The Strait of Hormuz as a Global and U.S. Security Concern:

A Transportation and Maritime Security Case Illustration[1]

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[1] The image above was retrieved from Militarytimes.com using the search terms "shipping vessel Strait of Hormuz."

ABSTRACT

The Strait of Hormuz is considered one of the world's strategic passages for oil and its byproducts, but it is also considered a chokepoint that, if disrupted, would negatively affect the U.S. and global economy. Because of the reliance on oil, fuel, and byproducts for transportation, healthcare, energy, and even supporting military equipment and operations, conflict in the region would pose a homeland and security threat to the U.S. and many other countries throughout the world. The domestic, political, industrial, military, and maritime security issues inherent in the shipping industry originating within the Middle East are explained as is the context within which the Strait of Hormuz fits in the U.S. maritime security effort. The effect of an attack to the maritime domain is also explored in this paper[2].

Key words: Strait of Hormuz, maritime security, chokepoint, Middle East

[2] "The Maritime Domain is all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, vessels, and other conveyances" (*National Maritime Domain Awareness Plan*, 2013, p. 4). Maritime intelligence integration serves as a foundational and necessary priority for the effective understanding of the maritime domain. These concepts are derived from Presidential Policy Directive 18 (PPD-18; August 14, 2012) and the *National Strategy for Maritime Security*. The significance of PPD-18 is contextualized in the following notation, "the Maritime Domain covers 70 percent of the world's surface, while 90 percent of the world's commerce moves by sea, making maritime security essential to the global supply chain and international trade," retrieved from http://www.whitehouse.gov/sites/default/files/docs/national_maritime_domain_awareness_plan.pdf, and http://www.whitehouse.gov/the-press-office/2013/12/30/statement-nsc-spokesperson-caitlin-hayden-national-maritime-domain-aware.

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Image retrieved from http://www.dataxinfo.com

The United States and other extra-regional powers have enormous geo-economic and geo-strategic stakes in the region [of the Strait of Hormuz]. Amidst the swirling complexities and volatile regional security, lies buried an enormous Biblical eschatological oracle that would unfold cascading the region and the world into a global turbulence unprecedented in all proportions (Williams, 2010, retrieved from www.freerepublic.com).

Introduction

The Strait of Hormuz is vital to the economy, commerce, and prosperity of the U.S., her Allies, and many countries throughout the world[3]. According to *Maritime Security*, "The United States and its allies depend on the sea for economic success and regional security. This dependence is longstanding, undiminished by advances in air and ground travel of the past century" (Lexington Institute, 2008, p. 1). At the same time, "the U.S. is a maritime nation, and the interconnectivity and stability of the national economy, commerce, and security is tied to the global maritime nature of international commerce. The maritime domain plays a critical role in the free flow of goods and services, as recognized in the *National Strategy for Global Supply Chain Security"* (*National Strategy for Maritime Security*, 2013, p. 10). Within the global environment, oil is the fuel and energy source most consumed by the U.S. and it is growing among some of the largest and most populous countries in the world, such as China, India, and many countries in Asia (Behrens, 2013). Concurrently, much of the world's supply of petroleum originates in the Middle East, and much of it travels through the Strait of Hormuz.

[3] "The Strait of Hormuz is the narrow waterway that forms the entrance to the Persian Gulf from the Gulf of Oman and ultimately the Arabian Sea. At its narrowest point it is 22 nautical miles wide and falls within Iranian and Omani territorial waters. There are two shipping lanes through the Strait, one in each direction. Each is two miles wide and they are separated by a two-mile buffer" (Katzman et al, 2013, p. 5).

"Approximately 20 percent of the world's oil supply flows through the Strait of Hormuz to Japan, Europe, the United States, and other Asian countries" (Global Equity Research, 2008, p. 8). This strait is the sole sea passage for several Persian Gulf States that export petroleum to the open seas and there are no alternative maritime routes to the Strait of Hormuz for oil exports from the Persian Gulf (Emmerson & Stevens, 2012, p. 4). This is of such global significance that the U.S. has spent over $8.0 trillion and maintains a strong military presence in the Strait to ensure commerce is unimpeded.

As a means of providing context, U.S. reliance on oil imports is primarily from Saudi Arabia, about 1.8 million gallons per day, while the bulk of U.S. imports, which are about 9 million barrels of oil per day, originate from countries such as Canada, Mexico, Brazil, Africa, and Europe. Also, with a stockpile of more than 700 million barrels of oil in the Strategic Petroleum Reserve, "the U.S. could draw down from it over 466 days at a rate of 1.5 million barrels of oil per day (retrieved from http://www.csmonitor.com/USA/2012/0103/Oil-prices-What-happens-if-Iran-shuts-down-the-Strait-of-Hormuz). However, the U.S. consumes over 88.18 quadrillion BTUs, and despite the fact that the U.S. exports over 10.7 BTUs of energy, the U.S. relies upon over 22.79 BTUs of energy from imports[4] (U.S. Energy Information Administration, 2014, p. 13, retrieved from http://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf).

Because oil is vital to the world economy and the world consumption is rising significantly, any disruption to the Strait of Hormuz will have a deleterious effect on the world economy. "This region has always been a hyper-flashpoint of global conflict due to the dual strategic persistence of Arab-Israel conflict and the geo-strategic and geo-economic rivalries over oil and its supplies. [The conflict] has resulted in the near permanent forward basing of U.S. and allied naval and air forces in the region, with dedicated theater commands along with naval air assets" (Katzman, Nerurkar, O'Rourke, Mason, & Ratner, 2012). [The] increased concern over nuclear and missile proliferation that is part of a domino effect [could] potentially destabilize the region (retrieved from https://www.fas.org/sgp/crsmideast/R42335.pdf; also from www.freerepublic.com).

Why the Strait of Hormuz?

"A regional conflict in the Middle East, beginning with a military exchange [or a terrorist act] could be the kiss of death for the global economy" (www.globaleconomiccrisis.com). Hypothetically, if Iranian missiles breached the Strait of Hormuz, "oil prices would soar beyond their historic highs, sending the current false economic recovery into an authentic global

[4] The energy sources are fossil fuels, nuclear electric energy, and renewable energy. The figures are published by the U.S. Energy Information Administration, and represent data through November 2013, retrieved from http://www.eia.gov/totalenergy/data/monthly/ pdf/mer.pdf.

depression." Further, the [Strait of Hormuz] is within the geo-strategic and geo-economic rivalries over oil and its supplies across the critical sea gate" (www.freepublic.com).

The Strait of Hormuz lies between Iran on the north and Oman on the south entrance to the Persian Gulf, at between 56° and 57° E and 26° and 27° N (http://www.perspectivebd.com/hormuz-straitthe-oil-lifeline-of-the-world/). At its widest, it is estimated to be about 52 kilometers wide. It is a formidable twisting, chokepoint serving as an entrance to vessels that pass between the Persian Gulf and the Gulf of Oman. The Strait is part of the larger Arabian Sea and Indian Ocean. It is close to Iran, Iraq, Turkey, Syria, and Palestine to the west, and Oman, Afghanistan, India and other countries to the east. The Strait of Hormuz has been known since ancient times when the Assyrian king Sennscherib, attempted but failed to suppress piracy in 694 B. C., of valuable cargo passing through this choke point between the Middle East and India[5] (Bragdon, 2008, p. 150). Because of the Middle East tension, and the significance of the transportation of petroleum and other products, this region is considered "a major political commodity in the region (http://www.perspectivebd.com/hormuz-straitthe-oil-lifeline-of-the-world/). It is congested with battleships, including U.S. Navy ships, as well as trade vessels. The region is constantly embroiled in a state of security and military tension. Nonetheless, some firm foundation and effort at recognizing international law exists in the concept of *mare liberum*, which is generally known as the free movement of naval and commercial vessels in areas about 12 miles from a nation's coast.[6]

The Criticality of the Strait of Hormuz

The following facts represent the importance and criticality of the Strait of Hormuz as it relates to worldwide significance:

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[5] The concept of a choke point derives from the military context, relating to terrain. It implies a narrow passageway that cannot easily be bypassed and that offers a ready opportunity to prevent the movement of military forces. Chokepoints are narrow channels along widely used global sea routes, some so narrow that restrictions are placed on the size of the vessel that can navigate through them. They are a critical part of global energy security due to the high volume of oil traded through their narrow straits. In 2011, total world oil production amounted to approximately 87 million barrels per day and over one-half was moved by tankers on fixed maritime routes. By volume of oil transit, the Strait of Hormuz, leading out of the Persian Gulf, and the Strait of Malacca, linking the Indian and Pacific Oceans, are two of the world's most strategic chokepoints (retrieved from http://www.eia.gov/countries/analysisbriefs/World_Oil_Transit_Chokepoints/wotc.pdf.)

[6] Without international agreement on the legal status of geographic straits traditionally used for navigational purposes, the principle of *mare liberum* and the practice of free navigation of commercial and naval vessels could progressively be curtailed. In this context, coastal states and maritime states in effect struck a bargain, enshrined in the U.N. Convention on the Law of the Sea (UNCLOS), signed in 1982 and coming into force in 1994. Most, but not all, of the coastal states of key maritime choke points discussed above have ratified this convention. To the extent that UNCLOS codifies customary international law of the sea, however, its provisions still apply. The UNCLOS bargain accepted twelve nautical miles as the maximum extent of a state's territorial sea but, in order to ensure freedom of navigation through key international straits, UNCLOS established a regime of 'transit passage' applicable to 'straits used for international navigation,' (retrieved from http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0112_emmerson_stevens.pdf).

Geography and oil:

- The width of the Strait varies between 2 miles and 34 miles.
- Oil movements through the Strait account for 40 percent of all seaborne oil traded in the world.
- 90 percent of oil exported from the Gulf it produces is carried on oil tankers through the Strait.
- The bulk of the oil exported through the Strait travels to Asia, the U.S., and Western Europe. About 75 percent of all Japan's oil needs pass through this Strait.
- In 2008, it was estimated that more than 15 million barrels per day (bpd) of crude passed through the Strait; in 2011, the estimate is as many as 17.5 bpd.
- An additional 2 million barrels of oil products per day, including fuel oil, and liquefied natural gas pass through the Strait (U.S. Energy Information Administration, 2010).
- The Strait of Hormuz is the busiest passageway for oil tankers in the world, with over 17 million barrels (or 20 percent of the total world supply) moving through the narrow stretch of water each day. Disruption to this flow could severely damage global oil markets and so protecting the straits is an important job; and one of the most critical that the U.S. Navy carries out as its Freedom of Navigation missions[7] (retrieved from http://oilprice.com/Latest-Energy-News/World-News/The-U.S.-has-Spent-8-Trillion-Protecting-the-Straits-of-Hormuz.html).
- In 2011, about 17 million barrels of oil per day, or about 35 percent of the world's seaborne traded oil, moved through the Strait of Hormuz (U.S. Energy Information Administration Estimates, 2012). Much of this oil flows to Asia – Japan, China, India, and other emerging economies. But some of the oil flows to Europe, and a relatively small amount – some 1.1 million barrels per day – goes to the United States (retrieved from http://www.csmonitor.com/USA/2012/0103/Oil-prices-What-happens-if-Iran-shuts-down-the-Strait-of-Hormuz).

Liquefied natural gas

- Exports from the world's largest producer of liquefied natural gas, Qatar, pass through the Strait en route to Asia and Europe, totaling 31 million tons per year.
- The Energy Information Administration estimates that about 34 million barrels per day will pass the Strait by 2020 (U.S. Energy Administration Estimates, 2011).
- The value of this commodity has led to a U.S. Central Command key mission to ensure the flow of oil and energy supplies are not disrupted.

[7] In 1980, President Carter declared the Persian Gulf a 'vital interest' of the United States. Freedom of navigation in the Persian Gulf, and through straits used for international navigation, has been a consistent U.S. policy, enforced by U.S. Navy Freedom of Navigation missions. For example, 12 nautical miles from coasts of countries with international waters, the U.S. Navy conducts Freedom of Navigation Operations (FONOPS).

Strategic corridor status

- The Strait is also a "strategic corridor" in that merchant ships carrying grains, iron ore, sugar, perishables, and containers full of finished goods also pass the corridor in route to Gulf countries and major ports like Dubai.

U.S. Military efforts

- Heavy armor and military supplies for U.S. armed forces in Iraq and other Gulf countries pass through the channel by U.S. Navy-owned ships.

The U.S. Navy maintains a presence in the region as part of the larger U.S. policy and the politics of the regional actors in the region [8] (http://www.washingtoninstitute.org/policy-analysis/view/political-military-challenges-of-demining-the-strait-of-hormuz). Because of the growing tensions with Iran, the U.S. has assumed a number of steps to reverse the dangerous shortfall of mine countermeasure (MCM) capability in the Gulf. These include more ships, helicopters, unmanned water vehicles, and a command ship:

- The U.S. Navy's FY2013 budget request included funds to send four newer MCM ships to the Gulf, doubling the U.S. countermine fleet in the region.
- In June 2012, the Navy deployed four MH-53E Sea Dragon helicopters with mine-detecting sonar arrays to Bahrain.
- The mine-hunting SeaFox and MK18 Mod 2 Kingfish unmanned underwater vehicles were added to the MCM fleet, described by U.S. Central Command head Gen. James Mattis, as an "urgent operational requirement."
- The U.S. Fifth Fleet established a new command in the Gulf focused entirely on mine warfare; overseen by Rear Admiral Kenneth Perry, vice commander of the Navy's mine and antisubmarine warfare efforts, while the mine warfare command ship, *USS Ponce* was also deployed in the region (http://www.washingtoninstitute.org/policy-analysis/view/political-military-challenges-of-demining-the-strait-of-hormuz).

Economic valuation of the Strait of Hormuz[9]

The Strait of Hormuz is accessible through the Indian Ocean, the third largest of the world's five oceans and the critical waterway provided by the Strait of Hormuz (Iran-Oman).

[8] Washington's increased focus on demining in the Gulf is significant and timely, but the recent reinforcements and exercises are only stopgaps. Some of the newly earmarked MCM forces are unlikely to be ready for deployment until 2014, including MK6 patrol boats, littoral combat ships, and new countermining helicopter systems. In the meantime, policymakers and military planners should take several steps to protect international trade and allied naval forces in the Gulf: Recognize the potential for escalation, Exercise in the Strait, Name and Shame Iran, Stand up and Be Counted, and Be Creative (retrieved from http://www.washingtoninstitute.org/policy-analysis/view/political-military-challenges-of-demining-the-strait-of-hormuz).

[9] The world view image above was retrieved from Intellectualtakeout.org.

The Indian Ocean is a major sea route connecting the Middle East, Africa, and East Asia with Europe and the Americas (www.geography.about.com). It carries a particularly heavy traffic of petroleum and petroleum products from the oilfields of the Persian Gulf and Indonesia.

An estimated 20 percent of the world's demand of energy passes through the Strait of Hormuz (Global Equity Research, 2008, p. 5). Of the top ten major choke points identified in the world, the Strait of Hormuz is number one. Further, 93 percent of the oil exported from the Persian Gulf is transited by tanker through the Strait of Hormuz (Global Equity Research, 2008). In essence, researchers posit that any act of aggression by agents of Iran or any other nation directed to the strait will disrupt the flow of a large portion of the world's oil supply and cripple the economy[10].

The U. S. Energy Information Administration reports that this Strait has been considered the "world's most important oil chokepoint due to its daily oil flow" of approximately 17 million barrels in the first half of 2008 alone (World Oil Transit Chokepoints: Strait of Hormuz, 2008). This compromises an estimated 40 percent of all seaborne traded oil (www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Hormuz.html). The most recent energy reports to the 113th Congress indicate that this production has increased to over 17.5 million barrels, despite U.S. increases in all types of energy production and the U.S. net export rates of coal and natural gas and its reliance upon unrefined petroleum.

Why it's Closure or Destruction is a Global Issue and How it Impacts Daily Life

[10] The world's largest exporters are quite active in the region. For example, Iran possesses the fourth largest crude oil reserve in the world (151.17 billion bbl); Iran is the fourth largest crude oil producer in the world (4.25 million bbl in 2010); and Iran is the third largest crude oil exporter in the world (2,523,000 bbl/day). While five other OPEC countries, Iraq, Kuwait, Saudi Arabia, the United Arab Emirates and Qatar shipped about 20% of the global oil market demand (equivalent to 17 million barrels a day) through the Strait in 2011, the region is also home to the world's spare oil production capacity (2–3mil. bpd) and there are inadequate alternate export routes, (retrieved from http://opinion.bdnews24.com/2014/01/20/possible-attack-on-iran-and-potential-oil-shock/#sthash.SuAWYbXL.dpuf).

Many nations cannot survive, much less thrive without the oil received and purchased from the Middle East. The U. S., for example, expends extraordinary effort, as indicated in its use of the military in mitigating conflict and control, to protect access to and benefit from this resource in the Middle East. The U. S. Department of Energy (DOE) recognizes this critical chokepoint in regards to global distribution and trade, specifically, with oil. The DOE purports the Strait of Hormuz to be a "strategic area for the targeting of maritime objectives by groups or nations looking to threaten or disrupt global trade" (www.marsec4.com/2011/09/waterborne-ied-threats-and-the-strait-of-hormuz).

The many uses of this valuable resource are not adequately addressed in this forum. A brief review of Internet sources indicates the significance of petroleum on the basic life of humanity. For example, according to the World of Earth Science website, petroleum is refined to produce gasoline, which fuels internal combustion engines widely used in all forms of transportation: jet fuel for air travel, transportation, and military uses; other aircraft, vehicles, and generators. Distillates produce lower grade fuels, for use as heating fuel and diesel fuel, which fuels trucks, ships, and industrial machinery. Distillates also have utility as waxes that line milk cartons, repel water, cosmetics, electrical insulators, sealants, medicinal tablet coatings, crayons, candles, and many other everyday items. Petrochemical feedstock is processed to produce anti-freeze, bases for paints, cleaning agents, detergents, dyes, explosives, fertilizers, industrial resins, plastics, synthetic fibers (nylon, polyester, and rayon), synthetic rubber, solvents, thinners, and varnishes. Lubricants are used to overcome friction and are produced in greases and oils for machinery lubrication, for surgical medical equipment, and numerous other uses. The heavy residue that is left over is used in the form of tar, pitch, and asphalt (http://www.enotes.com/earth-science/petroleum-economic-uses). Yet, this is only a handful of the valuable and variable applications of this precious resource that we use in everyday society. Scientists report that the value and uses of this precious energy resource has not yet to begun to be realized.

Discussion

The U.S. Energy Information Administration estimates that since 2011, U.S. energy production has surpassed its production of all prior years and that the U.S. now exports a large quantity of petroleum (U.S. Chamber of Commerce, 2013, p. 12, retrieved from http://www.energyxxi.org/sites/default/files/file-tool/Energy_Works_For_US.pdf). Only about 10 percent of unrefined petroleum is acquired from the Middle East, and the U.S. is now exporting coal and natural gas in great numbers (Murkowski, 2014). Nonetheless, any disruption to the Strait of Hormuz remains significant to U.S. interests because such an event would result in protracted and costly intervention. As in the past, the prospect of a major disruption of maritime traffic in the Strait risks damaging interests of countries that benefit from regional commerce (Robert S. Strauss Center, 2008, retrieved from https://strausscenter.org/images/Strait_of_Hormuz.pdf).

Because of many geo-political issues, one of which is the Iranian threat of destabilizing the area, "U.S. and allied military capabilities in the region remain formidable" (Katzman, et al, 2012, p. 2). A prolonged outright closure of the Strait appears unlikely as there is sufficient global interest in maintaining its operation and the free flow of commerce. Nevertheless, threats

can and do raise tensions in global energy markets and leave the U.S. and other global oil consumers to consider the risks of potential conflict in the Middle East.

Iran has been a potential threat because it remains defiant of agreements related to the region. For example, Iran frequently conducts missile tests and maneuvers to stress its military capabilities, and has repeatedly threatened to close the Strait of Hormuz to oil tanker traffic should it be attacked (retrieved from http://www.israelnationalnews.com/News/News.aspx/164555#.UyacBZtOXb0). Iran possesses "significant littoral warfare capabilities, including mines, anti-ship cruise missiles, and a land-based air defense system. If Iran were able to properly link these capabilities, it could halt or impede traffic in the Strait of Hormuz, and U.S. attempts to reopen the waterway . . . would escalate rapidly into sustained, large-scale air and naval operations during which Iran could impose significant economic and military costs on the U.S." (Talmadge, 2008, *Summary*). Iran contributes toward propaganda on extremist views and through conflict created with its attempts to enrich uranium, it is sending a clear message that it intends to develop nuclear energy. Some of the effort may be dedicated toward weapons development (Center for Arms Control and Nonproliferation, 2013, retrieved from http://armscontrolcenter.org/publications/factsheets/fact_sheet_irans_nuclear_and_ballistic_missile_programs/)[11].

Iran's role in co-managing the strategic strait in accordance with international law and its sovereign national rights poses problems. The maritime traffic that goes through the Strait of Hormuz has always been in contact with Iranian naval forces, which are predominantly composed of the Iranian regular force Navy and the Iranian Revolutionary Guard Navy. Iranian naval forces monitor and police the Strait of Hormuz along with the Sultanate of Oman via the Omani enclave of Musandam. More importantly, to transit through the Strait of Hormuz all maritime traffic, including the U.S. Navy, must sail through Iranian territorial waters. Almost all entrances into the Persian Gulf are made through Iranian waters and most exits are through Omani waters (Nazemroaya, 2012, retrieved from http://www.globalresearch.ca/the-geo-politics-of-the-strait-of-hormuz-could-the-u-s-navy-be-defeated-by-iran-in-the-persian-gulf/28516).

"The security of maritime choke points ultimately rests on the observance of international law, and on the willingness and capacity of interested members of the international community to enforce it if necessary[12]" (Emmerson & Stevens, 2012, p. 1). With so much commerce

[11] In the most recent report of the International Atomic Energy Agency, the prior concerns and demands were expressed, "Since 2002, the Agency has become increasingly concerned about the possible existence in Iran of undisclosed nuclear related activities involving military related organizations, including activities related to the development of a nuclear payload for a missile and that "Iran has carried out activities that are relevant to the development of a nuclear explosive device. The information comes from a variety of independent sources, including from Member States, the Agency's own efforts, and from information provided by Iran itself. The information is credible" retrieved from http://armscontrolcenter.org/publications/factsheets/ fact_sheet_irans_nuclear_and_ballistic_missile_programs/.

[12] The global energy transport system is vulnerable to disruption at key maritime choke points such as the Straits of Malacca and Singapore, Bab Al-Mandab, the Suez Canal, the Turkish Straits and the Strait of Hormuz. The impact of a disruption on energy supply, prices and markets depends on its extent and duration. Perceptions and the interaction of 'wet barrel' and 'paper barrel' markets play a major role in determining price level and volatility.

flowing through the maritime domain and its related infrastructure, enhanced maritime domain awareness remains vital in supporting leaders and decision-makers to successfully perform their missions.

Under the guidance of PPD-18 and the *National Strategy on Maritime Security* (2013), the *National Maritime Domain Awareness Plan* (2013) (MDAP) seeks to empower decision-makers to secure and promote the legitimate use of the maritime domain[13]. The Maritime Plan promotes integrated efforts of all regional partners to:

- Prevent terrorist attacks and criminal, harmful, or hostile acts across the maritime domain;
- Protect population centers and critical infrastructure;
- Minimize damage to, and expedite recovery of, the maritime transportation system and related infrastructure in the wake of man-made or natural disasters;
- Maintain unimpeded access to global resources and markets; and
- Safeguard the oceans and their resources (*National Strategy for Maritime Security*, 2013, p. 8)

Currently, the risks are related to a complex mix of man-made and naturally occurring threats and hazards including terrorist attacks, accidents, natural disasters, and other emergencies (*National Strategy*, 2013). Within the maritime context, critical infrastructure related to our security and economic vitality may be directly exposed to harm by events themselves or indirectly exposed as a result of the dependencies and interdependencies among related resources. Challenges in the maritime domain will continue to be serious and complex. These challenges to our security and economic livelihood require a whole-of-government and whole-of-community approach that recognizes the total threat and takes all necessary actions through active, layered, and shared defense (*National Strategy*, 2013).

The Director of National Intelligence (DNI) designated the National Maritime Intelligence-Integration Office (NMIO) to coordinate and facilitate maritime intelligence integration and information sharing in support of MDAP. The NMIO facilitates a unified maritime perspective by coordinating with the Intelligence Community (IC) and across the Global Maritime

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Measures closing international straits are generally illegal in peacetime, and international law requires maintaining rights of transit passage during war. Establishing and maintaining legal and political norms around the security of maritime choke points – involving user states, consumer states and international bodies – are essential.

[13] For an example of the U.S. and Allied action taken against the Republic of Iran to stabilize the region, please see Katzman, 2012. "Following a report by the International Atomic Energy Agency (IAEA) on November 8, 2011, which presented information that Iran had researched nuclear weapons designs . . . the U.S., Britain, and Canada took additional steps to shut Iran out of the international banking system. These events occurred at the same time Congress was completing action on the FY2012 National Defense Authorization Act (P.L. 112-81), containing a provision to sanction foreign banks that do business with Iran's Central Bank. Iran's Central Bank is the prime conduit through which buyers pay Iran for oil. That bill was signed into law on December 31, 2011" (p.4).

Community of Interest (GMCOI) to advance maritime intelligence sharing and integration for early threat detection and decision superiority.

Conclusion[14]

With the exception of the Strait of Hormuz, evidence has shown that an interruption in any of the strategic chokepoints will have minimal economic impact on the global system; however, the Strait of Hormuz remains a significant concern because any disruption in the flow of commerce will affect many countries, including the United States. "The Strait of Hormuz does not have alternate sea routes, thus closure would cause severe [global problems], and a catastrophic dilemma for the world economy" (retrieved from http://www.slideshare.net/auerswald/impact-on-the-united-states-of-closure-of-the-strait-of-hormuz).

Closure of the Strait of Hormuz would cause a severe blow to the world economy and commerce, particularly with imports and exports in the Middle East and surrounding countries. The U.S. would suffer serious disruption to its manner of living and would be engaged politically and militarily to ensure its economic and social survival and the economic costs of conflict would strain U.S. resources. Throughout history, and with most recent U.S. military involvement in the Middle East, there is no doubt as to the significance of the export of petroleum from the region. Petroleum and the by products are used to fuel the operation of nearly every part of a country's infrastructure: air, land, sea, machine operations, and the survival of commerce. A nation's economic prosperity is related to its ability to engage in commerce with both importers and exporters of the country's consumables. "Without oil and natural gas, Americans' lives would be far different, making it exceedingly challenging for families to heat their homes and run their daily lives. The industry provides the building blocks required for life-saving medicines, pain-relievers and artificial heart valves as well as everyday products such as shampoo and clothing, and contributes significantly to farming and other industries" (American Petroleum Institute, 2013, p. 6, retrieved from http://energytomorrow.org/soae/~/media/EnergyTomorrow/pdfs/SOAE-Archive/SOAE-Report-2013.pdf).

The closure of the Strait would create stress on other major chokepoints, such as the Panama Canal, the Suez Canal, the U.S. Louisiana Offshore Oil Port (LOOP), Bab el-Mandab, and the Bosporus/Turkish Straits. "The Strait of Hormuz is very critical to the global supply of oil and any disruption in this choke point would create major impact on the oil market, pushing the oil-prices much higher and further destabilizing the global economy" (retrieved from

[14] The image to the right was retrieved from ANUNEWS.net.

http://www.icwa.in/pdfs/VPiranthreats.pdf). U.S. concerns include the effect of proliferation and technical advances, such as use of enriched uranium for purposes of harm to the U.S. from actors who may have a stake in the Strait of Hormuz (Clapper, 2012, p. 13-14). The Strait of Hormuz represents a foreign policy challenge for the U.S. as well as a geo political and military concern [15]. Altogether, these represent homeland and national security concerns.

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