

Advanced Interdiction on the Northern Border - A JIIM Approach

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Abstract

The current layered approach of identifying, interdicting, and securing WMD within the maritime transportation system is effective in preventing the importation of WMD along the East, West, and Gulf coasts but fails to effectively address the short notice and localized requirements in the Great Lakes region. Due to trade growth within the Great Lakes region and the complexities along the U.S. and Canadian border, designated federal response forces are unable to respond to a reported threat in time to prevent a hostile vessel from reaching the U.S. shore. To address this threat, the U.S. Government should implement a new joint, interagency, intergovernmental and multinational framework to train, equip, and coordinate forces capable of countering these threats. By utilizing federal, state and local law enforcement agencies trained in maritime response and Close Quarters Combat / SWAT, the Captain of the Port will gain the tools needed to address any threat posed by non-compliant large commercial vessels.

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On February 26, 2008, local fishermen spotted ten Pakistanis off the coast of Mumbai, India in small inflatable speedboats. The men, clearly out of place among the local population, were reported to law enforcement authorities. However, police took no action. Hours later, the seafarers turned gunmen killed over 170 people and laid siege to the city. This event marked a significant milestone in counter terrorism efforts. Violent extremists no longer launched land attacks solely from the air or land domain; the threat now included a sea component as well. Terrorism crossed from the maritime into the land domain.¹

During his March 2009 testimony to the House Committee on Homeland Security, Federal Bureau of Investigation Deputy Assistant James McDunkin remarked that the Mumbai incident showed that with careful planning, a relatively small number of attackers armed with rudimentary weapons could cause a great deal of damage. Given the Mumbai attackers' relative success in creating a mass casualty event that garnered international exposure, it remains likely that other terrorist organizations will seek to emulate their attack methodology in the future. To counter the potential cross-domain threat, the United States needs a strong capability to defend its maritime borders.²

Protecting the homeland and infrastructure from small boat attack represents only a portion of the maritime threat. According to Jonathan Medalia's report to Congress, terrorists could cause greater damage to national security and dramatically impair the global economy by smuggling a Weapon of Mass Destruction (WMD) into the United States and detonating it in a seaport.³ In 2014 alone, the United States imported nearly 20 million shipping containers. This number is expected to grow by over 6% annually in the coming years.⁴ Therefore, the U.S. Government's (USG) ability to detect,

intercept, and secure potential WMD within the maritime transportation system represents a strategic national priority.

The current multi-layered defense approach effectively identifies and interdicts threats to the United States originating from overseas ports as evidenced by Joint Interagency Task Force (JIATF) South and West interdiction of over 416,000 pounds of cocaine along the southern maritime boundary in fiscal year 2016.⁵ However, while this approach illustrates the effectiveness of Unified Action in a joint, interagency, intergovernmental and multinational (JIIM) environment, the maritime threat along the nation's northern border presents a uniquely more difficult challenge. Unlike the southern border and its approaches where USG agencies have thousands of miles to mobilize forces prior to a threat reaching shore, major northern domestic ports are often only a few miles from Canadian waters. The lack of standoff significantly reduces the time available to identify, assemble forces, and interdict threatening vessels originating from or transiting Canadian waters. Additionally, since Canada remains the United States' largest trading partner, a terrorist organization can commingle a WMD device within the nearly \$317 billion of legitimate annual imports.⁶

Therefore, it appears that current advanced interdiction capabilities fail to effectively address the short notice and localized security requirements on the U.S. Great Lakes. This paper examines the strategic context of a potential WMD threat and the U.S. Government's ability under current constructs to address the threat prior to a catastrophic event's occurrence in the Great Lakes region. Using a doctrine, organization, training, material equipment, leader development and education, personnel, and facilities (DOTML-PF) framework⁷, the analysis identifies gaps to the

existing interdiction and response effort. Finally, it offers several recommendations to address this strategic capability gap.

National Strategic Relevance

The United States government holds “the security of the United States, its citizens, and U.S. allies and partners” and “a strong, innovative, and growing U.S. economy in an open international economic system that promotes opportunity at home and around the world” as its top two national interests.⁸ In the port and waterway security context, these interests must be carefully balanced as they are in conflict. An excessive focus on security inhibits the efficient flow of trade necessary to promote robust economic growth; conversely, unsecured trade leads to security vulnerabilities due to unchecked importation of potentially dangerous cargo and people. The U.S. National Strategy for Maritime Security recognizes the need for balance noting “Nations have a common interest in achieving two complementary objectives: to facilitate the vibrant maritime commerce that underpins economic security, and to protect against ocean-related terrorist, hostile, criminal and dangerous acts.”⁹

Promoting efficient international trade provides a critical component of national security. Naval theorist Julian Corbett supported this idea proposing that sea control serves as a sea going fleet’s primary purpose. While the navy’s ability to engage in direct combat support is important, “finances are scarcely less important.”¹⁰ In an extended conflict, the nation that possesses the greatest resources will invariably prevail. By facilitating sea trade, a nation promotes economic growth and provides the capacity necessary to sustain military superiority.

Economic and trade data support this theory. Seaborne commerce accounts for approximately 90% of international trade. While this percentage changed little over the

past 100 years, the volume of trade increased dramatically.¹¹ Between 1990 and 2013, maritime trade grew from 4.1 billion metric tons to nearly 10 billion, a 230% increase.¹² According to a World Trade Organization report, the growth is directly attributable to increases in maritime shipping efficiency.

Arguably, the development of the containerization system provided the greatest impetus for increased international trade. Invented in 1956, this standardized intermodal system improved port loading efficiency by up to 1500% and significantly reduced insurance rates relative to bulk shipping methods. As a result, a Lunds University study found that after adjusting for the effect of free trade agreements, containerization increased trade by 790% over 20 years.¹³ According to a 2011 United States Department of Transportation report, more than half of all seaborne cargo worldwide is containerized and U.S. imports exceed this proportion.¹⁴

While containerization increased efficiency, it also introduced greater security risk into the maritime transportation system. Cargo now remains hidden from inspectors, dock workers, and shipping companies. Officials must rely on manifest and shipping documentation accuracy which are susceptible to changes through forgery and cyber-attack. Additionally, containers are easily transferred from ship to ship making overall accountability more difficult. These vulnerabilities increase the threat of a non-state actor transporting and detonating a WMD through the maritime transportation system.¹⁵

According to Jonathan Kline, the most likely weapon available to an International Terrorist Organization (ITO) is a gun-type Improvised Nuclear Device (IND) using highly enriched uranium.¹⁶ This device could weigh up to a ton and measure nine feet long and 28 inches in diameter allowing it to easily fit into a standard 20 foot shipping container.¹⁷

Detecting this type of weapon remains difficult. According to a report prepared for the U.S. Department of Transportation, “A Hiroshima-scale 10-20 kilotons, fission weapon could be smuggled undetected into a major U.S. seaport... and detonated dockside.”¹⁸ Depending upon the port impacted, an attack of the scale could result in 50,000 to 1,000,000 deaths, up to \$500 billion in property damage, \$200 billion in trade disruption, and a total first year economic cost over \$1 trillion.¹⁹ This threat impacts the entire United States, including the Great Lakes region.

Great Lakes Region - Strategic Relevance and Threats

The maritime significance of the Great Lakes is growing, and presents a unique strategic challenge. The region includes Lake Erie, Lake Ontario, Lake St. Clair, Lake Huron, Lake Michigan, and Lake Superior. From a maritime transportation perspective, it also includes the St. Lawrence Seaway which connects the Great Lakes to the Atlantic Ocean. The region represents the world’s largest freshwater system containing 84% of North America’s surface fresh water and around 20% of the world’s overall supply. The lakes cover almost 95,000 square miles, but more importantly, comprise over 25% of the 4,000 mile United States and Canadian border.²⁰

Maritime Commerce

Since the St. Lawrence Seaway’s opening in 1959, shippers have transported more than 2 billion metric tons of cargo valued at \$400 billion through the system, with over 50 percent of this cargo moving to and from European, Middle Eastern and African ports.²¹ Westbound traffic primarily supports movement of general cargo, semi-finished steel, coils, beams and other products from overseas producers. Eastbound traffic supports export of grain, forest products, petroleum products, chemicals, coal, salt and other bulk materials.

Shipping through the Great Lakes holds multiple advantages relative to Atlantic Coast ports. First, overseas shipping experiences up to a 6.5 percent cost reduction due to lower handling, wharfage, and dockage costs.²² Additionally, for steel products, shippers can save up to \$50 per ton by routing through Great Lakes ports instead of east coast or Gulf of Mexico ports.²³

Second, Great Lakes system ports are geographically closer to critical European markets. For example, the transit distance from Detroit, Michigan to Liverpool England is 10% shorter than a similar transit from Baltimore, Maryland. Shipping companies see similar advantages when comparing the Rotterdam to New York route.²⁴ The shorter distance results in fuel savings and reduces transit times by up to 15 days for products produced locally in the Great Lakes region.²⁵

Finally, the Great Lakes offers shippers access to a large proportion of the United States and Canadian population including 150 million people within an 8 hour drive of major Great Lakes ports. Additionally, this same geographic region accounts for 26% of all U.S. industrial activities and 60% of Canadian manufacturers. Direct access to these population and economic activities benefits shippers, importers, and exporters alike.

Historically, Great Lakes shipping focused on bulk cargo and commodities. However, in 2013, the Cleveland-Cuyahoga County Port Authority and the Dutch Company Spliethoff Group entered into an agreement to begin offering a once per month direct containerized shipping route between Cleveland, Ohio and Antwerp Belgium.²⁶ Service began in 2014, but cargo demand tripled by 2016. As a result, the Port of Muskegon, Michigan plans to start offering direct overseas containerized shipping.²⁷

Security Threat Considerations

In addition to maritime commerce growth, geographic challenges and the lack of organic regional maritime security response assets present special security considerations on the U.S. Great Lakes.

As a large inland and protected waterway, the Great Lakes' unique geography presents advantages to ITOs seeking to harm the United States. First, the area contains numerous coastal high population urban areas susceptible to maritime attack. Second, the relatively narrow waterway and international maritime border presents operational challenges by limiting U.S. law enforcement access to suspect vessels within Canadian waters. Additionally, the close proximity of the boundary line to coastal cities reduces the time available for response forces to address security threats.

The Great Lakes consists of several high-density population areas and important economic centers that serve as viable ITO targets including three of the most populous U.S. cities.²⁸ Located on Lake Michigan's southwestern shore, Chicago, the nation's third most populous city, houses 2.7 million people within 10 miles of the downtown area while 550,000 work within 2 miles of city center. This number is expected to increase 24% by 2040. Lying approximately 12 miles from the city's center, Iroquois Landing Terminal, the Great Lakes busiest commercial port, transfers 19 million tons of cargo each year.²⁹ A WMD detonation at this facility would result in catastrophic consequences.

Though no longer a commercial shipping facility, Navy Pier is located within the downtown Chicago commercial area and could provide city access to a hijacked ship

possessing a WMD. Furthermore, it is located less than two miles from the capital of the listed derivatives industry.³⁰

Chicago provides merely one potential target. Other high population areas in the Great Lakes region include Detroit, Milwaukee, Cleveland, and Buffalo. Like Chicago, each of these localities contains high population downtown waterfront areas which produce significant regional economic impact. The ability for large commercial vessels to navigate within close proximity of these centers makes them valuable targets for ITOs. For example, the commercial container pier in Cleveland is collocated with the parking lot for *First Energy Stadium*, the Cleveland Browns' 73,000 seat capacity home field. Additionally, as depicted in Figure 1, a 20 kiloton nuclear detonation within the Detroit River would cause 36,000 fatalities on both sides of the international border emphasizing the need for a multinational solution to the WMD threat.

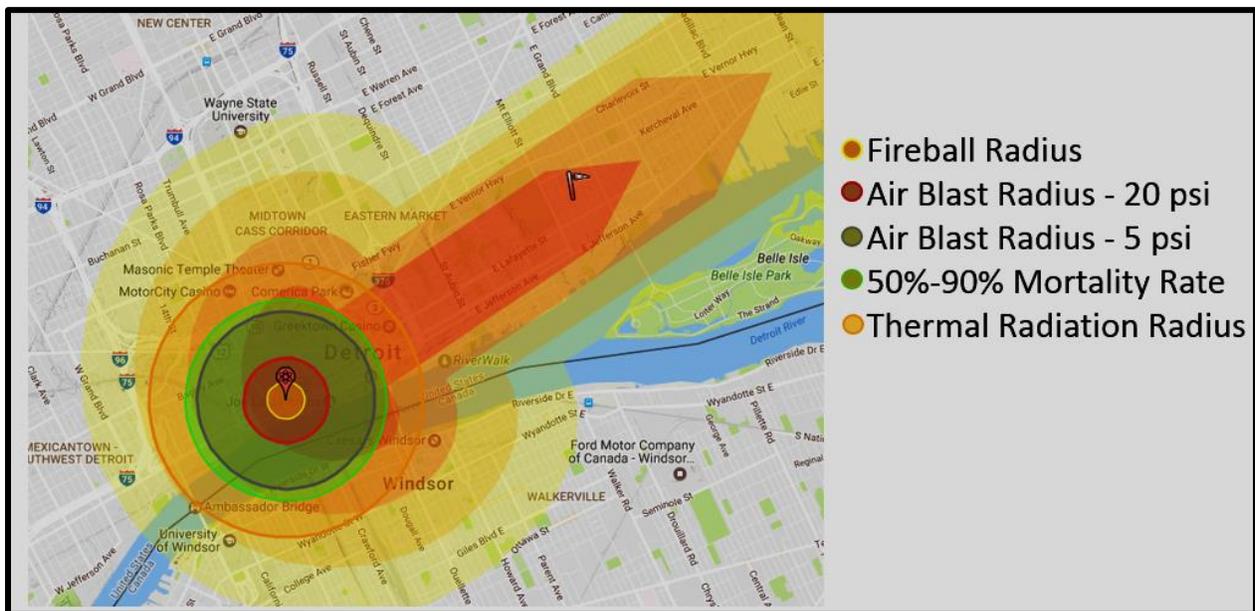


Figure 1: Effect Radii of 20 Kiloton Nuclear Detonation in Detroit, MI³¹

The maritime boundary between the United States and Canada is over 1,000 nautical miles and runs the length of the Great Lakes system from Massena, New York

on the St. Lawrence Seaway to Grand Portage Minnesota. The waterway separating the two nations varies from under 100 yards on the Seaway, Detroit, St. Clair, and St. Mary's River to over 100 miles on Lake Superior. This presents two challenges. First, vessels transiting the system are only subject to U.S. laws, regulations, and law enforcement action while operating on the U.S. side of the boundary line. In addition, commercial shipping lanes on Lake Erie and Lake Ontario fall almost entirely on the Canadian side of the border. Therefore, once a vessel departs the St. Lawrence Seaway, it remains outside U.S. law enforcement jurisdiction until it approaches Detroit.

The U.S. and Canadian greatly benefit from expanded maritime trade within the Great Lakes region. Economic trends indicate a continued rise in maritime traffic along the region's waterways. However, these governments also face a rising security threat, particularly related to WMD that must be addressed to protect their respective populations. Too great an emphasis on security limits economic growth while too little places them at greater risk. To understand the unique strategic threat along the Great Lakes, we must first examine the USG's current approach to addressing the potential threat.

Current Approach

The United States utilizes a multi-layered approach to counter and respond to WMD threats within the maritime transportation system. The first line of effort is to prevent terrorist and other non-state actors from acquiring the nuclear material needed to create an IND. This includes the Proliferation Security Initiative (PSI) and Department of Treasury Foreign Asset Control efforts.

Limiting Access to Nuclear Material and Weapons Systems

In December 2002, U.S. intelligence officials identified a suspicious vessel departing North Korea enroute to the Middle East. The Spanish Navy intercepted and boarded the unflagged vessel *So San*, and found 15 Scud missiles, warheads, and a fuel oxidizer. However, “the lack of international treaties governing the trade or possession of ballistic missiles prevented the United States from seizing the illicit cargo” and the vessel was ultimately allowed to proceed and deliver the weapons to the Yemenis government.³²

This event led President George W. Bush to implement the PSI to provide a “multilateral intelligence-sharing project incorporating cooperative actions and coordinated training exercises to improve the odds of interdicting the transfer of weapons of mass destruction to and from states and non-state actors of proliferation concerns.”³³ Currently, more than 100 nations participate in the program and commit to a standardized set of interdiction principles. Former Deputy Secretary of Defense Paul Wolfowitz and other government officials reported that “the initiative has resulted in actual interdictions of dangerous cargo, including centrifuge parts to Libya.”³⁴

Second, ITOs seeking WMD require financial and technical resources from transnational organizations. The Office of Foreign Assets Control (OFAC) within the U.S. Department of Treasury executes Counter-Threats Finance efforts to limit ITO access to this necessary resource. This includes “more than 30 programs in place to address criminal and terrorist activity through economic sanctions.”³⁵

By identifying the individuals and business operations that support illicit efforts, the Secretary of Treasury, in coordination with the Secretary of State and Attorney General, may designate these individuals and organizations as a *WMD proliferator* and

block their access to the financial system.³⁶ The sanctions also implement penalties, “further reducing the ability of International Terrorist Organizations... to conduct global transactions to fund their operations and obtain the physical assets necessary for their... purpose.”³⁷ As of October 2015, the OFAC Specially Designated Nations and blocked persons list included over 15,000 names and was in excess of 1000 pages.³⁸ Unfortunately, the number of included individuals and relative ease at which organizations are able to rename and reorganize reduces the effectiveness of this program. However, it remains the primary means to limit ITO access to financial and technical resources.

Cargo Screening Prior to Vessel Embarkation

The second line of effort seeks to prevent ITOs from embarking dangerous cargo aboard ships in foreign ports. Recognizing that the USG must stop high threat cargo prior to its arrival in a U.S. port, the Customs and Border Protection (CBP) Agency implemented the Container Security Initiative (CSI). This effort contains four elements that focus on identifying, inspecting, and securing high risk cargo at the point of departure. First, intelligence and automated information systems identify high risk containers. Next, CBP agents screen documentation for those at the point of departure. They then use detection technology to check for indications of hazardous materials. Lastly, containers are secured using tamper resistant seals.³⁹ This program initially covered three Canadian and twenty of the largest overseas ports; CSI currently encompasses 58 total ports. Existing implementation covers up to 80% of all inbound maritime containerized cargo.⁴⁰

A Journal of Homeland Security and Emergency Management article points out that in order to ensure the highest coverage of trade, CSI focused on the largest

overseas ports that process the greatest number of U.S. bound containers. However, this approach is ineffective as it fails to consider the risk profile of each port. Since the riskiest ports tend to be smaller, they are not covered by the CSI program. As a result, a significant number of high risk containers reach U.S. ports prior to CBP inspection.⁴¹

At Sea Interdiction

The USG may identify dangerous cargo after it leaves the port of departure. In 2005, the National Strategy for Maritime Security mandated development of a process to evaluate and address threats in the maritime domain. As a result, the federal government implemented the Maritime Operational Threat Response (MOTR) process and instituted a framework that ensured a “whole of government response to the full spectrum of maritime threats.”⁴² This process first identifies whether a specific vessel or incident poses a national security threat, then determines an appropriate response, and establishes the agency roles and responsibilities that provided a collaborative response to the threat. By including representatives from the Departments of State, Defense, Justice, Commerce, Transportation and Homeland Security, decision makers provide input and guidance that addresses the concerns and needs across government.⁴³

This process is effective. In 2005, U.S. intelligence identified a foreign flagged vessel enroute to the United States with reported links to terrorist organizations. The vessel carried liquid urea which posed a serious explosive threat. In addition, it previously operated solely in the Middle East and was in poor material condition. Through the MOTR process, the government effectively coordinated the response. According to Brian Wilson, the Deputy Director of the Global Maritime Operational Threat Response Coordination Center, “Agencies brought multiple views, including the need to identify and respond to the threat as far from the U.S. as possible.” Additionally,

participants developed appropriate courses of actions including “flag state confirmation of registry, and consent to the boarding.” Ultimately, a search confirmed the vessel did not pose a threat.⁴⁴

Once the MOTR process identifies a security threat, the government assigns the response to either national, regional or state / local forces.⁴⁵ At the national level, forces include elements of the Department of Defense Special Operations Forces (SOF) as they maintain the highest capability to address the most significant threats. However, their use is limited due to three constraints.

First, SOF remain in high demand, are limited in number, and geographically dispersed. Second, they are also deployed directly by the National Command Authority. Given the large volume of maritime traffic and relatively short arrival notice requirements, it is not possible to guarantee SOF availability. Second, the threat is often ambiguous, without the clearly identifiable or actionable intelligence required to deploy National Response Force Teams. For example, in 2005, radiation detection equipment in Sri Lanka indicated 17 containers might contain undocumented nuclear material. Subsequent investigation determined that port workers unloaded these containers onto 14 different ships. While it was critical to find, board, and inspect any of these vessels headed towards the United States, the threat was not clear enough to justify the employment of national level SOF.⁴⁶ Third, and most significantly, the existing U.S. Code legal framework limits the actions active duty forces operating under Title X authorities can undertake within the continental United States.⁴⁷ Therefore, other response options are required.

Regional response forces are primarily composed of Coast Guard units including shore-based forces, Maritime Patrol and Interdiction Forces, and Deployable Specialized Forces.⁴⁸ The first category encompasses Sector Commands and subordinate units including small boat stations, small patrol cutters, and shore based visit board and search (VBS) teams that operate from coastal regions of the United States and its territories. While these teams are geographically dispersed throughout the nation and capable of immediate response, they possess a limited chemical, biological and radiation capability. In addition, they are only capable of boarding compliant vessels.⁴⁹

Maritime Patrol and Interdiction Forces include offshore cutters that possess a higher capability and an ability to interdict threats much further from shore. While far fewer in number relative to shore forces, they continually operate throughout the East, West, and Gulf Coast of the United States. Cutters also possess larger law enforcement teams than can maintain a continuous presence alongside maritime threats. While their organic teams can only board compliant vessels, their larger caliber naval guns provide a deterrent effect and an ability to fire warning or disabling shots against non-compliant vessels.

The third and most proficient Regional Force is the Coast Guard Maritime Security and Response Team (MSRT) based in Chesapeake, Virginia. This unit is the service's only advanced tactical force capable of responding to non-compliant high risk law enforcement and counter-terrorism threats. They also possess specialized capabilities to conduct operations in chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) environments.⁵⁰ The team is immediately deployable

worldwide, though they do not have any organic airlift capacity and require the use of Department of Defense assets to transport non-compliant boarding capable boats. Recognizing this geographic limitation, the service is in the process of commissioning a second MSRT in San Diego, California to provide short notice advanced interdiction on the West Coast.

Though identified as part of MOTR, interagency, state, and local law enforcement groups are not currently integrated into the maritime response structure. While they often lack experience in the maritime domain, significant forces exist throughout the United States that possess the Close Quarters Combat (CQC) and / or Special Weapons and Tactics (SWAT) training necessary to respond to an advanced interdiction incident.

Cargo Inspection upon Arrival in Domestic Port

According to the U.S. Customs and Boarder Protection Container Security Initiative Review in 2011, over 80 percent of all maritime cargo entering the United States is prescreened at the port of embarkation. Of the containers identified as higher risk, 95% are examined prior to arrival in the United States. The remaining 5%, as well as cargo originating from non-CSI ports is inspected upon arrival at the domestic port.⁵¹ While these inspections can prevent transport of chemical, biological, radiological, nuclear and explosive material into the nation's interior, they are not effective in preventing an attack on a high population seaport.

Unique Advanced Interdiction Factors on the Great Lakes

In response to the threat of nuclear terrorism, the USG developed and implemented an effective tiered approach to minimize the potential introduction of WMD into the domestic environment. This effort is primarily focused on major West, East, and

Gulf Coast ports by interdicting threats well before they arrive near U.S. waters.

However, given the U.S. Great Lakes strategic and operational environment, we must evaluate the region's unique characteristics to ensure the national approach meets local needs.

Federal Response Forces

Federal and regional Advanced Interdiction response assets do not exist within the Great Lakes region. The United States' advanced interdiction strategy is based upon identifying commercial vessel threats well before they enter U.S. waters so that forces can respond prior to the threat reaching a port. However, given the geography, the Chesapeake, Virginia based Maritime Security Response Team is unable to respond before a maritime threat on the Great Lakes could reach U.S. population centers.

The 1818 Rush-Bagot treaty ratified by the United States and Canada demilitarized the Great Lakes. As a result, U.S. Navy ships do not typically operate in the region.⁵² The area is home to several Coast Guard buoy tenders and ice breakers, however these ships are only outfitted with .50 caliber machine guns and lack the larger 20 and 76 millimeter guns present on Medium Endurance cutters that patrol the Pacific and Atlantic Ocean and the Gulf of Mexico. Therefore, it seems unlikely that existing Coast Guard assets could adequately deter or disable a large commercial ship threatening a U.S. Great Lakes port.

Additionally, the Great Lakes lack Ports, Waterways, and Coastal Security (PWCS) capable Coast Guard small boat stations or units that maintain M240B machine guns. The nearest deployable Maritime Safety and Security Teams (MSST)

are located in Boston, Massachusetts, and New York City. As with the MSRT, response by these units would be delayed due to geographic distance.

Current Cross-Border Law Enforcement Program

Law enforcement challenges along the U.S. and Canadian border are not new. To improve interoperability on shared waterways, the United States and Canada implemented the Shiprider framework in 2005 and expanded the program over the past 11 years. The latest framework, signed in 2009, committed both nations “to the prevention, detection, suppression, investigation, and prosecution of any criminal offense... including... illicit drug trade, migrant smuggling, trafficking of firearms... and terrorism.”⁵³ It includes vessels crewed jointly by Canadian and U.S. law enforcement officers that are trained to a common standard and can legally enforce the laws of both nations. The program is effective. In 2015, a Shiprider team crossed the Canadian border to arrest two U.S. citizens and seize more than 1,500 pounds of contraband near Algonac, Michigan.⁵⁴ However, Shiprider is currently limited to responding to small vessel threats.

Existing Tactical Capability

There are numerous tactical law enforcement agencies that operate within the U.S. Great Lakes region. However they currently dedicated to operating primarily on land, or within Canadian territory. This includes the following agencies:

Customs and Border Protection: Border Patrol Tactical Units (BORTAC) provide immediate response capability to high-risk missions that require specialized tactics. They receive training that mirrors U.S. Special Operations courses including “operational planning, advanced weapons skills, defensive tactics, and airmobile operations.” A full-time team is headquartered in El Paso, Texas, but non-full-time team

members are stationed throughout the United States including Border Patrol sectors on the Great Lakes.⁵⁵

Federal Bureau of Investigation (FBI): Each FBI field office includes a Special Weapons and Tactics (SWAT) team that provides capabilities during maritime emergencies. This includes basic hook and climb capability and close quarters battle tactics. Unlike offices within major U.S. Pacific, Atlantic and Gulf Coast ports those on the Great Lakes do not receive additional maritime training or have their own boats to operate from, and would have to rely on partner assets. The FBI also maintains three highly capable counter-terrorism teams with full maritime capability, but geographic limitations could minimize a timely response to Great Lakes threats. However, the non-maritime trained forces on the Great Lakes can provide needed tactically trained operators to a JIIM effort.⁵⁶

Royal Canadian Mounted Police (RCMP) Maritime Security Enforcement Teams (MSET): In 2005 the Canadian government established a tactical law enforcement capability on the Great Lakes and Saint Lawrence Seaway. These teams provide on-water law enforcement and a quick armed response to potential maritime threats equivalent to the U.S. Coast Guard's MSRT and are able to board non-compliant vessels. While fully capable, MSET currently lacks the authority to operate within U.S. waters, and does not regularly conduct joint training with U.S law enforcement teams.⁵⁷

State, local and tribal SWAT teams: SWAT teams exist in localities throughout the Great Lakes Regions. These teams are highly trained in tactical response and are available for maritime needs. For example, the New York State Special Operations Response Team supports the State Police in Counter Terrorism Operations, Weapons

of Mass Destruction incidents, Hostage Rescue and Barricaded Suspects. While they lack specific maritime capabilities, their other skills are needed and could fill a known resource gap. Similar teams exist throughout the states of Pennsylvania, Ohio, and Michigan.

Evaluation of Maritime Security within U.S. Great Lakes Region

The U.S. Great Lakes' unique geography and current force structure impacts the effectiveness of the USG's current Advanced Interdiction approach. To understand the extent to which these factors inhibit operational effectiveness, a DOTML-PF analysis is required.

Doctrine

While doctrine traditionally refers to fundamental principles that guide the employment of military forces and promotes a common perspective across the force, for the purposes of this paper, it also refers to existing policy and legal statutes.

Current doctrine limits the USG's ability to respond to a WMD threat aboard a large commercial vessel on the Great Lakes. First, though designated as part of the MOTR process, tactically trained state and local police forces are not integrated into response framework. While this factor does not inhibit operations in other regions, the lack of organic Coast Guard advanced interdiction forces, large naval vessels, and significant distance from designated response teams severely limit the Captain of the Port's ability to counter emergent threats on the Great Lakes.

Second, though the Shiprider framework provides an effective mechanism for U.S. and Canadian cross border operations, current doctrine and international agreements limit its use to small recreational vessels. As such, JIIM maritime

interdiction forces are not allowed to jointly intercept, board, and search large commercial vessels that may pose a threat to either nation.

In 2014, as part of the national exercise plan, the USCG funded the first interagency radiation detection exercise in Buffalo, New York. An additional exercise was funded near Cleveland, Ohio in 2015. Due to current doctrinal limitations, both events focused solely on the response to a radiation threat aboard small recreation vessels, and did not include addressing commercial vessels or challenges associated with operating along the U.S. and Canadian border.

Therefore, the current program under existing policy limits an effective cross border response capability to counter the ITO threat.

Organization

Depending upon the nature of the threat, either the FBI or USCG is responsible for leading a WMD threat response in the maritime domain.⁵⁸ Under the current approach, the organizational structure would change between multiple federal, state, and local agencies as an event progressed from preventing an attack to responding to one. Because a standing JJIM organization to coordinate and synchronize interdiction and potential response efforts does not currently exist, this approach results in a lack of continuity that could cause a period of reduced operational effectiveness as priorities and resources shift with a newly expanded response leadership team. Such an effectiveness lapse during an actual WMD event could lead to catastrophic results.

Training

Effective advanced interdiction requires two capabilities. First, law enforcement team members must possess training in Close Quarters Combat (CQC) and / or Special Weapons and Tactics (SWAT). Second, they must maintain proficiency in operating in

the maritime domain and aboard the unique shipboard environment. Organic Great Lakes USCG response forces routinely conduct operations aboard ships and in the maritime domain, but do not possess the needed CQC / SWAT training. Concurrently, numerous multi-national, federal, state and local agencies have this tactical experience, but lack maritime proficiency or authority to act in U.S. federal waters. As a result, no regional Coast Guard forces, interagency partners, state, and local forces possess the full range of training necessary to respond to an imminent WMD or advanced interdiction threat.

Additionally, since current doctrine limits Hook and Climb (H&C) and fast rope use to the MSRT, Tactical Law Enforcement Teams, and MSSTs, the Great Lakes Coast Guard and state / local forces are not trained in these critical Advanced Interdiction capabilities. Therefore, local Great Lakes USCG, federal, state and local forces are unable to board non-compliant large freeboard vessels.

Materiel

The MSRT is responsible for advanced interdiction on the Great Lakes and currently possesses the necessary equipment at their home location in Chesapeake, Virginia. Any response would require the air or land transportation of dedicated boats, weapons, personal protective equipment (PPE) and communications gear. The lack of organic MSRT air assets would likely result in an excessive response time due to the unit's distance from the Great Lakes.

Since interagency, state, and local police and emergency response forces do not participate in advanced interdiction or large vessel WMD responses, they lack the PPE needed to operate safely in the maritime environment. Additionally, while they can supply CQC and SWAT gear, they do not possess the H&C, fast rope, or breaching

equipment necessary to board a high freeboard vessel. As a result of these materiel deficiencies, JIIM agencies are unable to rapidly mobilize the necessary equipment to mount an effective interdiction effort for an emerging threat within the Great Lakes.

Leader Development and Education

The Great Lakes maritime transportation system operates across two countries, several states and provinces, and many localities. Organizational structures exist to coordinate issues across some operational areas and political subdivisions, including critical infrastructure security, hazardous material and maritime incident response. However, there is no regular process for government or agencies' leaders to coordinate advanced interdiction efforts throughout the region.

Personnel

As discussed previously, the USCG maintains no Advanced Interdiction or WMD response capable units on the Great Lakes. However, CQC and SWAT capable interagency, state, and local law enforcement agencies operate throughout the region.

Facilities

The USCG maintains small boat facilities throughout the Great Lakes. Law enforcement operations are regularly conducted from these locations with local, state, federal and international partners. Under the current structure, the MSRT or other tactical forces would use these facilities to conduct advanced interdiction operations and no additional locations are required.

Recommendations

Based on the previous evaluation this paper recommends the following eight actions using the DOTML-PF framework to address the threat posed by ITOs on the Great Lakes.

Doctrine

1. The United States should adopt a JIIM approach to advanced interdiction. Current policy relies upon federal forces to respond to threats at the national and regional level. The USCG should instead revise existing policy and seek Congressional action to change existing legal statutes to better integrate federal, state, international, and local agencies' efforts in response to commercial vessel threats. Including these agencies' capabilities and authorities in a coordinated effort ensures unity of effort and provides both the maritime proficiency and tactical capability needed to address short notice WMD or terror threats.

2. Additionally, the United States and Canada should expand the Shiprider framework to specifically include Canada's Maritime Security Enforcement Team (MSET) participation within the proposed JIIM framework. By including Shiprider trained Canadian forces as part of the response team, law enforcement officers can engage potential threats regardless of which side of the border the vessel operates on.

Organization

3. The USG should create regional Joint Operations Groups (JOGs) and coordinate their efforts through a newly established Joint Operations Subcommittee (JOSC) under existing Area Maritime Security Committees (AMSCs).⁵⁹ The group JOSC should consist of a representative for each agency capable of providing maritime law enforcement resources including Coast Guard Sector Enforcement Staff, Federal Bureau of Investigation, Immigration and Customs Enforcement, Customs and Border Protection, State and Local Law Enforcement representatives, and any other capable organization. Additionally, a representative from the Coast Guard MSRT should be assigned to each committee to facilitate standardization of tactics, training and

procedures. The applicable Coast Guard Sector Response Chief and a second representative from other state or local agencies should chair the subcommittee and coordinate actions across agencies.

Training

4. Regular training will ensure the JOG is capable of appropriately responding to maritime threats on the Great Lakes. The JOSC should coordinate quarterly exercises for associated JIIM organizations to improve proficiency and interagency operations. Additionally, the governments of Canada and the United States maintain a Shiprider training program at the Federal Law Enforcement Training Center. This training should be expanded to include additional federal, state, and local law enforcement officers to ensure sufficient forces are qualified and designated to conduct cross border tactical operations.

Materiel

5. Non-maritime state and local agencies associated with the JOG must acquire new equipment in order to operate on the Great Lakes including buoyancy devices, cold weather personal protective equipment, and vessels capable of transporting tactical law enforcement teams offshore. To standardize requirements across the region, the MSRT should consult with each JOSC to develop an appropriate required equipment list.

6. To address materiel shortfalls, the JOSC should request JOG funding through the existing Federal Port Security Grant Program (PSGP)⁶⁰. Since the JOG mission aligns well with the PSGP purpose, it is likely that the program would receive grant support.

Leader Development and Education

7. The USCG and RCMP currently host an annual binational Shiprider conference. Upon establishment of the JOG and JOSCS, federal, state, and local leaders should expand the meeting to coordinate and refine program execution. Decisions made by the leadership group would flow to regional JOSCS and provide consistency throughout the Great Lakes.

Personnel

8. As discussed in the federal, state and local forces section, the JOG should include all regional forces that possess expertise in either maritime operations, or CQC/SWAT. This includes the USCG, Federal Bureau of Investigation (FBI), Customs and Border Protection (CBP), state / local police, and CBRNE qualified first responders. Due to variation between the capabilities of different state and local law enforcement agencies, each regional JOG will have a unique complement of supporting agencies.

Facilities

Adequate facilities exist at local Coast Guard and RCMP stations to support JOG training and operations.

Area for Additional Study

This paper focuses on the coordination of local Coast Guard, federal, state, and local forces to defeat the ITO threat in the maritime domain in the Great Lakes region. However, U.S. Northern Command (NORTHCOM) maintains a statutory responsibility for the homeland defense mission and should play a role in the detection, tracking, and response to WMD threats. The current system does not provide an effective link between the USCG operational commander and NORTHCOM forces. Further academic

research is necessary to identify how best to integrate the JOG concept outlined above into existing NORTHCOM WMD response activities.

Conclusion

Identifying, interdicting, and removing WMD prior to arrival in the U.S. remains a strategic priority. The USG's existing layered approach effectively mitigates this threat for cargo inbound West, East, and Gulf Coast ports. However, the Great Lake region's unique geography makes this approach ineffective as geographically isolated national and regional response forces are unable to respond to threats in the time frame required. Given the growth of commercial traffic and the shift to containerization in the region, this operational shortfall represents an increasing threat to national security.

A JIIM approach will close this gap. By integrating interagency, state and multi-national tactical capabilities with the maritime experience and authorities of local USCG units to partner agencies, trained and equipped teams will be available to respond to imminent security threats. Existing AMSCs can appropriately manage this process through a newly developed JOSC and JOG. Second, the U.S. and Canadian governments must expand the existing Shiprider framework to include all agencies within the Joint Operations Group and specifically target the larger WMD threat. This would eliminate the current limitation that the maritime border places on response actions and would ensure unity of effort between USG, Canadian, state and local forces.

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