G8Peacekeeping/Peacebuilding experts group formalized the G8++ Friends of the Gulf of Guinea to better coordinate and avoid duplication of capacity-building efforts. To further this, the G8++ departed from Working Group 1 of the Contact Group on Piracy off the Coast of Somalia in order to establish a West African web-based coordination platform. The UK, US, and EU have all contributed efforts to maritime security, including support from the United States' AFRICOM, the EU's new Critical Maritime Routes Programme, and the establishment of a multi-donor Trust Fund to support IMO projects in West Africa. Further, with greater investment in oil by the growing economic hubs of China, Brazil, and India, those countries are beginning to contribute to anti-piracy efforts as well.

Some of the most promising initiatives have emerged from the shipping industry itself. The Interim Guidelines for Owners, Operators, and Masters for protection against piracy in the Gulf of Guinea region outlines the first set of guidelines revised specifically to combat the GoG piracy threat which are likely to be revised and updated in 2014.[100]

December 2013. http://library.fes.de/pdf-files/bueros/nigeria/10398.pdf

96 "West African countries raise special force to guard Gulf of Guinea," *Xinhua* (May 19, 2007) retrieved from http://english.people.com.cn/200705/19/eng20070519_376011.html

97 Ukeje supra note 97.

98 "Peace and Security in Central Africa: the mandate of UNOCA extended until 30 August 2015," United Nations Regional Office for Central Africa (February 20, 2014) available at: http://unoca.unmissions.org/Portals/unoca/PRESS%20No%2080%20.pdf

99 *West African States sign Code of Conduct concerning the prevention of piracy, armed robbery against ships and illicit maritime crime activity*. International Maritime Organization. August 1, 2013. http://www.imo.org/OurWork/Security/WestAfrica/Pages/WestAfrica.aspx

100 International Maritime Organization, "Interim Guidelines for Owners, Operators and Masters for protection against piracy in the Gulf of Guinea," International Maritime Organization Circular Letter No. 3394 (August 15, 2013) retrieved from http://www.imo.org/OurWork/Security/PiracyArmedRobbery/Guidance/Documents/CL3394.pdf

The release of GUARDCON revisions for West Africa in early 2014 will also help to counsel ship owners on the issue of private security, and IMO's contributions to the development and adoption of the Code of Conduct will likely prove central to counter-piracy work in the GoG.

SECTION 4: THE STATE OF SEAFARERS

Preceding sections of this report have attempted to directly track the immediate human and economic costs of piracy in the Indian Ocean and West Africa. While these costs are significant and important, the impacts of piracy persist long after the events themselves have ended. A full accounting of the costs of piracy needs to consider the lasting impact on seafarers and others directly exposed to pirate attack. As the character and intensity of piracy changes, there is a risk that these impacts may be overlooked.

Information on the lasting distress caused by acts of piracy remains scarce. Since the release of the Human Cost of Piracy report last year, only one additional research study tracking the impact of piracy on seafarers has been published. A report by Antonio Rosario Ziello and his colleagues, published in the journal *International Maritime Health*, tracked a series of psychological assessments conducted five months after release of four Italian seafarers who had been held in captivity by Somali pirates. These interviews found diagnosable PTSD in three of the four seafarers, as well as high rates of anxiety, problems with social adjustment, and increased levels of depression and phobic symptoms.[1]

To supplement the small amount of information available on long-term impacts of piracy on seafarers, Oceans Beyond Piracy, the Maritime Piracy Humanitarian Response Programme, and the Jaime C. Bulatao, SJ Center for Psychology Services at Ateneo de Manila University conducted a series of assessments of Filipino seafarers who had been exposed to piracy. The results of this survey suggest that the long-term impacts of piracy may be significant.

Survey data

The data reported here were collected by the Bulatao Center at Ateneo de Manila University and staff from the Maritime Piracy Humanitarian Response Programme. Collection of these data was funded jointly by One Earth Future Foundation and the TK Foundation. To collect data, seafarers identified by the MPHRP as having been affected by piracy were approached about participating in the study. Thirty-six exposed seafarers agreed to participate. The survey tracked the kinds of experiences seafarers had been exposed to, attitudes toward the use of armed guards, and pre-deployment training. It also assessed physical health, social health, depression, and posttraumatic stress symptoms.

Participant information and exposure to piracy

Thirty-six seafarers, all male, agreed to participate in our study.

Demographics

	Mean	Min	Max
Age	42.76	23	61
Years working as seafarer	15.47	1	38

Of these seafarers, 33 replied to questions tracking their exposure to piracy. Of these 33, 29 reported that they had been directly exposed to piracy in some form, in either the Indian Ocean or West Africa. The specific types of exposure ranged from having observed pirate attacks against other ships to having been attacked by pirates to having had experience as a long-term hostage.

1 Antonio Rosario Ziello et al., "Psychological Consequences in Victims of Maritime Piracy: The Italian Experience," *International Maritime Health* 64, no. 3 (2013): 136–141.

Rates of Exposure to Piracy in Our Sample

	Percentage of Seafarers Answering YES
Have you ever been aboard a ship attacked by pirates?	69.70%
Was your ship boarded?	63.64%
Have you ever witnessed another ship being attacked by pirates?	60.61%
Were you or anyone else held hostage by pirates?	57.58%
Have you been on a ship that was attacked by pirates, but did not get caught?	51.52%
All of the above	21.21%

Violence Associated with Exposure to Piracy

	Percentage of Exposed Seafarers Answering YES
Did pirates fire guns at your ship?	91%
Was your ship boarded?	91%
Were you or anyone else held hostage by pirates?	83%
Were you slapped, kicked, or punched by pirates?	30%
Did you shelter in a protected area (Citadel)?	17%
Were you beaten with an implement (for example a rod, stick, or gun)?	17%
Were you hung or tied by the hands or arms?	17%

Rates of Abuse of Hostages

	Percentage of Exposed Seafarers Answering YES
Threatened with death or execution	94.74%
Given insufficient or inadequate food or water	89.47%
Serious injury to other crew	63.16%
Threatened with beating or abuse	63.16%
Slapped, kicked, or punched by pirates	31.58%
Serious injury to self	31.58%
Forced to remain uncovered (no clothing) outside for extended periods	26.32%
Beaten with an implement (for example a rod, stick, or gun)	21.05%
Being hung by tied hands or arms	21.05%
Other forms of extreme physical abuse	21.05%
Death of other crew member	21.05%
Held by yourself with no other crew for long periods	10.53%
At Least One of the Above	100.00%

For those seafarers who were aboard ships attacked by pirates, rates of exposure to violence were high. Almost all seafarers held hostage were threatened with death by the pirates, and almost two-thirds reported serious injury to one of the crewmembers aboard their ships. All seafarers held hostage by pirates had experienced some form of abuse.

Long-term impact

The survey assessed symptoms of posttraumatic stress and depression using clinically established scales[2], as well as the categories of exposure to negative events. Twenty-seven participants directly exposed to piracy completed the scale tracking posttraumatic stress, and 28 completed the depression scale. Scores on these scales were assessed for likelihood of long-term distress, and were coded as being consistent with more serious problems such as post-traumatic stress disorder (PTSD) or clinical depression. Without clinical interviews, it's impossible to diagnose participants with these disorders, but the assessment was based on existing research on how scores on the scales used relate to long-term distress.[3] Rates of long-term distress are shown below.

Long-term Impact

Likely post-traumatic stress disorder	22%
Likely depression	32%

To put these numbers in context, long-term responses to traumatic events vary significantly due to interactions between the characteristics of the individuals who experience them and the characteristics of the events themselves.[4] However, some categories of events are especially likely to cause long-term distress, particularly those events associated with particularly high levels of immediate distress. The rates found in these participants are consistent with higher-intensity and more severe incidents such as combat exposure or large natural disasters, which can show rates of lasting distress in some samples of 20–30%. However, care should be taken with generalizing these numbers. The small sample size and the way participants were recruited suggests that these numbers may not give a fully accurate picture of the rates of distress in seafarer populations overall. At minimum, these surveys show that piracy is associated with long-term distress in some seafarers exposed to it, and that focused care and follow-up will be important in assisting those seafarers with recovery.

Elements associated with long-term distress

The small number of seafarers in our sample who were directly exposed to attack limits our ability to thoroughly assess which elements of an attack are most likely to be associated with long-term distress. Depression was not identifiably associated with any specific category of exposure in our survey, nor was any form of exposure associated with a higher likelihood of probable PTSD. There were, however, two categories of exposure that consistently showed an increase in distress, even if not reaching levels of probable PTSD. Those two categories of exposure strongly associated with subsequent distress were sheltering in a citadel and being abused by being hung by one's tied wrists or hands.[5] In this sample, the overlap between these two categories was high, but a direct comparison found that sheltering in a citadel was the stronger of the two predictors.[6]

This finding should be viewed with caution, due to the small sample size and limited variability in our sample. However, on its face it is consistent with existing research into traumatic stress. The correlation between displaying increased distress and being hung by tied wrists is consistent with research on which types of abuse are perceived as particularly distressing. Metin Başoğlu's work with people who have been tortured has found that this form of

2 Assessed with the PCL-C. Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993). The PTSD Checklist (PCL-C) (Boston, MA: National Center for PTSD).

3 "Probable PTSD" was defined as meeting the criteria for the DSM-IV TR diagnoses, assessed by having scores of three or greater on at least one PLC-C items from Criterion B, at least two items from criterion D, and three or more items from Criterion C. See APA "Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (Washington, DC: American Psychiatric Association, 2013). Probable depression was defined as having scores on the CES-D of 16 or greater.

4 Scott Vrana and Dean Lauterbach, "Prevalence of Traumatic Events and Post-Traumatic Psychological Symptoms in a Nonclinical Sample of College Students," *Journal of Traumatic Stress* 7, no. 2 (1994): 289–302, doi:10.1002/jts.2490070209.

5 Analysis computed as a series of independent-sample t-tests. Three predictors were significant at $p<.05$: Being chased by pirates but not caught, sheltering in a citadel, hanging by the tied wrists or hands. Receiving insufficient food or water approached significance at $p=.054$. When p-values were corrected for multiple comparisons, only sheltering in a citadel and hanging by the tied wrists or hands were significant.

6 When both are entered into a regression analysis, neither predictor is significant and Pratt's measure of relative importance identifies citadel exposure as a more important predictor of lasting distress.

abuse is perceived as being among the most upsetting forms of physical abuse.[7] The finding that those seafarers who sheltered in a citadel actually experienced more long-term distress is unexpected, but likely reflects the severe uncertainty and threat associated with being in a citadel while pirates attempt to take control of a ship. In such a setting, seafarers are subjected to threats from the pirates as well as to a high degree of uncertainty about next steps. This survey suggests that while citadels may be effective in preventing physical abuse, sheltering in a citadel during a pirate attack may be particularly upsetting, and seafarers who undergo this experience may require additional support.

Additional information provided by seafarers

Dr. Karina Galang Fernandez is the Director of the Father Jaime C. Bulatao, SJ Center for Psychology Services at Ateneo de Manila University, and has been overseeing the collection of data from Filipino seafarers. In addition to the survey results described, she reports that the interviews conducted with seafarers have demonstrated the ways in which seafarers have coped with their experiences. In an interview with OBP staff, she observed that seafarers interviewed for this project were often "aware that the possibility of piracy is inherent to the job, but never expect it to happen to them." Seafarers held captive used a variety of tools to help cope with their experiences. Dr. Fernandez reports that "Faith in God was found to be integrated into the whole captive experience. Seafarers prayed constantly throughout their ordeal," and that in addition to this, the role of family in support has been critical. "The value for family was another aspect integrated into the whole experience. Seafarers constantly connected the need to survive with providing for their family, both during the experience, as well as after, as they seek to be onboard again despite their negative experience."

This underscores not only the terrible conditions that seafarers are exposed to while held captive, but the fact that seafarers are resilient and have used a variety of coping methods to help recover from their experiences.

Conclusion

As the risk of piracy changes and the high point of Somali piracy passes there is a risk that those seafarers who have been exposed to pirate attacks and who are still suffering from long-term distress will be forgotten. If the institutional response to piracy, whether in the Indian Ocean or in West Africa, is dismantled, it's possible that the long-term support systems some seafarers will need might be dismantled as well. The research presented here shows that for at least some seafarers the impacts last much longer than the time they are held hostage, and that they will need investment in a lasting system to support them.

In addition to the behavioral impact, many other seafarers struggle with economic challenges imposed by their captivity, either in the form of economic challenges imposed by their time away from their families or in some cases by the unwillingness of their companies to provide hazard pay or even wages for their time spent in captivity.[8] In considering the costs associated with piracy, these long-term human costs should not be forgotten.

7 Metin Başoğlu, "A Multivariate Contextual Analysis of Torture and Cruel, Inhuman, and Degrading Treatments: Implications for an Evidence-Based Definition of Torture," American Journal of Orthopsychiatry 79, no. 2 (2009): 135–145, doi:10.1037/a0015681.

8 Oceans Beyond Piracy, "Human Cost of Piracy 2012" (Broomfield, CO: One Earth Future Foundation).

APPENDICES

Appendix A: OBP Master List of Events

Unless specifically cited as coming from other sources, incident counts and statistics about the rates of exposure are from the OBP list of piracy events in 2013. This list is an attempt by OBP to compile both nonpublic and publicly-available information about piracy into a single source.

Data Sources and Methods

We leveraged three types of sources of information. First, we worked with data from the International Maritime Organization (IMO), the North Atlantic Treaty Organization Shipping Centre, the Overseas Security Advisory Council, the Office of Naval Intelligence, the International Maritime Bureau (IMB), OceanusLive, the Maritime Piracy Humanitarian Response Programme, and private security companies[1] in order to develop an operational understanding of the maritime environments off the east and west coasts of Africa. Second, we used formal interviews, informal inquiries, and contractual arrangements to collect strategic and tactical information about the ways shipping and piracy operated in these areas in 2013. We used documents from these types of entities–including C-LEVEL Maritime Risks Alerts™ as well as UN Security Council Reports–to generate the initial database on pirate attacks.

To this database, we added open-source information from general news sources, such as the BBC and Reuters, as well as industry-specific and issue-specific publications, such as Lloyd's List, Piracy Daily, Vanguard Group, and GCaptain.

For each incident, we collated incidents by date, geographic coordinates, vessel type, crew size, crew nationalities, details of security measures and forces onboard, and details of the approach or attack (e.g. boarding efforts). Where applicable, the following issues were also tracked: injuries to crew, injuries to pirates, weapons used by pirates, number of hostages, and duration of captivity.

We used information about crew size, when available. When it was not available, OBP estimated crew size based on the vessel type. OBP utilized IMB's database for all piracy-related incidents occurring during 2013, adjusted for outliers, and averaged the total crew members onboard each vessel type; these averages were then used when information regarding crew sizes was missing.

Using the latitude and longitude of each incident, OBP mapped all incidents in ArcGIS to confirm whether or not they occurred within a High Risk Area, a War Risk Area, or another area of interest.

1 LSS-SAPU & Moran Security Group.

Appendix B: Calculation of the Number of Transits in East and West African Regions

Calculations for the number of transits in East and West African regions were based on Automatic Identification System (AIS) data provided by exactEARTH.

AIS, a tracking and identification network of transceivers and geopositioning devices (e.g. GPS), helps ships avoid collisions in congested waters. As AIS technology has improved, it has allowed increasingly distant ships and land-based authorities to maintain an operational picture of the maritime environment. While AIS is required for ships over a certain tonnage, the information is self-reported; there is no authority that vets or verifies the content that AIS messages include. Normally, AIS provides a ship's identifying information, size, speed, course, and position.

ExactEARTH provided four samples of 2013 AIS data. The specific, seasonal samples were January 28th through 31st, April 29th through May 2nd, July 14th through 17th, and October 14th through 17th. All four data samples included AIS messages from regions off the east and west coasts of Africa.

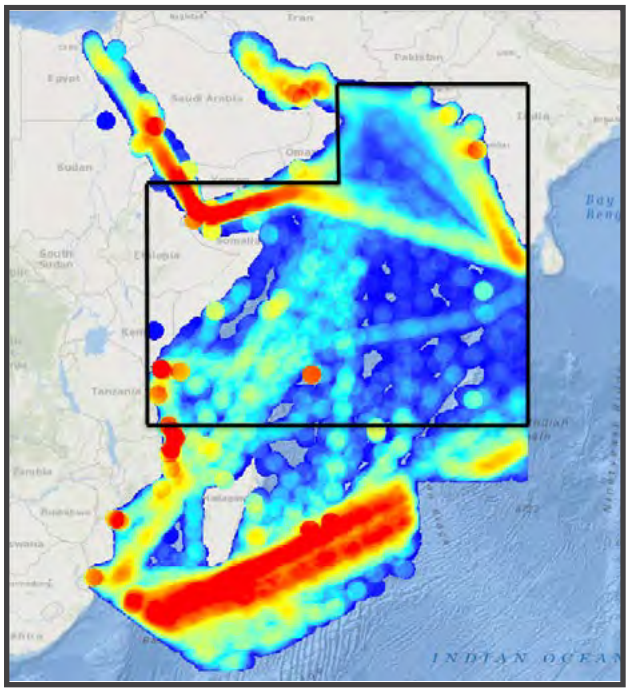
ExactEARTH's website: www.exactearth.com

Identification of Region

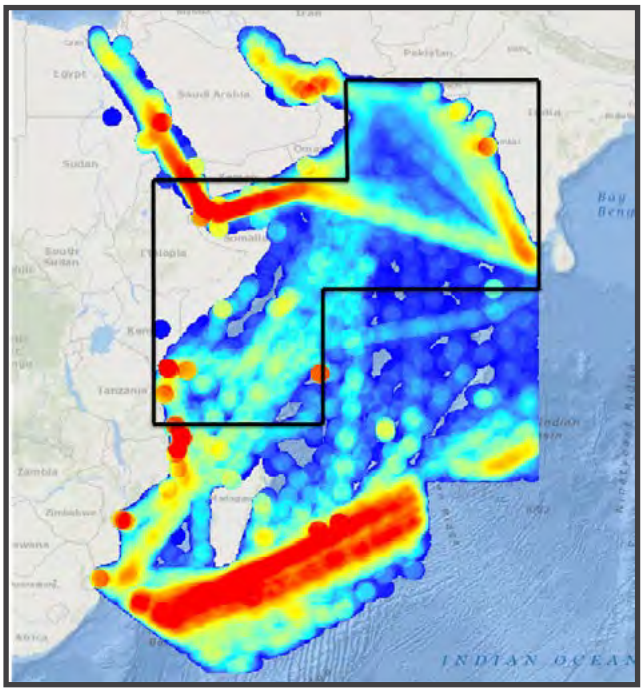
For both Indian Ocean and West African waters, we defined our Area of Interest (AOI) using self-reported latitude and longitude data.

Indian Ocean High Risk Area

Off the east coast of Africa, this area consisted of the Joint War Committee High Risk Area, and was defined as a polygon composed of three rectangles: a box between 26 degrees north and 12 degrees south and 78 degrees and 58 degrees east; a box between 15 degrees north and 12 degrees south and 58 degrees and 38 degrees east; and a box between 20 degrees north and 15 degrees north and 50 to 58 degrees east.



Heatmap provided by exactEARTH of July traffic in the Indian Ocean with OEF AOI identified



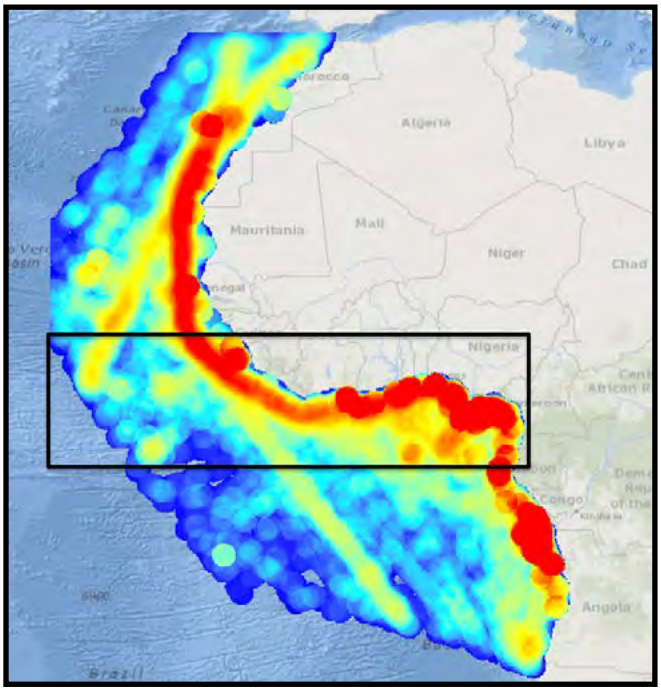
Heatmap with restricted AOI identified

This area experienced a large number of transits passing through the extreme southeast corner of the HRA. It is unlikely that these vessels engage in any counter-piracy activities. To address this lack of engagement, a smaller polygon

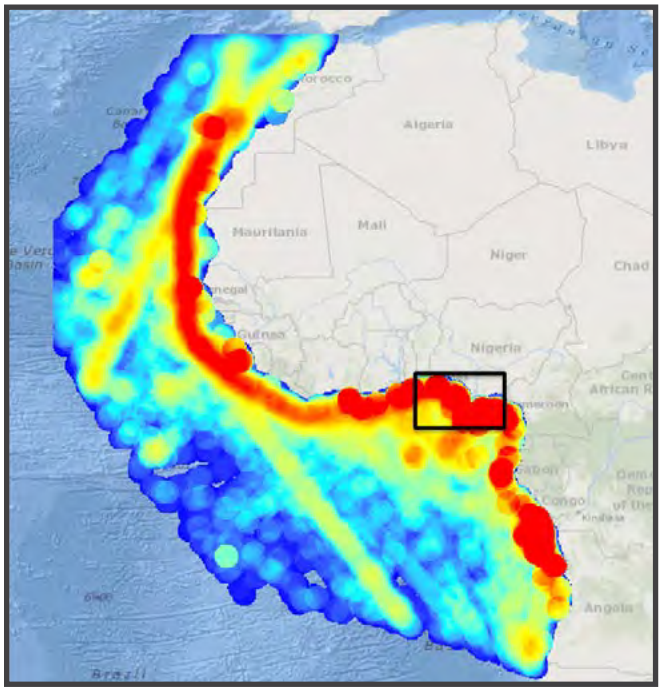
was identified to include vessels that were more likely to engage in the costly counter-piracy activities tracked in this report. This smaller area was defined a polygon composed of four rectangles: a box between 15 and 4 degrees north and 78 and 58 degrees east; a box between 12 degrees south and 4 degrees north and 38 and 55 degrees east; a box between 15 and 20 degrees north and 50 and 58 degrees east; and a box between 15 and 26 degrees east and 78 and 58 degrees east.

West African Area of Interest

The geographic scope of piracy in West Africa is less well-defined than Somali piracy. Multiple high risk areas defined by various groups make it difficult to define a specific, shared high risk area. In order to address this, West African transits were calculated using two separate regions. The larger region was defined as the OBP area of interest for the report, and represented the broader definition of West African piracy. It was defined as a box between 12 degrees north and the equator and 11 degrees east and 27 degrees west. The smaller region used the definition of the War Risk Area as defined by the Joint War Committee, and was defined as a box between 6.7 and three degrees north and 8.5 and one degree east.



Heatmap provided by exactEARTH of July traffic off African coast with OEF large AOI identified



Heatmap with West African WRA identified

Data Cleaning

Since AIS data is self-reported and unverified, it is subject to distortion by those interested in obscuring their operations. The data are potentially messy, as well, in that there are no mechanisms for ensuring that mariners enter the correct data. As such, AIS data is subject to both intentional and unintentional false entries. Yet, there is no evidence that either source of noise alters AIS's capacity to accurately characterize the vast majority of maritime operations. On the contrary, both industry-specific groups and major governments place their trust in AIS as a tool for mapping shipping; OBP follows those precedents.

In order to minimize the impact of any unreliable data, steps were taken to minimize the noise within the data. In accordance with recommendations from exactEARTH, a number of AIS reports were excluded from our analysis. First, common numbers for ships' Maritime Mobile Service Identity (MMSI) were dropped and all repeating numbers (e.g. 111111111 and 123456789) were dropped. Second, all AIS reports without a ship name, registered International Maritime Organization number, or size measurements (e.g. draught) were removed from the dataset. Third, given the focus of this report and the different AIS standards for smaller ships, all AIS reports from ships smaller than 120m in length were dropped.

Estimation of Final Transits

After sorting data according to coast, steps were taken to identify which AIS reports came from ships on those same transits. When all self-identified characteristics were shared–ship name, MMSI, IMO, ship call sign, draught, and dimensions to bow, stern, starboard, port–the AIS reports were grouped and ordered chronologically within the four-day windows. According to exactEARTH reporting standards, three days without AIS reports signifies that a ship was considered to have made a port call or had otherwise terminated its transit. OBP followed a similar pattern of terminating transits after 72 hours without an AIS report. Due to the focus of this report, we also dropped transits for all but three types of ships–cargo (ship types 70–74 and 79), tanker (ship types 80–89) and passenger (ship types 60–64 & 69)–in order to focus on the types of merchants affected by piracy.

After getting a count of transits for each type of ship for each of the four-day samples, those 16 days were used to approximate an annual count of transits: the unweighted annualization consisted of dividing each transit count by the number of sampled days (i.e. 16) and then multiplying by the number of days of the year (i.e. 365). Given the small sample size, 95% confidence intervals were imposed on either side of the raw annualization. With a sample size of 16 days, that calculation created a 10.26% margin of error on each side. In order to make the most conservative estimates possible, all transit numbers reported represent the lower-bound range of the 95% confidence interval.

Final Estimated Annual Numbers of Transits

Indian Ocean HRA, excluding SE corner

Cargo	42,755
Tanker	23,110
Passenger	58

West African AOI

Cargo	31,905
Tanker	15,567
Passenger	100

West African WRA

Cargo	8,942
Tanker	10,545
Passenger	62

Appendix C: Ransoms Paid in 2013

Ransom estimates were based on the following vessels and sources.

Ransoms Paid in 2013

Ship Name	Date Hijacked	Date Released	Days Held	Ship Type	Ransom Amount (USD)
MV Leopard	January 12, 2011	April 30, 2013	839	Cargo	$6,900,000[2]
MT Royal Grace	March 2, 2012	March 8, 2013	371	Chemical Tanker	Undisclosed, but pirates reportedly demanded $1.7 million
MT Smyrni	May 10, 2012	March 10, 2013	304	Tanker	$13,000,000[3]
				TOTAL	$21,600,000[4]

2 Ole Anderson, "Shipcraft: Løsesum på 39 mio kr med hjælp fra private," (article in Danish) *Shippingwatch* (April 30, 2013) retrieved from http://shippingwatch.dk/Rederier/article5420099.ece

3 Ramola Talwar Badam, "Somali pirates free crew of UAE tanker Royal Grace after gruelling 12 months," the National (March 10, 2013) retrieved from http://www.thenational.ae/news/uae-news/somali-pirates-free-crew-of-uae-tanker-royal-grace-after-gruelling-12-months#ixzz30Olq2btd

4 The estimated $1.7 million ransom payment for the MT Royal Grace represents a high-end estimate based on what the pirates demanded. The actual amount paid remains unknown.

Appendix D: Methods for Calculating Naval Costs

- Estimates of costs for naval operations were based on surface vessels and aircraft known or believed to be operating with counter-piracy as a significant portion of their mission. In each case, we estimated fuel costs and operating expenses for each vessel.

- Fuel use was calculated slightly differently from last year, using JP5 fuel for aircraft rather than diesel. The difference between the average cost of JP5 in 2013 as compared to diesel was minimal however, so we have retained the ability to compare across years. In calculating the fuel costs for surface vessels, we based the total annual cost on daily fuel consumption, the average number of vessels deployed, and the average price of fuel per gallon, assuming vessels were deployed no more than 300 days a year to account for days for refueling and maintenance. As specific information about each vessel was unavailable, we used more general classes into which most deployed vessels fell.

- In addition to fuel, the cost of such vessels must take into consideration servicing, crew salaries, administrative costs for individual countries, and asset depreciation. We attempted to include these, but as government officials have noted during the search for the missing Malaysian Airlines Flight 370, it is extremely difficult to arrive at a precise number.[5] Further utilizing calculations of costs associated with the Malaysian Airlines search, one of the first hard calculations of such a cost, our operating costs were calculated slightly differently from last year in order to arrive at a more accurate number. This year, independent operators were calculated separately from those of coalition forces, and were assigned a weight to account for the ability for some independent deployments to operate at a lower cost than, for example, the United States or the UK. Aside from this slight change, we used the same methodology as in previous years, adjusting the cost of each vessel class based on its crew capacity as compared to that of a frigate.

Using the above methods generated the following tables:

Total Fuel Cost of Surface Vessels 2013

Vessel Type	Average Number Deployed	Average Pre-Tax Fuel Price (per gallon)[6]	Adjusted Daily Fuel Consumption (gallons/day)[7]	Total Annual Fuel Cost
Frigate	8.375	$3.92	21640.55	$213,137,806.77
Destroyer	5.875	$3.92	49090.90908	$339,169,090.83
Amphibious	0.5	$3.92	15372.40	$9,038,973.08
Support and Patrol	8.5	$3.92	12360.47266	$123,555,284.71
			TOTAL[8]	$684,901,155.40

5 Jane Wardell, "Search for MH370 to be most expensive in aviation history," Reuters (April 8, 2014) retrieved from http://www.reuters.com/article/2014/04/08/us-malaysia-airlines-costs-idUSBREA3709520140408

6 Average diesel fuel price for 2013: $3.92. http://www.eia.gov/forecasts/steo/; http://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_a.htm

7 The assumption is that vessels operate 24 hours a day for 300 days a year to take into account refueling and maintenance time.

8 Vessel Assumptions: Frigate: Oliver Hazard Perry Class (U.S.); Destroyer: Arleigh Burke Class; Amphibious: Galicia Class; Support and Patrol: Sukanya-Class patrol vessel

Cost of Naval Air Vessel Deployment (Fuel)

Vessel Type	Average Number Deployed	Average Pre-Tax Fuel Price (per gallon)[9]	Adjusted Daily Fuel Consumption (gallons/day)	Total Annual Fuel Cost
Aircraft (P-3 C Orion)	4	$3.75	6334.80*	$28,506,606.35
Aircraft (Fairchild SW3 Merlin)[10]	1	$3.75	1900.44**	$1,495,462.50
Aircraft (Casa CN 235 Vigma)[11]	1	$3.75	3357.44*	$3,777,120.00
Helicopter (SA341 Gazelle)	5	$3.75	189.54***	$1,066,150.89
			TOTAL	$34,845,339.73

*5 hours/day, 300 days/year
**3.5hours/day,300 days/year[12]
***4 hours/day, 300 days/year

Total Operating Cost of Independent Operator Surface Vessels 2013

Vessel Type	Average Number Deployed	Sailors Aboard	Frigate Monthly Cost	Annual Operating Cost
Frigate	2	230	1.0000	$12,512,000.00
Destroyer	5	280	1.217391304	$38,080,000.00
Amphibious	0	350	1.52173913	$0.00
Auxiliary	2.5	121	0.5261	$8,228,000.00
			TOTAL	$58,820,000.00

Vessel Assumptions: Costs were calculated using the same assumptions as for Coalition surface vessels

Total Operating Cost of Coalition Surface Vessels 2013

Vessel Type	Average Number Deployed	Sailors Aboard	Frigate Monthly Cost	Annual Operating Cost
Frigate	6.375	230	1.0000	$119,646,000.00
Destroyer	0.875	280	1.217391304	$19,992,000.00
Amphibious	0.5	350	1.52173913	$14,280,000.00
Auxiliary	1.5	121	0.5261	$14,810,400.00
			TOTAL	$168,728,400.00

Vessel Assumptions: Frigate: Oliver Hazard Perry Class (U.S.); Destroyer: Arleigh Burke Class; Amphibious: Galicia Class Amphibious Ship; Support and Patrol: Sukanya-class patrol vessel

9 Average JP5 fuel cost for 2013: $3.75/gallon: http://www.energy.dla.mil/DLA_finance_energy/Documents/FY%202013%20Standard%20Prices%20(Effective%20Oct%201,%202012).pdf

10 Fairchild SW3 Merlin calculated as 0.3 times the size of P-3C Orion

11 Casa CN Vigma calculated as 0.53 times the size of P-3C Orion.

12 "Luxembourg anti-piracy aircraft fly thousandth mission," DefenceWeb (February 18, 2014) available at: http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=33655:luxembourg-anti-piracy-aircraft-fly-thousandth-mission&catid=35:Aerospace

Total Operating Cost of all Surface Vessels[13]

Vessel Type	Independent Deployer Total	Coalition Total	Total Annual Operating Cost
Frigate	$12,512,000.00	$119,646,000.00	$132,158,000.00
Destroyer	$38,080,000.00	$19,992,000.00	$58,072,000.00
Amphibious Landing Vessel	$0.00	$14,280,000.00	$14,280,000.00
Support and Patrol	$8,228,000.00	$14,810,400.00	$23,038,400.00
TOTAL	$58,820,000.00	$168,728,400	$227,548,400.00

Total Operating Cost of Aircraft 2013

Vessel Type	Average Number Deployed	Sailors Aboard	Frigate Monthly Cost	Cost Adjustment	Annual Operating Cost
Aircraft (P-3C Orion)	4	11	$1,564,000.00	0.047826087	$3,590,400.00
Aircraft (Fairchild SW3 Merlin)	1	2	$1,564,000.00	0.008695652	$163,200.00
Aircraft (Casa CN 235 Vigma)	1	2	$1,564,000.00	0.008695652	$163,200.00
Helicopter (SA341 Gazelle)	5	2	$1,564,000.00	0.008695652	$816,000.00
				TOTAL	$4,732,800.00

Methods for Calculating Costs: SHADE Meetings

Detailed information about attendance at the 27th–30th SHADE meetings was not publicly available in 2013. However, a report posted on the Combined Maritime Forces website in March indicated that the 27th SHADE conference in March included representatives from 31 states, up from 27 in 2012. Accordingly, we took the 2012 average number of attendees (133) and increased it by 31/27. This led to an average per-meeting estimate of attendees of 153 per meeting.

To estimate costs, we used the average geographic distribution of international attendees from meetings in 2012: 47% European, 22% North American, 12% Asian, and 19% African, with an assumption that 75% of attendees were international.

Flight costs were estimated from a *kayak.com* search for flights from a representative airport from each region to Bahrain, conducted April 2014 for June 6–8 2014. Cheapest airfare was used, although many attendees choose to fly business class.

Per-Meeting Costs:

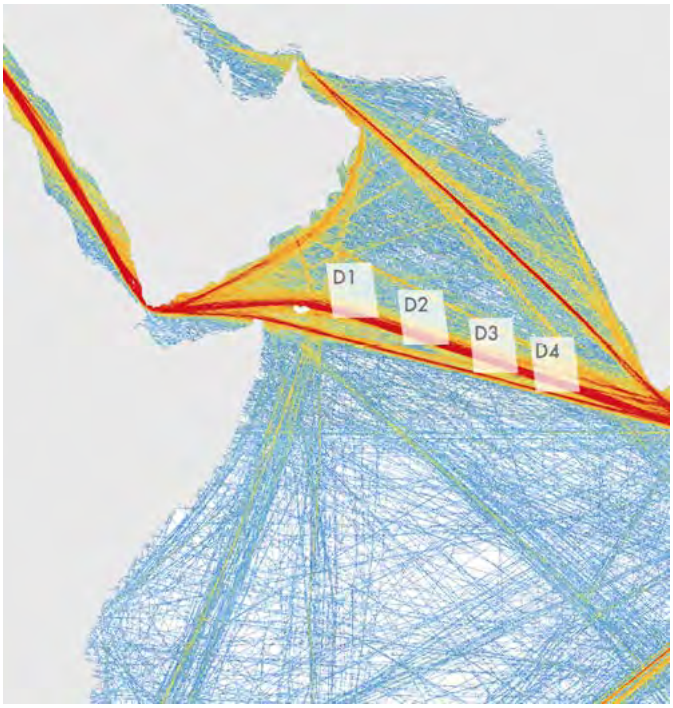
International attendees=75%*153=115

	N of attendees	Flight cost
Europe	54	$793
N. America	25	$1238
Asia	14	$415
Africa	22	$633
Accommodations per day		$272
TOTAL		$124,788

13 Independent operators were weighted by 1/3 of coalition costs to account for their lower operating cost. This assessment was based on information from the cost of search for Malaysian Airlines flight 370. See http://www.reuters.com/article/2014/04/08/us-malaysia-airlines-costs-idUSBREA3709520140408.

Appendix E: Method for Calculating Rerouting

We replicated the method used for calculating rerouting used in the 2012 Economic Cost of Piracy report. To identify baseline distribution of vessels, we used data on commercial shipping traffic from 2004–05 published in Halpern et al., "A Global Map of Human Impact on Marine Ecosystems," *Science,* Volume 319 (February 15, 2008) pp 948–952, and available at http://www.nceas.ucsb.edu/globalmarine/impacts. We defined four boxes along the direct route used by vessels transiting the Indian Ocean between the Gulf of Aden and the Strait of Malacca. To create percentage-based distribution of vessel tracks from the data of Halpern et al., we estimated the percentage of tracks in these four boxes as a percentage of total vessel tracks: (see figure below). To identify the geographical distribution of vessels in 2012 and 2013, we used the latitude and longitude of vessels as reported in AIS data. We aggregated vessels by MMSI and coded vessels as being in the four boxes if they reported having been in that box at any point during the four-day sample window. For rerouting comparison, we outlined six boxes along the Indian Ocean coast using the same method and analyzed data to assess the distribution of vessels on the Indian coast.



Graphic taken from http://globalmarine.nceas.ucsb.edu

Definition of Zones (Latitude-Longitude)

DIRECT ROUTE

	NW corner	NE corner	SE corner	SW corner
D1	15–56	15–59	12–59	12–56
D2	13.5–60.5	13.5–63.5	10.5–63.5	10.5–60.5
D3	12–65	12–68	9–68	9–65
D4	11–69	11–72	8–72	8–69

INDIAN COAST ROUTE

	NW corner	NE corner	SE corner	SW corner
I1	13–72.5	13–75.5	10–75.5	10–72.5
I2	16.5–71	16.5–74	13.5–74	13.5–71
I3	20–70	20–73	17–73	17–70
I4	21.5–66.5	21.5–69.5	18.5–69.5	18.5–66.5
I5	25–63.5	25–66.5	22–66.5	22–63.5
I6	25–60	25–63	22–63	22–60

Percentage Per-Zone, 2004-05

Zone	Baseline	2012	2013
D1	1.67%	1.46%	3.18%
D2	1.78%	1.19%	2.79%
D3	3.42%	1.05%	2.60%
D4	2.62%	1.08%	3.48%
I1	1.93%	1.71%	0.61%
I2	1.16%	1.41%	0.44%
I3	0.62%	1.01%	0.38%
I4	0.71%	0.59%	0.20%
I5	0.47%	0.36%	0.14%
I6	1.03%	0.42%	0.14%

Appendix F: Methodology for Calculating Increased Fuel Cost

We replicated the method used for calculating increased fuel cost used in the 2012 Economic Cost of Piracy report, using a cost curve to estimate fuel use for tankers and cargo vessels for both ideal and actual fuel use. Unlike the 2012 Economic Cost of Piracy report, we treated all cargo vessels in the HRA as higher-speed container vessels and did not estimate a cost for dry bulkers. This decision was made due to the fact that this year's AIS data did not include sufficient information to allow for disaggregation of the cargo vessels into container and bulker vessels, and because the bulkers' optimal speed is significantly less than that of container vessels. Treating cargo vessels as bulkers was therefore likely to result in an over-estimation of costs associated with fuel use, due to the presence of container vessels in the sample.

To execute these analyses, we performed the following calculations:

1. We calculated fuel use curves for vessels of different sizes, using data on the actual fuel use of tankers and container vessels provided by BIMCO. Fuel use curves were estimated as a third-order polynomial curve using the statistical program R.

    a. Fit indices for these estimates are extremely high: for each of the 10 categories of vessels estimated, adjusted R^2 is greater than .98, and $p<.05$

    b. These analyses produced the following fuel use curves:

Tankers

DWT	Hourly fuel use (tons/hr)
<50000	-2.5298571+(SPEED*0.8149405)-(SPEED^2*0.0830357)+(SPEED^3*0.0032292)
60,000	-2.8531429+(SPEED*0.8938095)-(SPEED^2*0.0882143)+(SPEED^3*0.0033333)
80,000	-2.711+(SPEED*0.8445833)-(SPEED^2*0.0825)+(SPEED^3*0.0032292)
160,000	-3.613+(SPEED*1.10125)-(SPEED^2*0.105)+(SPEED^3*0.0040625)
>160,000	-2.8307143+(SPEED*0.8619643)-(SPEED^2*0.0798214)+(SPEED^3*0.0034375)

Container vessels

TEU	Hourly fuel use (tons/hr)
<5,000	6.552702-(SPEED*1.414554)+(SPEED^2*0.093468)-(SPEED^3*0.001442)
8,000	8.7679001-(SPEED*1.8889985)+(SPEED^2*0.1243076)-(SPEED^3*0.0019169)
10,000	9.5938987-(SPEED*2.0680723)+(SPEED^2*0.1362459)-(SPEED^3*0.0021048)
13,000	10.6904889-(SPEED*2.3071292)+(SPEED^2*0.1522018)-(SPEED^3*0.0023576)
>15,000	11.3462750-(SPEED*2.4488369)+(SPEED^2*0.1616760)-(SPEED^3*0.0025085)

2. Because AIS can be entered manually, some errors in the data are likely. We cleaned the data set by dropping all self-reported speeds over 50 knots, a speed at which international cargo, container, and passenger ships over 120m are unlikely to travel.

3. Fuel use data provided by BIMCO used 8 knots as the lower-bound number for fuel use, so fuel use calculations are accurate at 8 knots and higher. To address this, we dropped all data points with self-reported speeds of 8kts or lower.

4. Using weight, we sorted all vessels into the categories used in the fuel cost curves. To translate weight to TEUs to categorize cargo vessels, we estimated TEU using the formula TEU=weight/13.4, the fleet-average ratio of weight:TEUs provided by BIMCO.

5. We calculated ideal fuel use rates for each data point in the AIS data using the ideal speed of 12.1 for tankers and 15.8 for cargo vessels. We then calculated actual fuel use rates using self-reported speed.

6. We aggregated data points by vessel to create an actual fuel use rate for each vessel, averaged over the sixteen days of the sample.

7. Because we are interested only in increased fuel usage, we dropped all vessels whose average actual fuel rate was less than or equal to the ideal fuel rate and then calculated an average per-day increased cost for tankers and cargo vessels using the remaining data.

8. We annualized this using our estimates for annual trips for tankers and cargo vessels reported in Appendix B.

Appendix G: Methods for Calculating Costs of Counter-Piracy Organizations

The Djibouti Code of Conduct

Subtraction of available data: based on the tables used in ECoP 2011 and 2012, subtracted from the table published in the PIU Brochure (September 2012–March 2013). For the complete PIU Brochure please visit: http://www.imo.org/OurWork/Security/PIU/Documents/PIU_Brochure_3rd_edition.pdf

PIU Brochure 3rd Edition

Country	Contribution
Japan	$14.6 Million
Netherlands	$72,300
Norway	$40,600
Republic of Korea	$192,911
France	$49,900
The Marshall Islands	$100,000
Saudi Arabia	$100,000
Kingdom of Denmark	$560,000
ASRY	$50,000

ECOP 2011 & 2012 Contributions

Country	Contribution
Japan	$14.6 Million
Netherlands	$72,300
Norway	$40,600
Republic of Korea	$150,000
France	$49,900
The Marshall Islands	$100,000
Saudi Arabia	$100,000
ASRY	$50,000

2013 Contributions

Country	Contribution
Kingdom of Denmark	$560,000
Republic of Korea	$42,911
Total	$602,911

The EU MASE Programme

2 million euros, converted to dollars on March 25, 2013=$2,755,400.

The Startup MASE Project had an 18-month implementation process. For consistency, if we figure that costs were spent evenly throughout the 18-month duration, each month amounted to $153,077.78. If we consider that the Startup project ran for 6 months during 2013, we see that $918,467 was spent during 2013 on the Startup MASE Project.

The MASE Programme, which began implementation after the signature of a Financing Agreement on June 13, 2013 in Djibouti, has an implementation budget of 37.5 million euros for 60 months. The budget and implementation process can be found here: http://eeas.europa.eu/delegations/mauritius/documents/press_corner/newsletter_issue_59_august_2013.pdf

Again, for consistency, we assume that this budget has and will be spent evenly over the 60 months of implementation. If we convert 37.5 million euros to dollars, we see a total of $51,663,750 and if we divide this number by 60 months, we find that each month $861,062.50 was and presumably will be spent. Multiply this figure by the six months of implementation in 2013 and we find that $5,166,375 was theoretically spent on the MASE Programme in 2013.

The MASE Budget, 2013

The MASE Start up Project	$918,467
The MASE Programme	$5,166,375
Total	$6,084,842

CGPCS Meetings

CGPCS Meeting	WG 1		CBCG				WG 2	WG 3				WG 4	WG 5	14th Plenary	15th Plenary
Date	20-Mar	27-Jun	March	May	June	10-Sep	10-Apr	15-Jan	5-Feb	May	9-Sep	18-Mar	12-Apr	1-May	10-Nov
Location	Addis Ababa	Nairobi	Addis Ababa	Sey-chelles	Nairobi	Dubai	Copenha-gen	London	Seoul	New York	London	Addis Ababa	Copenha-gen	New York	Djibouti
Duration (Days)	2	1	1	2	1	1	2	1	2	1	1	2	1	2	5
Attendees	82	77	20	20	20	20	130	150	100	11	150	50	50	116	207
Local	16	21		16			15	142	5	n/a	142	3	n/a	53	26
Europe	56	47		4			52	3	58	n/a	3	29	n/a	31	80
N. America	5	4		0			16	2	27	n/a	2	10	n/a	9	20
Asia	3	3		0			14	2	5	n/a	2	6	n/a	21	45
Africa	2	2		0			33	1	5	n/a	1	2	n/a	2	36
Europe travel per person	$658	$795	n/a	$1,238		n/a	$113	$101	$799	n/a	$101	$658	n/a	$600	$1,076
N. America Travel Per Person	$1,253	$935	n/a	$1,809		n/a	$815	$839	$1,227	n/a	$839	$1,253	n/a	$263	$1,622
Asia Travel Per Person	$618	$757	n/a	$716		n/a	$672	$618	$633	n/a	$618	$618	n/a	$761	$943
Africa Travel Per Person	$242	$172	n/a	$1,334			$1,106		$1,299	n/a	$866	$242	n/a	$1,005	$450
Accommoda-tion Per Day	$315	$290	$315	$320	$290	n/a	$269	$319	$230	$260	$319	$315	$269	$241	$269
Estimated Days of Accommoda-tion	1.5	1.5	0.5	2	0.5	0	2	1	2		1	2	1[18]	1.5	5
Flight costs	$45,451	$43,720	n/a[14]	$4,952	n/a[15]	n/a	$64,822	$4,083	$89,131	n/a	$4,083	n/a[17]	n/a	$38,958	$177,155
Accommoda-tion Costs	$31,185	$24,360	$6,300	$2,560	$5,800	$0	$61,870	$2,552	$43,700	$2,860	$2,552	$29,610	$10,760	$22,775	$243,445
Total	$76,636	$68,080	$6,300	$7,512	$5,800[16]	$0	$126,692	$6,635	$132,831	$2,860	$6,635	$29,610	$10,760	$61,733	$420,600

14 Flight costs calculated during the WG1 Addis Ababa meeting

15 Flight costs calculated during the WG1 Nairobi meeting

16 Costs incurred during the UAE Counter Piracy Conference

17 Flight costs calculated during the WG 1 Addis Ababa meeting

18 OBP estimates that 40/50 of the attendees stayed overnight on April 12, 2013

Appendix H: Method for Calculating Costs of Captivity Pay, West Africa

The cost of captivity pay was based on the following calculations: [19]

Cost of Captivity Pay

Merchant Vessel	Number of Hostages	Days in 2013	Months in 2013	Monthly Labor Rate	Subtotal
1. SP Brussels	5	26	.87	$20,000.00	$17,400.00
2. MV Asso Ventuno	4	9	.3	$16,000.00	$4,800.00
3. Itri	16	6	.2	$64,000.00	$12,800.00
4. MT Gascogne	17	2	.07	$68,000.00	$4,760.00
5. Armada Tugas 1	15	4	.13	$60,000.00	$7,800.00
6. MV Esther C	12	32	1.1	$48,000.00	$52,800.00
7. Walvis 7	2	17	.57	$8,000.00	$4,560.00
8. Armada Tuah 101	6	8	.27	$24,000.00	$6,480.00
9. Armada Tuah 22	3	32	1.07	$12,000.00	$12,840.00
10. Hansa Marburg	4	31	1.03	$16,000.00	$16,480.00
11. Utai 8	3	2	.07	$12,000.00	$840.00
12. City of Xiamen	5	19	.63	$20,000.00	$12,600.00
13. Saint Patrick	1	4	.13	$4,000.00	$520.00
14. Lady Swathin	25	4	.13	$100,000.00	$13,000.00
15. Matrix I	5	14	.47	$20,000.00	$9,400.00
16. Adour	12	4	.13	$48,000.00	$6,240.00
17. MDPL Continental One	4	10	.33	$16,000.00	$5,280.00
18. Cotton	24	7	.23	$96,000.00	$22,080.00
19. Ocean Centurion	23	2	.07	$92,000.00	$6,440.00
20. SP Atlanta	14	1	.03	$56,000.00	$1,680.00
21. Crow	9	4	.13	$36,000.00	$4,680.00
22. Norte	15	2	.07	$60,000.00	$4,200.00
24. MV David/SPFB	1	23	.77	$4,000.00	$3,080.00
25. MV Marvis Beke	1	23	.77	$4,000.00	$3,080.00
26. Matrix	10	33	1.1	$40,000.00	$44,000.00
28. Name not available	2	16	.53	$8,000.00	$4,240.00
29. C-Retriever	2	18	.6	$8,000.00	$4,800.00
31. Althea	2	15	.5	$8,000.00	$4,000.00

19 While the *Althea* was released in January 2014, the costs considered here are for 2013 only.

Appendix I: Tankers Identified as Attacked in OBP data Set, West Africa

Ship Name	Date	Attack summary	Source	Attack assessment
ITRI	16-Jan-13	"Gunmen...have released the vessel after stealing about $5 million of the ship's cargo."	http://www.oceanuslive.org/main/viewnews.aspx?uid=00000606	Oil siphoning
MT Gascogne	3-Feb-13	"Pirates...siphoned off around 200 tonnes of its cargo of diesel fuel"	http://gcaptain.com/pirates-release-gascogne-ivory/	Oil siphoning
MT Leo	22-Feb-13	Ship was boarded by gunmen and both men were taken away in a boat which later sank.	http://gcaptain.com/kidnapped-engineer-missing-nigeria/	K&R
Tanker Barge-Lady Swathin	14-May-13	"The self-propelled tanker barge was reported as hijacked by nine armed pirates in a white-hulled speedboat"	http://www.oni.navy.mil/Intelligence_Community/piracy/pdf/20130522_WTS.pdf	unknown
Matrix I	24-May-13	"Around seven to eight pirates armed with guns, in a boat, fired at and boarded the tanker underway. They stole ship's and crew's belongings, kidnapped five crew members and escaped."	http://www.oni.navy.mil/Intelligence_Community/piracy/pdf/20130619_WTS.pdf	K&R, unknown
Adour	13-Jun-13	The motive of this hijacking was oil siphoning, but when the pirates discovered the ship was in ballast they kidnapped two crew members instead.	2013 IMB Report, http://gcaptain.com/nigerian-pirates-release-hostage/?utm_source=feedburner&utm_medium=twitter&utm_campaign=Feed%3A+Gcaptain+%28gCaptain.com%29	K&R
Cotton	15-Jul-13	"Vessel was carrying about 10,000 tons of its fuel oil...when it was attacked"	http://www.bloomberg.com/news/2013-11-21/pirates-looting-cargoes-with-ak-47s-threaten-african-oil-energy.html	Possible oil siphoning
Ocean Centurion	16-Jul-13	"Gunmen in speedboats boarded vessel, looted ship and crew's money and belongings."	http://gcaptain.com/ocean-centurion-robbed-togo-crew/	Unknown, likely robbery
SP Atlanta	12-Aug-13	"Managers lost contact w/ vessel on 8/11 but resumed communication 8/13. Two security sources said gunmen boarded vessel while anchored."	http://uk.reuters.com/article/2013/08/14/nigeria-piracy-idUKL6N0GF29M20130814	Possible oil siphoning
Crow	14-Aug-13	"Pirates hijacked oil barge laden with over 200 metric tonnes of diesel. 9 crewmen taken hostage"	http://www.informationng.com/2013/08/118756.html	Possible oil siphoning
Norte	15-Aug-13	"Nigerian Navy gunships caught up with vessel on August 17, after it was hijacked but while negotiating for ship's release pirates tried to escape on a speed boat. 12 pirates were killed in ensuing gun battle. 4 pirates captured alive. MT Notre carried 17,000 mT of gasoline at the time when pirates took control of the MT."	http://www.reuters.com/article/2013/08/19/us-nigeria-piracy-idUSBRE97I0PY20130819	Oil siphoning thwarted by navy
Bremen Trader	11/19/2013	"5 robbers with knives boarded vessel, attacked and held the deck watchman and stole ship property. Incident reported to port authority who sent an investigation team."	2013 IMB REPORT	Unknown, likely robbery
No info	16-Dec-13	"Heavily armed pirates boarded a chemical tanker and stole crew['s] personal belongings and escaped. Further report awaited" 2 kidnapped according to IMB	2013 IMB REPORT	K & R
Total: 13 Tankers				

Appendix J: Vessels and Sources for Kidnapping Counts, West Africa

Vessel name	Date of attack	Number kidnapped	Sources
Armada Tuah 101	17-Feb-13	6 crew kidnapped	OceanusLive February 23, 2013; http://www.vanguardngr.com/2013/02/breaking-news-gunmen-kidnap-six-foreigners-demand-1-3m-ransom/;
xCity of Xiamen	25-Apr-13	5 kidnapped	PiracyDaily April 30, 2013; http://gcaptain.com/pirates-storm-city-xiamen/; OceanusLive May 4, 2013; 2013 IMB Report
Matrix I	24-May-13	5 Pakistani crew kidnapped	http://tribune.com.pk/story/555501/pirates-kidnap-pakistani-nigerian-oil-tanker-crew-near-nigeria/; http://www.reuters.com/article/2013/06/06/us-nigeria-piracy-idUSBRE9550JG20130606 OceanusLive June 1, 2013 http://www.oceanuslive.org/main/viewnews.aspx?uid=00000719; 2013 IMB Report
Hansa Marburg	22-Apr-13	4 crew kidnapped	http://www.lloydslist.com/ll/sector/ship-operations/article423374.ece; http://www.imo.org/OurWork/Security/PiracyArmedRobbery/Reports/Documents/197-Apr2013.pdf; http://www.oceanuslive.org/main/viewnews.aspx?uid=00000716
MDPL Continental One	13-Jun-13	Captain, C/O, bosun, and engineer kidnapped	http://www.news.odin.tc/index.php?page=view/article/559/PSV-MDPL-Continental-One-kidnapped-crew-freed ; 2013 IMB Report; http://www.lss-sapu.com/index.php/piracynews/view/1355
Matrix	9-Oct-13	4 Senior officers abducted	http://www.mphrp.org/news_details/index.php?NewsID=171 via OCEANUSLive 30-Nov-13; GoG WG GoG Maritime Review December 2013
MV Esther C	7-Feb-13	3 kidnapped	http://www.vanguardngr.com/2013/02/pirates-attack-cargo-ship-kidnap-sailors-off-nigeria/; OceanusLive March 16, 2013 http://www.oceanuslive.org/main/viewnews.aspx?uid=00000661
Armada Tuah 22	4-Mar-13	Captain, chief engineer, and second engineer kidnapped	OceanusLive March 9, 2013; http://uk.reuters.com/article/2013/03/07/nigeria-piracy-idUKL6N0BZ2WV20130307; 2013 Annual IMB Piracy Report
No	7-Jul-13	3 kidnapped	OceanusLive July 13, 2013
MADAM TINUBU	22-Aug-13	3 kidnapped	GoG WG GoG Maritime Review September 26, 2013
FT Wilbert Troy	12/18/2013	3 kidnapped	Niger Delta Security Review-January

Star Shrimper	15-Jan-13	2 kidnapped	OCEANUSLive Newsletter- 19-Jan-13; http://www.jltgroup.com/content/UK/risk_and_insurance/ms_risk_weekly/Report_on_Somalia_(February_18_-_24).pdf
Atlantic Shrimper	16-Jan-13	2 kidnapped	GoG WG piracy tracker 2013
Lamu 1	9-Feb-13	2 individuals kidnapped	GoG WG piracy tracker 2013
Walvis-7	10-Feb-13	2 crew kidnapped	OceanusLive February 16, 2013 ; 2013 IMB Report
Leo	22-Feb-13	2 kidnapped	OceanusLive March 30, 2013; http://gcaptain.com/kidnapped-engineer-missing-nigeria/ ; http://www.thenews.com.pk/Todays-News-4-204875-Six-months-on-waiting-for-a-man-lost-at-sea
Adour	13-Jun-13	2 crew kidnapped	OceanusLive June 22, 2013; 2013 Annual IMB Piracy Report
No	5-Jul-13	2 crew kidnapped	http://www.neptunemaritimesecurity.com/nigeria-unconfirmed-hijacking-report/
Barnaly 5	16-Oct-13	2 kidnapped	GoG WG piracy tracker 2013
Oloko 4	16-Oct-13	2 kidnapped	GoG WG piracy tracker 2013
Koulac 9	16-Oct-13	2 kidnapped	GoG WG piracy tracker 2013
Schrimper 36	17-Oct-13	2 crew kidnapped	OceanusLive October 26, 2013 ; GoG WG GoG Maritime Review December 2013
No	22-Oct-13	2 kidnapped	GoG WG GoG Maritime Review, December 2013; GoG WG piracy tracker 2013
C-Retriever	23-Oct-13	Captain and C/O (U.S.) kidnapped but unharmed	OceanusLive October 26, 2013; http://www.reuters.com/article/2013/10/24/us-nigeria-piracy-idUSBRE99N0GT20131024 http://gcaptain.com/nigerian-offshore-security-personnel/; http://www.suritec.co.za/Suritec_Piracy_Report_Nov_2013.pdf ; GoG WG piracy tracker 2013
MT Althea	16-Dec-13	Captain and engineer kidnapped	http://www.vesselfinder.com/news/1715-Althea-oil-tanker-crew-members-kidnapped-by-pirates
Saint Patrick	14-May-13	Captain kidnapped	ONI May 30; IMB 2013 report; http://www.express.co.uk/news/uk/451029/Pirates-threatened-to-burn-Scots-skipper-to-death; OSAC Map 2013; GoG WG piracy tracker 2013
Universal 4	24-Oct-13	Captain kidnapped	GoG WG GoG Maritime Review, December 2013