

EXPLORATORY STUDY OF OPERATIONAL APPROACHES  
TO INCREASE NARCOTICS INTERDICTION IN  
THE MARITIME DOMAIN

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE  
Homeland Security

by

WESLEY H. HESTER, LCDR, U.S. COAST GUARD  
B.S., Coast Guard Academy, New London, Connecticut, 1998

Fort Leavenworth, Kansas  
2012-01

Approved for public release; distribution is unlimited.

<b>REPORT DOCUMENTATION PAGE</b>				<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</b>					
<b>1. REPORT DATE (DD-MM-YYYY)</b> 08-06-2012		<b>2. REPORT TYPE</b> Master's Thesis		<b>3. DATES COVERED (From - To)</b> AUG 2011 – JUNE 2012	
<b>4. TITLE AND SUBTITLE</b>  Exploratory Study of Operational Approaches to Increase Narcotics Interdiction in the Maritime Domain.				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b>	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b>  Wesley H. Hester, LCDR, USCG				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> U.S. Army Command and General Staff College ATTN: ATZL-SWD-GD Fort Leavenworth, KS 66027-2301				<b>8. PERFORMING ORG REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for Public Release; Distribution is Unlimited					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> This study investigates the operational aspects of counter-narcotics operations in the maritime domain. Research utilizes design methodology to assess the current and desired operating environments, as well as identify operational gaps. Research assumed current fiscal constraints and capital asset restrictions, limiting operational approach recommendations to current force allocations. It does not call for additional assets, but does provide focus areas should they become available in the future. This study focuses heavily on U.S. Coast Guard cocaine interdiction efforts primarily due to available metrics; and in the Caribbean Sea and Eastern Pacific Ocean from 2006-2011 in order to provide a bounded, yet actionable and relevant study area. Research includes an extensive study of the cocaine source zone as well as recommending a new definition for the transit and arrival zones. Additionally, non-maritime lines of effort are proposed in order to make multi-national efforts more effective.					
<b>15. SUBJECT TERMS</b> Maritime Interdiction, Coast Guard, Design, Transit Zone, Source Zone, Drugs, Narcotics					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b>
<b>a. REPORT</b>	<b>b. ABSTRACT</b>	<b>c. THIS PAGE</b>			<b>19b. PHONE NUMBER (include area code)</b>
(U)	(U)	(U)	(U)	85	

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: Wesley H. Hester

Thesis Title: Exploratory Study of Operational Approaches to Increase Narcotics  
Interdiction in the Maritime Domain.

Approved by:

\_\_\_\_\_, Thesis Committee Chair  
O. Shawn Cupp, Ph.D.

\_\_\_\_\_, Member  
Richard E. Berkebile, MSc

\_\_\_\_\_, Member  
Brian Gerling

Accepted this 8th day of June 2012 by:

\_\_\_\_\_, Director, Graduate Degree Programs  
Robert F. Baumann, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

## ABSTRACT

EXPLORATORY STUDY OF OPERATIONAL APPROACHES TO INCREASE NARCOTICS INTERDICTION IN THE MARITIME DOMAIN, by Lieutenant Commander Wesley H. Hester, 85 pages.

This study investigates the operational aspects of counter-narcotics operations in the maritime domain. Research utilizes design methodology to assess the current and desired operating environments, as well as identify operational gaps. Research assumed current fiscal constraints and capital asset restrictions, limiting operational approach recommendations to current force allocations. It does not call for additional assets, but does provide focus areas should they become available in the future.

This study focuses heavily on U.S. Coast Guard cocaine interdiction efforts primarily due to available metrics; and in the Caribbean Sea and Eastern Pacific Ocean from 2006-2011 in order to provide a bounded, yet actionable and relevant study area. Research includes an extensive study of the cocaine source zone as well as recommending a new definition for the transit and arrival zones. Additionally, non-maritime lines of effort are proposed in order to make multi-national efforts more effective.

## ACKNOWLEDGMENTS

This thesis would not have been possible without the immense support of the entire MMAS department at the U.S. Army Command and General Staff College. In particular, Dr. Constance Lowe provided invaluable support and expertise, often without knowing it.

I must also thank Dr. Shawn Cupp for his tireless support and encouragement. Additionally, Mr. Richard Berkebile and Mr. Brian Gerling were crucial to this effort. Without their expert guidance this project would have never taken shape.

This project would not have been possible without the support provided by Commander Patrick Dougan, U.S. Coast Guard. Commander Dougan's willingness to provide source material without question and at a moment's notice significantly eased my research burden.

Finally, but most importantly, I must thank my amazing wife Bree, and three wonderful children William, Ava, and Clay. Without their support, inspiration, and most of all tolerance, this would have been an impossible endeavor.

# TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE .....	iii
ABSTRACT .....	iv
ACKNOWLEDGMENTS .....	v
TABLE OF CONTENTS .....	vi
ACRONYMS .....	ix
ILLUSTRATIONS .....	x
TABLES .....	xi
CHAPTER 1 INTRODUCTION .....	1
Background .....	1
Research Question .....	2
Assumptions .....	3
Definitions .....	4
Scope .....	5
Limitations .....	5
Delimitations .....	6
Study Significance .....	7
CHAPTER 2 LITERATURE REVIEW .....	8
Introduction .....	8
Source Zone .....	9
Peru .....	10
Colombia .....	11
Bolivia .....	12
Transit Zone .....	14
Belize .....	15
Honduras .....	15
El Salvador .....	15
Nicaragua .....	16
Guatemala .....	17
Costa Rica .....	18
Panama .....	19
Mexico .....	21

Role of the U.S. Coast Guard .....	23
JIATF-South and Trends .....	24
Preferred Trafficking Mediums .....	26
National Guidance .....	27
Summary.....	31
 CHAPTER 3 RESEARCH METHODOLOGY .....	 34
Introduction.....	34
Design as a Problem Solving Method.....	35
Current Environment .....	36
Desired Environment .....	39
Problem.....	40
Operational Approach.....	41
Data Collection .....	41
Risks, Biases, and Validity of Data .....	42
Summary.....	44
 CHAPTER 4 ANALYSIS .....	 45
Introduction.....	45
Current Environment .....	45
Current RAFT Analysis .....	49
Desired Environment .....	50
Strategic Guidance .....	50
Problem.....	52
The Resource Problem .....	52
The Partnership Problem.....	53
Problem Summary .....	54
Operational Approach.....	54
Effective Resource Planning, Positioning, and Allocation.....	55
Accurate, Reliable, and Timely Intelligence.....	56
Sustained and Concentrated Pressure .....	56
Synchronization with Maneuver .....	57
Full Spectrum Superiority .....	57
Summary of Operational Approaches.....	58
 CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS .....	 59
Restated Research Question.....	59
What Trends Exist in Maritime Smuggling? .....	59
How Effective is Current U.S. Counter-Narcotics Strategy? .....	60
How Do Host Nation and Partner Nation Relationships Affect U.S. Efforts? .....	62
Summary of Conclusions.....	62
Recommendations.....	63
Diplomatic and Economic Recommendations .....	63

Military/Law Enforcement Recommendations .....	65
Recommendations for Further Study .....	66
Summary of Conclusions and Recommendations .....	67
REFERENCE LIST .....	69
INITIAL DISTRIBUTION LIST .....	74

## ACRONYMS

DHS	Department of Homeland Security
DTO	Drug Trafficking Organization
FOL	Forward Operating Location
FOUO	For Official Use Only
G/F	Go-Fast vessel, used interchangeably with Panga and Lancha
GAO	Government Accounting Office
HN	Host Nation
JIATF	Joint Interagency Task Force
JCS	Joints Chiefs of Staff
JOA	Joint Operating Area
LEA	Law Enforcement Agency
LEO	Law Enforcement Operations
LSV	Logistics Supply Vessel
ONDCP	Office of National Drug Control Policy
PN	Partner Nation
SPFS	Self-Propelled Fully-Submersible Vessel
SPSS	Self-Propelled Semi-Submersible Vessel
UN	United Nations
UNODC	United Nations Office on Drugs and Crime
USCG	United States Coast Guard

## ILLUSTRATIONS

	Page
Figure 1. Smuggling Vectors.....	9
Figure 2. Sample RAFT Map.....	36
Figure 3. Sample Desired RAFT Map.....	40
Figure 4. Interdiction Event Analysis.....	46
Figure 5. Western Caribbean Interdiction Events .....	47
Figure 6. Current RAFT Analysis .....	49
Figure 7. Desired RAFT Chart.....	50
Figure 8. Elements of Effective Interdiction Operations .....	54

## TABLES

	Page
Table 1. Coast Guard Drug Removal Statistics (in pounds).....	48
Table 2. Total Maritime Cocaine Removal Rate Goal.....	51
Table 3. Price/Purity Index .....	61

## CHAPTER 1

### INTRODUCTION

#### Background

In June, 1971, President Richard Nixon officially declared a “war on drugs” claiming that drug abuse was “public enemy number one” (French 2011). Nixon’s adversary was easy to identify conceptually, but individually difficult to prosecute. Nixon’s war would have to be fought on four fronts: the source zone, the transit zone, the arrival zone, and the domestic demand. This analysis will primarily focus on the maritime transit zone which will be further defined later. The size of the maritime domain coupled with territorial roadblocks creates unique security challenges as the criminal element leverages the accessible, largely ungovernable expanse of the world’s oceans (DOD 2010a, 34). Forty years after Nixon’s proclamation, the world’s most powerful nation is fighting an unconventional war against non-state actors who often rely on over-the-counter technology and seemingly unlimited financial resources.

In an effort to counter the narco-traffickers, the United States (U.S.) formed Joint Inter-Agency Task Force-East (JIATF-E, later renamed JIATF-South). JIATF-South (JIATF-S) represents the whole of government approach to narcotics interdiction in the Eastern Pacific Ocean and Caribbean Sea. In the maritime domain, JIATF-S calls U.S. Coast Guard (USCG) aircraft and ships, Customs and Border Protection (CBP) aircraft, and Department of Defense (DOD) aircraft and ships to detect, monitor, track, and interdict smugglers at sea. These key resources are not solely dedicated to fighting the war on drugs; they are responsible for numerous other foreign and domestic missions. For

example, drug interdiction is only one of 11 mandated missions the USCG is charged with overseeing (Caldwell 2009, 1). Narcotics operations, which fall under Homeland Defense and Civil Support for the DOD, are identified as one of six core mission areas (DOD 2009, 5). Finally, CBP's Air and Marine Operations Branch holds maritime drug interdiction as one of three key mission areas (CBP 2011). These competing demands often lead to a limited allocation of resources by the agencies mentioned above thus requiring an economy of force approach. For example, JIATF-S now uses an unclassified planning factor of the following assets: four long-range patrol aircraft, four airborne use of force helicopters, and eight ships (Munsing and Lamb 2011, 69). Even though these assets are allocated to JIATF-S, on any given day a portion of the ships are in port, aircraft are unserviceable, or crews have reached maximum flight limitations. This is a remarkably small force to cover nearly 42 million square miles of ocean, but this problem is nothing new; a vast area of operations with limited resources to cover it. The U.S. faces a highly motivated adversary content to sacrifice small tactical losses in order to make strategic gains. Identifying and interdicting these threats is vital to U.S. national security interests as well as the global economy (DOD 2010a, 36). This leads to the purpose of this research.

### Research Question

Research seeks to answer the following question: How does the U.S. best use limited resources to interdict narcotics on the high seas? Subordinate questions that assist in answering the primary research question include: What trends exist in maritime smuggling? How effective is the current U.S. counter-narcotics strategy? Finally, how do Host-Nation (HN) and Partner-Nation (PN) relationships affect U.S. efforts?

## Assumptions

The most vital assumption applicable to this research is that narcotics will continue to flow into the U.S. through the maritime domain. From a policy perspective, there are two required assumptions. It must be assumed that the U.S. government will continue to pursue a counter-drug strategy to some extent based on interdiction, and that the USCG will remain the lead agency for maritime interdiction.

It is also important to establish assumptions focused on capital resources. It is likely that technology will continue to improve the efficiency and capabilities of U.S. assets, but the baseline enablers will remain constant. In fact, the current *Naval Operations Concept* states that:

Vessels of interest are subject to increased surveillance and tracking, using a wide variety of military and commercial space-based systems, as well as air, surface, and underwater sensors. These actions facilitate more efficient, effective interdiction operations and are increasingly conducted by long-range, extended-endurance unmanned platforms with multi-spectral sensors. (DOD 2010a, 42)

In the maritime domain, the primary resources will remain Maritime Patrol Aircraft (MPA), ship-deployed helicopters, and surface ships to include Coast Guard and Navy assets.

Lastly, it must be assumed that HN and PN support that currently exists will continue in some form. This includes at least one Forward Operating Location (FOL) for staging MPA in Central America and authorized ports-of-call for surface vessels. Additionally, HN/PN support includes provisions for utilizing national military and law enforcement assets as interdiction platforms in and around sovereign territorial seas.

## Definitions

Arrival Zone: The arrival zone includes the land, air, and maritime entry points along the borders of the U.S. and its territories (U.S. GAO 2002, 20).

Host Nation (HN): A nation that hosts U.S. forces and supplies for staging, transit, or operations (JCS 2007b, III-11). El Salvador allowing a PN in Comalapa is an example of an HN action.

Interdiction: Law enforcement action that may include any of the following outcomes in terms of narcotics or their conveyances: divert, disrupt, delay, intercept, board, detain, or destroy, vessels, vehicles, aircraft, people, cargo, and money (JCS 2007a, vii).

Maritime Domain: Maritime domain encompasses the sea space and airspace of the world's oceans, seas, bays, estuaries, islands, and littoral areas (JCS 2008a, I-1).

Partner Nation (PN): Nations that the U.S. actively operates with to disrupt the production, transportation, distribution of narcotics (JCS 2007b, II-24). Colombian patrol vessels working directly with U.S. PN to interdict vessels is an example of PN activity.

Source Zone: The source zone primarily refers to the geographic area where narcotics embark maritime transport. It is the generic descriptor for the original source of illicit narcotics (U.S. GAO 2002, 20).

Transit Zone: The transit zone encompasses the maritime domain between the arrival zone and the source zone. This area encompasses a majority of the maritime interdiction domain (U.S. GAO 2002, 20).

### Scope

Research focuses solely on maritime assets provided to JIATF-S from the USCG, CBP Air Marine Branch, and DOD. Additionally, the effect of HN/PN interdiction assets will be discussed. Geographically, research focuses on Eastern Pacific and Western Caribbean maritime transit zones. Data used in this study will be restricted to interdictions occurring between October 2006 and August 2011. While it may be useful to explore interdiction rates earlier than 2006, the data becomes unmanageable. Additionally, maritime smuggling trends often change and will be discussed later. These shifting trends may make conclusions less relevant when older data is analyzed. Six years provides an adequate sample to provide accurate trend analysis without overwhelming the study.

### Limitations

Some of the primary documents available will be For Official Use Only (FOUO), or Not Releasable to Foreign Nationals (NOFORN). Every attempt will be made to avoid reliance on FOUO documents. There is one data table in particular that is critical to this research that is FOUO. This data will be summarized rather than presented in its recorded format. While this will be extremely useful in developing force allocation theories, it must be understood that conclusions presented in this research must remain unclassified. Law Enforcement Sensitive documents will also be used. The author will ensure that any Law Enforcement Sensitive information has been vetted for release through the originator.

## Delimitations

Due to the scope of information available and the length of time the USCG has been fighting the War on Drugs, it is necessary to limit the time period being analyzed. Specifically, this study will focus on maritime interdiction efforts occurring between 2006 and 2011. This time period has been chosen because it is broad enough to encompass the most dangerous smuggling trends such as submersible vessels, but not so broad as to make the data unmanageable. It must also be noted that this research is being conducted in 2011, so the data for the last year of this study is accurate through August 2011.

There must also be geographic delimitations associated with this study due to the size of the theater. The Joint Operating Area of JIATF-S as it is defined covers over 42 million square miles, roughly five times the size of the continental U.S. (Yeatman 2006, 27). This research will focus on the Eastern Pacific Ocean and the Caribbean Sea, as defined above in this chapter. It will also be bound to the North by the Mexican arrival zone and to the South by the Ecuadorian source zone in the Pacific and the Northern coast of South America in the Caribbean Sea.

Illicit smuggling through the transit zone described covers a vast number of goods. Most research indicates that cocaine, marijuana, methamphetamine, heroin, persons, weapons, and money all travel via maritime routes to some extent. Despite the extensive menu of contraband, this study will focus primarily on the cocaine trade, although many of the concepts discussed are not particular to this drug. This focus is primarily due to the availability of data and that fact that the growth-to-delivery cycle of cocaine is far more informative when discussing the entire maritime smuggling problem.

The final delimitation applicable to this study is in the domain studied. This research will be restricted to maritime operations exclusively. To be more specific, it will only be concerned with narcotic interdiction once drugs are in the maritime domain of the transit zone. There will be no discussion of interdicting overland transport or aerial delivery.

### Study Significance

The trafficking and use of illicit narcotics have a significant impact on the health, security, and economy of the U.S. In 2007 alone, drug abuse cost the U.S. an estimated \$193 billion (ONDCP 2011, 1). Rather than fill a knowledge gap, research will fill analysis holes and propose recommended operational approaches that increase interdiction rates without significantly increasing resource demands. Research should develop a most likely profile for interdiction forces to focus on and reduce activity in low-return corridors. Overall, the resultant profile should make air and sea patrols more effective in interdicting drugs at sea by shrinking search areas and targeting high probability smuggling vessels.

## CHAPTER 2

### LITERATURE REVIEW

#### Introduction

This chapter will focus primarily on four broad areas: the source zone, the transit zone, the USCG's interdiction role, and the national guidance. It is important to note that although the focus of this study is on the maritime transit zone, activities and policies that exist in the source and arrival zones greatly influence the transit zone. U.S. enforcement of narcotics laws in the arrival zone, guided by national, regional, and organizational strategies, have reshaped the methods Drug Trafficking Organizations (DTOs) use to receive and distribute narcotics. Similarly, the zeal (or lack of) in which governments in the source zone attack suppliers is far from consistent and has helped shape how DTOs utilize points of departure. The map below provided by the U.S. Drug Enforcement Agency (DEA) illustrates source, transit, and arrival zones as well as approximate drug flows by percentage.



Figure 1. Smuggling Vectors

Source: Melissa Beale, “The CARICOM Blueprint for Illicit Drug Trafficking,” Council on Hemispheric Affairs, <http://www.coha.org/the-caricom-blueprint-for-illicit-drug-trafficking/> (accessed 23 December 2011).

#### Source Zone

By definition, the source zone is the geographic area where narcotics (in this case, cocaine) are grown, processed, and embarked on vessels for transit to market (U.S. GAO 2002, 20). It is vital to identify source zone countries in order to focus U.S. diplomatic and interdiction efforts. This concept was codified in Presidential Decision Directive-14 (PDD-14), when President Obama stated that interdiction efforts will shift towards source zone countries by “providing assistance to those nations that show the political will to combat narco-trafficking through institution building” (Munsing and Lamb 2011, 17). *The Department of Defense Strategy for Homeland Defense and Civil Support* further recognizes the importance of cooperation with source zone states. “The expansion of information and intelligence sharing with foreign partners is critical . . . friendly and

allied nations often possess significant information relating to terrorism, smuggling, and other U.S. concerns” (DOD 2005, 34). In order to do this, the *Strategy for Homeland Defense and Civil Support* directs DOD assets to assist the Homeland Security apparatus in collecting and analyzing human intelligence, increasing long-range surveillance and strengthened international partnerships (DOD 2005, 15).

## Peru

Inadequate security forces and a weak anti-narcotics enforcement structure have made Peru a haven for narcotics manufacturers. According to testimony before the Senate Cuacus on International Drug Control, DTOs have colluded with Shining Path insurgents to move cocaine from cultivation centers to key transshipment points along the country’s coastline and near the land border with Bolivia (Benson 2011, 6). Once a guerilla insurgent group, Shining Path was all but irrelevant until recently. In 2009, Shining Path reinvented itself as a prime mover in the international cocaine trade (Romero 2009). During the height of the insurgency, cocaine production was a secondary enterprise, but that has changed. Cocaine production and transportation is now the primary enterprise of the Shining Path (Romero 2009). Peru’s relatively weak law enforcement bodies are ill-equipped to handle the threat of well-armed and organized transnational drug trafficking groups working in alliance with Peru’s homegrown insurgency (InSight 2011). By 2009, cocaine production in Peru was almost equal to that of Colombia (UNODC 2010, 16), and by 2011 Peru surpassed Colombia as the world’s leading producer of cocaine, capable of growing and processing 325 metric tons of cocaine per year (InSight 2011). This represents a 50 metric ton advantage over its rival.

## Colombia

Until recently, the bulk of the world's cocaine came from Colombia, where coca is grown and processed for distribution (Benson 2011, 1). Similar to its South American neighbor Peru, cocaine production in Colombia relies heavily on security provided by insurgent groups such as the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN). The rise of these insurgent groups after the disintegration of the Cali and Medellin Cartels provided an opportunity for a unique partnership between Colombian leftist guerrillas and DTOs. During the zenith of the large Colombian cartels, leftist groups simply taxed coca farmers. Today, these same groups have assumed a much greater role in the process including manufacturing and distribution (Calderon 2003). These two groups often have different end state desires, but operate in the same regions and maintain some convergent interests (Miller 2010, 5). The restructuring of the Colombian drug trade did not only create illicit partnerships, but lasting state relationships as well. In 1999, Colombian President Andres Pastrana unveiled "Plan Colombia" (Miller 2010, 3). Plan Colombia called for the U.S. to provide security assistance primarily targeting counter-narcotics efforts. In fact, since the end of the Cold War Colombia has received more assistance from the U.S. than any other nation in the Americas (Miller 2010, 4). This assistance enabled the U.S. government to supply military-grade hardware and training to the Colombian military with the aim of reducing the supply of cocaine bound for the U.S. (Ford 2000, 11) while providing Colombia much needed infrastructure to fight the insurgency created by the FARC and ELN (Miller 2010, 4).

Plan Colombia is not solely a strategy for interdiction, but for eradication and alternative growth initiatives (Bureau of Western Hemisphere Affairs 2000, CRS-1). Since its inception, Colombia has utilized aerial spraying platforms to coat coca fields with defoliant. While this has met with some success, it has had some unintended consequences. Overspray sometimes reaches coffee and papaya fields, serving to destroy legitimate crops as well as illicit fields (Miller 2010, 7). Additionally, there is concern that the herbicides are having lasting medical affects on the local population; an argument also made in the U.S. Alternative growth initiatives are also in place. Colombia and the U.S. government, through Plan Colombia, are encouraging the cultivation of palms as a source of palm oil and biofuels. In fact, in 2005, Colombian President Uribe began a push that would see palm production grow from 750,000 acres to 15 million acres (Ballve 2009). There is significant concern that these palm plantations do little more than provide an avenue for DTOs to launder illegal funds and further their access to fertile land and labor (Ballve 2009). It must be acknowledged that Plan Colombia is having some success, but it is clear that it is not going to completely stem the cultivation of coca or the production of cocaine within Colombia's borders.

### Bolivia

Peru and Colombia claim a majority of the coca cultivation is in South America, but they are not alone. Rounding out the triumverate of cocaine producers is another Andean nation, Bolivia. Bolivia is a unique case when it comes to growing coca and cocaine production. Coca has long been a cultural crop in Bolivia, used by its indigenous people as a foundation for traditional rituals, medicine, and tea (Schipani 2010). President Evo Morales, once a coca farmer himself, advocates a policy of "zero cocaine, not zero

coca” (Schipani 2010) with national law allowing 2,000 hectares of coca production annually (UNODC 2005, 5). This policy has increasingly come under fire as traditional use of coca has given way to the more nefarious practices of cocaine producers. One leading Bolivian economist estimates that cocaine production has increased nearly 70 percent in recent years, and has become the third largest source of revenue in the country behind hydrocarbons and mining (Schipani 2010). Government tolerance for coca growth, combined with remote jungle areas have served as a beacon for Colombian DTOs displaced by enforcement efforts in their own country (UNODC 2005, 5). This alarming trend has also led to an increase in violence in the country where drug-related violence was previously non-existent. This has been exacerbated by the Bolivian government’s unwillingness to work with the international community (UNODC 2005, 1). In 2008, President Morales expelled U.S. counter-drug agents from the country and assumed sole responsibility for combatting the problem (Schipani 2010). Bolivian officials are optimistic that they can impact the illicit trade, but not without help. “We are seizing more and more (cocaine), and more and more traffickers, that are increasingly violent,” (Schipani 2010) says Colonel Felix Molina, head of Bolivia’s counter-drug effort. He continues, though: “We are doing the best we can, but we lack resources and we feel abandoned by the international community” (Schipani 2010). It appears that Bolivia has the desire to avoid drug related violence, but lacks the ability to do so. Until it allows the international community to assist, Bolivia will likely continue its growth as a major cocaine producer for the world market.

### Transit Zone

By definition, the transit zone refers to the maritime domain between the arrival zone and the source zone and encompasses a majority of the maritime interdiction domain (U.S. GAO 2002, 20). For the purposes of this review, Central American states that enable overland transport of narcotics through the transit zone will also be discussed. In terms of kinetic action, the National Security Council has directed that interdiction efforts be undertaken as far from U.S. soil as possible (Munsing and Lamb 2011, 16). Unfortunately, these efforts can no longer be concentrated on the high seas. There is a disturbing trend among smugglers to utilize a combination of maritime and over-land smuggling routes. *The Strategy to Combat Transnational Organized Crime* describes Central America as an area of converging threats where drugs, weapons, and a strong criminal element take advantage of regional instability to sustain revenue streams (U.S. President 2010b, 9). The U.S. faces significant diplomatic and geographic obstacles trying to combat these enhanced trafficking models, however they do serve to shrink the maritime portion of the transit zone. The United Nations Office on Drugs and Crime (UNODC) recently stated: "As maritime interdiction has increased . . . a growing share of cocaine headed northward is passing through northern Central America, including El Salvador, Honduras, Guatemala, and Belize" (Amador 2011). Munsing and Lamb also point out that use of Central American waypoints makes smuggling easier. Smuggling in the vicinity of a state's territorial waters and in close proximity to land makes it easier to avoid detection and escape interdiction (2011, 74). This assertion speaks to the importance of transit-zone interdiction. Arrival zone maritime interdiction is quickly becoming irrelevant due to the use of transit zone countries.

## Belize

Belize has certainly been affected by the shift in smuggling tactics. Relatively small populations with vast ungoverned spaces on the Caribbean coast have made Belize key terrain for smugglers. Belize's top official for police and public safety, Dough Singh, recently stated: "The open waterways pose many challenges for Belize's small population and meager resources" (Amador 2011). The result has been nothing short of disastrous. In September 2011, President Obama officially added Belize to the "blacklist" of states considered major narcotics shipping points (Nuland 2011).

## Honduras

The challenges that face Belize are not unique to the region. U.S. officials believe that more than half of the cocaine destined for the U.S. is initially offloaded along the Caribbean coast of Honduras. Estimates say nearly 25 metric tons a month (Alonso 2011). Like Belize, Honduras has a large isolated, ungoverned Caribbean coast. Furthermore, the lack of law enforcement infrastructure makes the lucrative practice of assisting smugglers attractive to the impoverished local population and allows narcotics to flow freely between Honduras and Guatemala (Alonso 2011).

## El Salvador

The story is no different in El Salvador. Similar to other Central American countries, El Salvador suffers from lengthy, porous borders, corrupt political systems, poverty and heavily armed organized crime elements (Farah 2011, 10). In addition to the internal factors that make El Salvador attractive to organized crime, its geographic position makes it vital ground for organizations involved in maritime smuggling of

cocaine and other illicit goods. There are numerous estimates that attempt to quantify the amount of cocaine processed and shipped to the U.S. via maritime routes. Most estimates indicate somewhere between 550 and 730 metric tons per year (Farah 2011, 4). It is generally believed that nearly 90 percent of this cocaine arrives in the U.S. through the Central American-Mexican supply lines (Farah 2011, 4). Recently classified as a “country of concern” by the U.S. State Department, it is believed that El Salvador seizes less than one percent of the cocaine traveling through its territory (Farah 2011, 4). Typically, narcotics arrive along the unguarded coast of El Salvador on G/F or commercial fishing vessels for further transport North along the Pan-American highway (U.S. Department of State 2011a, 242). Unlike many Central American countries, El Salvador is an outspoken ally of the U.S. government in its efforts to combat narcotics smuggling. The U.S. State Department considers El Salvador “fertile ground” for the U.S. government and through the Central American Regional Security Initiative has focused assistance efforts on increasing the professionalism of the police force, decreasing corruption, and enhancing port control operations (U.S. Department of State 2011a, 243). In addition, the international airport in Comalapa is home to the longest standing FOL used by U.S. counter-narcotics forces.

### Nicaragua

Nicaragua is another key transshipment point in Central America for many of the same reasons listed above: poverty, sparse coastal populations, and lack of effective law enforcement (U.S. Department of State 2011a, 421). Unlike many of the states in the region, Nicaragua appears committed to combating smuggling through its territory despite its lack of internal capabilities. Nicaragua is extremely dependent on U.S.

assistance for the most basic aspects of law enforcement. The Nicaraguan Navy should be hailed as a model depicting assistance leading to success. In 2010, despite a lack of fuel, food, funding, and equipment, the U.S. State Department declared the Nicaraguan Navy as one of the most effective agencies in the region at combatting narcotics smuggling (2011a, 424). This success was primarily due to extensive U.S. assistance and inter-state cooperation. In recent years, Nicaragua has allowed USCG aircraft to operate from Nicaraguan bases and in conjunction with Nicaraguan Naval forces. These operations have been extremely successful and helped lay the foundation for future endeavors. It is possible that the security assistance provided by the U.S. combined with joint operations is the right model moving forward.

#### Guatemala

Guatemala is the antithesis of Nicaragua. Despite strong relations with the U.S., there is little success in the counter narcotics arena. In fact, while interdictions are on the rise in most states in the region, they are on the decline in Guatemala (U.S. Department of State 2011a, 270). The 2011 International Drug Control Strategy Report clearly sums up why Guatemala is a haven for smugglers. “Guatemala possesses many essential features of an ideal transshipment point: its location between the Andean producing countries and the U.S. market; easy accessibility by DTOs via air and sea; weak public institutions; endemic corruption; and vast ungoverned spaces along its borders” (U.S. Department of State 2011a, 271).

Despite extensive U.S. efforts to enhance security and technical capabilities, violence and corruption are on the rise in Guatemala. Sporting the lowest per-capita tax collection in the region, Guatemalan law enforcement and criminal justice agencies

frequently suffer from underfunding (U.S. Department of State 2011a, 272). Social programs continue to take money from justice programs and this has allowed Mexican DTOs to infiltrate the country. The broad reach of these Mexican DTOs is evidenced by the lack of success Guatemalan law enforcement has enjoyed in recent years. Despite increased aviation and naval resources supplied by the U.S. government, cocaine seizures dropped from 7.1 metric tons in 2009 to 1.4 metric tons in 2010 (U.S. Department of State 2011a, 272). As other reports have shown, this decrease has nothing to do with the quantity of cocaine flowing through the country, and everything to do with enforcement ability. To make matters more complicated, the recently elected President of Guatemala has been vocal in his desire to legalize both the possession and transport of narcotics through all of Central America. In February 2012, just days after being elected based on a strong counter-narcotics platform, President Otto Perez Molina reversed course and began to call for legalization throughout Central America (Washington Post 2012). While his proposal has failed to gain support among his Central American neighbors, it does demonstrate that at this point Guatemala cannot be counted as an ally in the transit zone.

#### Costa Rica

In 2010, Costa Rica was officially named a “major transit country” for narcotics for the first time in its history (U.S. Department of State 2011a, 204). Possessing extensive Pacific and Caribbean coastlines, Costa Rica’s proximity to the Andean source region has made it a valuable transshipment point for DTOs. Additionally, there is evidence that Mexican cartels have infiltrated the country and are facilitating increased traffic through the country (U. S. Department of State 2011a, 205). Costa Rican President Laura Chinchilla declared public security as her number one priority upon taking office

in May 2010 (U.S. Department of State 2011a, 205). Despite her desires, Costa Rica suffers from a lack of enforcement resources. As the only state in the region with no standing military, narcotics enforcement relies on a poorly equipped coast guard to combat maritime smuggling along extremely attractive littoral areas (U.S. Department of State 2011a, 206). In fact, over 85 percent of cocaine seizures made by Costa Rican law enforcement take place on land (U.S. Department of State 2011a, 206). Costa Rica is seen as the U.S. government's staunchest ally in the war on drugs in the region. They have demonstrated institutional resolve to destroy corruption and combat illicit trafficking. Recently, a joint U.S.-Costa Rican pact was established to build and maintain a Costa Rican training facility for its coast guard. This, combined with a strong relationship with the U.S. Southern Command (USSOUTHCOM), should make great strides toward combatting the threat faced in the Costa Rican littorals.

### Panama

Geographically, Panama is the bridge that joins North and South America. U.S. LEAs see it as more than that. DEA Chief William Ledwith testified to the U.S. Congress in 2000 that "Panama is the most strategically located nation in the Western Hemisphere for drug trafficking" (Ledwith 2000). Panama has not gained this reputation simply by being adjacent to Colombia, by having extensive Pacific and Caribbean coastlines, or by its weak public safety institutions (Ledwith 2000). Panama is a Central American anomaly. The Panama Canal has helped turn Panama into an international air hub, sea hub, and banking center (Ledwith 2000). It is easy to see how Panama's progressive economy fuels the drug trade. For example, DTOs can land narcotics in Panama through air, land, or sea. Once the drugs are in Panama, they can be shipped out on any number of

legitimate (or illegitimate) voyages, flown out through commercial air, and driven over the Pan-American Highway. Proceeds from these activities may be laundered through any number of enterprises through the established international banking system in Panama City.

In addition to conventional maritime smuggling vessels discussed earlier, high volume commercial shipping traffic is unique to Panama. The UNODC Deputy Executive Director Francis Maertens stated that a majority of the world's trade travels through containers, some 420 million per year, and therefore stands to reason that a high percentage of illicit cargo also travels through containers (UN News Centre 2010). It is estimated that 11 million shipping containers move through Panamanian ports each year (UN News Centre 2010), making the container threat substantial. UNODC reports that Panamanian ports are becoming more adept at detecting and interdicting narcotics hidden in shipping containers, but corruption, poor working conditions, and lack of resources are making it a difficult battle (UN News Centre 2010).

Panama is not recognized by the U.S. State Department as a significant producer of narcotics, but it is not uncommon for seizures to uncover cocaine, heroin, and precursor chemicals in large quantities (U.S. Department of State 2011a, 439). Panama has long been a valuable partner in the war on drugs, and the current administration seems committed to continuing cooperation. President Martinelli's administration has overseen the construction of several naval and air bases along both coastlines specifically tasked with counter-drug operations (Sullivan 2011, 17). In addition to internally driven improvements, the U.S. government "Has provided resources to modernize, train, and maintain vessels and facilities of the National Air Naval Service (SENAN), the National

Border Service (SENAFRONT), the National Police (PNP), and the newly created Ministry of Public Security” (Sullivan 2011, 17). This supportive relationship extends beyond training into counterdrug operations. Panamanian law enforcement officers often conduct joint operations with USCG ships and aircraft, detailing “ship riders” to U.S. assets (U.S. Department of State 2011a, 440). Ship riders allow USCG ships and aircraft to operate within Panama’s territorial seas, effectively extending the reach of USCG assets and enhancing Panamanian law enforcement capabilities. The ship rider program has been immensely successful and has helped Panama interdict more narcotics than any nation in Central America (U.S. Department of State 2011a, 441). It appears that the high volume of narcotics transiting through Panama, combined with existing cooperative agreements could make Panama a high payoff target for maritime interdiction forces.

## Mexico

No discussion of transit zone waypoints would be complete without discussing the role Mexico plays. The *2011 National Drug Threat Assessment* indicates that, “Mexican DTOs dominate the supply, trafficking, and wholesale distribution of most illicit drugs in the U.S.” (National Drug Intelligence Center 2011, 2). An entire thesis could be written on DTOs inside Mexico, but this research will focus on the relationship between the physical state of Mexico and the maritime transshipment of narcotics. The U.S. State Department *2011 International Drug Control Strategy Report* gives Mexico unique status in the region:

Mexico is both a major transit and source country for illicit drugs reaching the United States. Approximately 95 percent of the estimated cocaine flow toward the United States transits the Mexico-Central America corridor from its origins in South America. Mexico is also a major supplier of heroin, marijuana, and methamphetamine to the United States. (U.S. Department of State 2011a, 383)

This distinction makes Mexico a dual threat for the U.S. government. Traditional smuggling routes through the Western Caribbean and Eastern Pacific can be monitored, but drugs processed in Mexico must be interdicted closer to U.S. shores. The Calderon administration has taken significant steps to combat narcotics within Mexico to include police and judicial reform. While these reforms have made some headway, they have also greatly increased the violence in Mexico. Additionally, they have forced DTOs to migrate south into countries where it is easier to operate (U.S. Department of State 2011a, 391).

The Merida Initiative has assisted the Mexican government in accomplishing reforms and combating the narcotics trade. Since 2008, through the Department of State, the U.S. government has appropriated \$1.6 billion to Mexico in an effort to enable the fight against DTOs (U.S. Department of State 2011a, 390). The bilateral efforts of this initiative have had positive results. To date, the initiative has supported comprehensive reforms of the entire Mexican criminal justice system through training, education, and judicial partnerships. Additionally, the U.S. has helped the Mexican government establish and maintain a training academy for corrections officers in an effort to prevent DTOs from operating inside national prisons. Furthermore, through U.S. Agency for International Development, the agreement is making progress in Mexican communities by promoting the rule of law and building resiliency in those communities hit the hardest by the drug trade. Finally, the U.S. government has provided the funding and contracting expertise to allow Mexico to increase the capital resources required to fight organized crime. This includes numerous helicopters to assist the military and federal police with security operations and state of the art detection equipment that enable more thorough inspection at air and land ports of entry (Department of State 2011a, 390). While there

are no concrete figures on the amount of illicit cargo passing through land based ports of entry, estimates indicate that nearly 70 percent of drugs manufactured or shipped through Mexico arrive in the U.S. via land.

In the maritime domain, Mexican DTOs are restricted to the California and Texas coastlines due to simple geography. They typically use smaller versions of go-fast (G/F) vessels, called lanchas or pangas, in an attempt to blend with local vessel traffic (National Drug Intelligence Center 2011, 16). These vessels are not capable of carrying large loads, and therefore the frequency of this type of activity has increased in recent years. The National Drug Intelligence Center believes this trend will continue as land port of entry detection success continues to improve (2011, 16). Demonstrating their ability to adapt to law enforcement, west coast DTOs are no longer landing solely in San Diego but rather pushing shipments further north. According to “FOUO” weekly activity briefs provided to LEAs operating in coastal California, there was a sharp increase in documented landings in the Los Angeles area between 2009 and 2011. It is only fair to assume that this trend will continue.

#### Role of the U.S. Coast Guard

Due to the intermediate waypoints described above, maritime interdiction near the source zone has become increasingly more important. USCG interdiction efforts are vital to accomplishing this. The USCG is a unique branch of the military in that they are the only branch expressly afforded law enforcement authority. Title 14 U.S.C. § 89(a), allows the USCG to “make inquiries, examinations, inspections, searches, seizures, and arrests upon the high seas and waters over which the United States has jurisdiction, for the prevention, detection, and suppression of violations of the laws of the United States.”

The *Naval Operations Concept 2010* clearly identifies the USCG's role in interdiction operations when it describes law enforcement on the high seas. Under Title 14 authority, the USCG operates both independently and in conjunction with U.S. Navy and foreign navy vessels to conduct Law Enforcement Operations (LEO) in both deep water and littoral environments (DOD 2010a, 43). It is important to understand that the USCG has the ability to assume tactical control of its DOD partners in order to extend its law enforcement authority. Currently, the USCG and its partners rely on intelligence and surveillance across the air, surface, and sub-surface domains to establish vessels of interest. These vessels of interest are subject to more stringent monitoring throughout their voyage and increase the effectiveness of LEO (DOD 2010a, 41).

#### JIATF-South and Trends

The USCG is only a part of a larger interdiction effort. This effort in the Eastern Pacific and Caribbean Sea is primarily coordinated by JIATF-S. JIATF-S provides a model of interagency cooperation that arguably exists nowhere else in the U.S. government. They rely on effective cooperation among all partners in the intelligence and operational domain to cover an immense operating area (Munsing and Lamb 2011, 77). In a typical day, JIATF-S monitors over 1,000 targets of interest in an effort to direct operational assets to two to three high payoff targets (Munsing and Lamb 2011, 77). In 2009, JIATF-S accounted for over 40 percent of cocaine interdictions worldwide. This totaled nearly 220 tons of cocaine. The rest of the U.S. government accounted for only 40 tons (Munsing and Lamb 2011, 3).

Counter-narcotics experts have long struggled to develop a profile of smuggling vessels and preferred routes. It would appear that the sustained success of JIATF-S in the

Eastern Caribbean and far-Eastern Pacific has forced smugglers inward, into the littoral environment of the Central American and Pacific coasts (Munsing and Lamb 2011, 74). Until the mid-2000s, smugglers frequently utilized offshore routes in the Eastern Pacific transiting as far west as the Galapagos Islands before turning north; nearly 700 nautical miles offshore. First and foremost, these routes took advantage of a seam between the JIATF-S and JIATF-West operating areas. Additionally, these routes capitalized on the lack of LEA resources focused on distant interdiction. In 2003, the joint operations area for JIATF-S was expanded to cover these smuggling areas and began to push high endurance resources towards the Galapagos Islands. This response met with a great deal of success, and as a result traffickers more or less abandoned this route (Munsing and Lamb 2011, 30). As is typical in the cat-and-mouse game that often exists between organized crime and law enforcement, DTOs adjusted to the new enforcement strategy. They began to establish logistics supply lines with fishing vessels far offshore. Narcotics were loaded into large, fast, multi-engine boats (G/Fs) capable of very high speeds. These specialized vessels would make fully loaded runs of 1,000 to 1,500 miles and stop at Logistics Supply Vessels (LSVs) for food and fuel. Additionally, these LSVs served as lookouts and warned approaching go-fasts of law enforcement assets (Munsing and Lamb 2011, 73). JIATF-S and the USCG began to recognize this trend and counter it through action aimed at LSVs. While this tactic is still in use, it is no longer a preferred method for transport. It can be argued that the lasting effect of this tactic benefitted LEAs more than the traffickers as it forced the U.S. government to engage Central and South American states to develop intelligence and assist in interdiction. This engagement has led to lasting partnerships among many Western Hemisphere nations.

### Preferred Trafficking Mediums

One mainstay in the DTO's arsenal is the G/F vessel. These vessels often resemble recreational vessels or local fishing pangas, yet are outfitted with multiple, high horsepower engines. They have shallow drafts allowing them access to littoral environments and can be very difficult to detect on radar (U.S. House of Representatives 2009). Congressional reports indicate nearly half of the cocaine flowing through the transit zone does so on G/F vessels (U.S. House of Representatives 2009).

DTOs have generally relied upon fishing vessels and G/F type vessels to transport narcotics, but there is evidence that this is changing. In 2006, the USCG detected and successfully interdicted the first Self-Propelled Semi-Submersible (SPSS) smuggling vessel. Primarily built in the swampy jungles of Colombia, these fiberglass and wood vessels are estimated to carry as much as 10 tons of cocaine per voyage and travel nearly 2,000 nautical miles without support (Munsing and Lamb 2011, 74). Current estimates believe that there are nearly 120 SPSS events per year, with only a small portion actually detected (Munsing and Lamb 2011, 74). These vessels are particularly difficult to detect due to their low radar signature and extremely small freeboard. Furthermore, it is far more common to disrupt rather than interdict these vessels as DTOs often order the crews to scuttle the vessel when they are detected by law enforcement. In 2008, the U.S. Congress passed the Drug Trafficking Vessel Interdiction Act. This act made it illegal for stateless submersible and semi-submersible vessels to undertake international voyages (U.S. Congress 2008); making it easier to prosecute smugglers despite the lack of narcotics available for prosecutors. While initially a phenomenon restricted to the Eastern Pacific, recent interdictions in the Western Caribbean demonstrate the DTOs are getting

more adept at manufacturing these vessels and deploying them in new locations. The first of these Caribbean interdictions took place on 13 July 2011, 16 nautical miles off the coast of Honduras (Defense Media Network 2011). DTOs do not appear to be content with the relative success of the SPSS. In 2011, two fully submersible vessels were discovered prior to being employed to smuggle narcotics. The first was discovered in Colombia while the second was found in Ecuador (Kerr 2011). The DEA estimates that both vessels are capable of carrying eight tons of cocaine and can transit at 30 feet below the surface for nearly a week without surfacing (Kerr 2011).

### National Guidance

Despite the efforts and relative success of U.S. interdiction, illicit narcotics still pose a significant threat to the “Health, safety, security, and financial well-being of Americans” (U.S. President 2010b, 6). The current demand for narcotics in the U.S. “fuels the power, impunity, and violence of criminal organizations around the globe” (U.S. President 2010b, 6). A great deal of popular research suggests that the only way to win the war on drugs is to stop drug abuse in the U.S. In essence, there is a large contingent that believes the U.S. drug consumer is the center of gravity. It is difficult to argue that they are incorrect, however the agencies discussed in this research have been given the mandate to interdict illicit drugs, so that is the focus of this research. It is fair to assume that the U.S. government does not currently possess the ability to end the demand for narcotics which makes this research even more relevant.

Although they are not mentioned specifically, it must be acknowledged that robust efforts exist in the nation’s land and sea ports of entry to combat smuggling. As this paper focuses on transit zone interdiction, discussion of arrival zone activities will

primarily focus on the nested strategies drafted by the U.S. government and agencies responsible for the interdiction of narcotics on the high seas. These strategies include the National Security Strategy, the National Military Strategy, the Department of Homeland Security Strategic Plan, Office of National Drug Control Policy (ONDCP) National Drug Control Strategy, and the USSOUTHCOM Strategy 2020. The role each of these guiding documents plays in interdiction efforts will be discussed below.

*The National Security Strategy* serves as the overall guiding document for all national security interests. This document purposefully refrains from outlining specific tasks for U.S. government agencies, but it does outline the way ahead for U.S. security interests. Specifically, there is significant attention paid to the need to develop effective, lasting partnerships with America's regional neighbors to combat transnational crime. The overarching goal is to assist PNs in growing internal capacity through funding, equipment, training and intelligence sharing.

*The National Military Strategy of 2011* expands on the demands of the National Security Strategy. Using more specific language, it charges the U.S. military, to include the USCG, with promoting and increasing international and regional security (Mullen 2011, 1). Mullen specifically addresses Central and South American security and indicates that the U.S. military strongly desires to increase partnerships in terms of bilateral, regional, and international issues (2011, 11). His desire is clearly in line with the *National Security Strategy*; that is to build partner capacity and forge lasting relationships that enhance security for all nations involved.

*The National Drug Control Strategy*, drafted by President Obama and presented by the ONDCP proposes a balanced approach to decreasing the effects of narcotics on the

U.S. and its citizens. The President proposes several lines of effort to include prevention, treatment, recovery support, law enforcement, interdiction, and international partnerships with a goal of achieving a 15 percent reduction in the rate of drug use over the next five years (ONDCP 2011, 91). It is important to note that interdiction and international partnerships are among the key efforts described in the most recent strategy. The *Strategy* highlights the importance of multinational cooperation among Western Hemisphere nations in combatting the threat to the U.S through bilateral agreements, joint training, and information sharing. This strategy is in line with the above mentioned national strategies as it stresses the importance of international cooperation and solutions to the illicit drug problem through international unity of effort.

Joint Publication (JP) 3-03, *Joint Interdiction*, is a military specific document that describes the complete process of interdiction from planning through execution. Primarily a planning tool, JP 3-03 specifically describes several key elements to successful interdiction operations. First, “accurate, reliable, and timely intelligence” is vital to determining DTOs capabilities, tactics, and probable courses of action (JCS 2007b, viii). Second, it is imperative that interdiction capable resources are applied in the correct manner, at the correct time, and in the correct location (JCS 2007a, x). This obviously ensures the best chance for successful interdiction and is often dependent on accurate intelligence during the planning cycle. Finally, JP 3-03 stresses the importance of sustained, concentrated pressure on DTOs. As described above, many drug trafficking vessels are designed as easily replaceable or repairable. Because of this, sustained, significant effort must be undertaken to interrupt the replacement cycle and impact critical capabilities of DTOs.

USSOUTHCOM is the DOD combatant commander responsible for the geographic area described in this study. USSOUTHCOM recently revealed its three strategic objectives: defend the U.S., foster regional security, and be an enduring partner (Fraser 2010, 5). These objectives are clearly in line with national objectives; however USSOUTHCOM has the ability to turn national strategy into operational and tactical action. In practice, USSOUTHCOM acts as a facilitator that marries DOD capabilities with threats in the source and transit zones. USSOUTHCOM is a vital component of U.S. government international engagement in the region. Although JIATF-S is the primary vehicle used for interdiction, USSOUTHCOM frequently fosters joint exercises, training, and military exchanges with regional security partners (Fraser 2010, 8).

*The Coast Guard Strategy* of 2007 remains applicable doctrine for fighting maritime smuggling. It acknowledges the USCG as a unique organization, holding both national defense and law enforcement roles. Additionally, it reaffirms the USCG as the lead maritime agency for high seas interdiction, specifically for counter-drug operations (Allen 2007, 11). The maritime domain is expansive, and often ungoverned. This has forced the USCG to develop a complex, layered defense in order to accomplish its statutory missions. This layered defense relies on strengthening maritime regimes, maritime domain awareness, and operational capabilities (Allen 2007, 15). These strategic goals all enable the USCG to enforce U.S. laws, conventions, and treaties with the intent of suppressing narcotics smuggling (Allen 2007, 22). In addition to enforcing existing laws, the *Strategy* stresses the importance of international partnerships and engagements. The USCG exists outside of the DOD, and this enables the service access to countries and ports that may otherwise be off-limits to U.S. military assets. For

example, after the FOL in Manta, Ecuador closed, DOD aircraft were not allowed in the country; however USCG aircraft routinely operated (and continue to operate) from locations inside the country. Admiral Allen recognizes the niche that the USCG fills as a key component of more of a grand national strategy to operate with and through international partners.

In summary, there is clear direction in the above mentioned strategies. Each acknowledges the dangers of both DTOs and the narcotics they produce and introduce into the U.S. Additionally, each clearly identifies guiding principles and actions appropriate to the level of government producing the document. It is an inescapable conclusion that drugs are a threat to U.S. national security, and that the epidemic of drug abuse exists globally. International engagement is critical to stemming the flow of illicit narcotics into the U.S.

### Summary

The primary purpose of this literature review is to provide broad background for the entirety of the interdiction problem facing U.S. and other Western Hemisphere governments. This research seeks to determine how the U.S. government can best employ maritime interdiction assets to stem the flow of narcotics into the U.S. In order to do this, it is vital to understand the dynamics of both the source zone and transit zone as well as U.S. national level policies that govern counter-drug action in these domains.

Illicit drugs, specifically cocaine and to some extent heroin, are primarily being grown and processed in the Andean Ridge countries of Colombia, Peru, and Bolivia. The U.S. government has found success in turning Colombia into a PN, but the same cannot yet be said for Peru and Bolivia who both continue to increase production. Source zone

identification allows maritime interdiction assets to shrink monitoring areas based on manufacturing geography and is vital to reducing the flow of drugs into the U.S. Source zone research suggests increased governmental pressure on DTO resources negatively effects cocaine production and is therefore an important aspect of reducing maritime flow of narcotics.

Research suggests that there is a new face to the transit zone. Maritime smuggling no longer relies on a long voyage from South America to the shores of the U.S.; rather it relies on intermodal logistics designed to decrease opportunities for interdiction. Interdiction is no longer solely an over the horizon endeavor. Smugglers rely on jurisdictional boundaries, poverty-stricken citizens, and ungoverned coastal areas to move loads of narcotics in piecemeal fashion along the coastlines of Central American nations. Many times these smugglers are in view of land, just beyond U.S. jurisdictional reach and into the territorial waters of Central American nations that are either indifferent to or incapable of interdicting these DTOs. Many Central American nations face common issues, suggesting that there may be common solutions. Poverty, government control over remote regions, corruption, and lack of resources to fight DTOs are certainly enormous issues. U.S. policy clearly indicates a desire to fight DTOs by, through, and with hemispheric neighbors; going so far as to offer money and resources to any nation willing to join the struggle. While money and law enforcement resources are not panaceas, they can assist these struggling nations with several of their current difficulties and free up internal resources to fight others.

National level guidance appears to be clear and not unduly restrictive in the maritime domain. In fact, policy appears to want to take the fight to the enemy no matter

where they operate. In order to do this, U.S. policy is focused on building partner capacity and fostering hemispheric relationships.

Clearly, narcotics and the second and third order effects that accompany the distribution and use of narcotics are a threat to the U.S. This is acknowledged in the National Security hierarchy of documents and results in a strategy that favors empowerment and keeping any and all threats as far from U.S. shores as possible. Source zone knowledge provides a clear blueprint for departure points of illicit narcotics and transit zone assets, policies, and partners make effective interdiction possible.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### Introduction

This chapter will discuss the Design methodology and demonstrate its applicability to the solving the complex problem of improving maritime narcotics interdiction in the Eastern Pacific Ocean and the Western Caribbean Sea. Design was chosen as a method for two primary reasons. First, Design is a well suited method for attacking problems with multiple variables. Maritime interdiction certainly is a multi-variable problem with numerous environmental, state, and non-state actors. Additionally, Design was chosen as a method because it enables research to identify a comprehensive set of solutions. There is likely no single solution to the problem of maritime interdiction, and Design methodology provides a means to identify diplomatic, economic, and military/law enforcement solutions. This research closely follows the Design methodology prescribed in U.S. Army Field Manual (FM) 5-0. According to FM 5-0, Design is a method that allows problem solvers to frame the environment, pinpoint the problem with as much granularity as possible, and develop an operational approach (Headquarters, Department of the Army 2010, 3-1). It is defined as: “A methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to solve them” (Headquarters, Department of the Army 2010 3-1).

## Design as a Problem Solving Method

Maritime drug interdiction amounts to what Dr. Jeff Conklin would call a “wicked problem.” Wicked problems have six distinguishing characteristics: (1) The problem is ill-structured with an “evolving set of interlocking issues and constraints;” (2) There is no definitive solution indicating that the only stopping rule is running out of resources; (3) There are no simply right or wrong solutions, only better or worse solutions; (4) No two wicked problems are alike; (5) It is impossible to learn about the problem without attempting solutions; and (6) There are no given alternative solutions (Conklin 2006, 7). The primary research question of how the U.S. government uses limited resources to effectively interdict narcotics on the high seas is certainly a wicked problem.

The structure of Design calls for both narratives and graphics covering three broad categories: (1) Environmental Frame (which is further reduced to the current environmental frame and the desired environmental frame); (2) Problem Frame; and (3) Operational Approach (Headquarters, Department of the Army 2010, 3-2). U.S. Army Lieutenant Colonel Perez, an Assistant Professor at the U.S. Army Command and General Staff College (USACGSC) in Ft. Leavenworth, Kansas, provides a less conceptual, more pragmatic approach to Design. In an effort to amplify the four categories mentioned above, Perez recommends one key question for each category listed above. Research will follow the method proposed by Perez and attempt to provide both graphic and narrative representation of the problem, and a proposed operational approach to answer the primary research question.

## Current Environment

Describing the current environment for any given problem is a complex endeavor. FM 5-0 states that the purpose of framing the environment is to capture “the history, culture, current state, and future goals of relevant actors in the operational environment” (Headquarters, Department of the Army 2010, 3-8). Colonel (Retired) Dale Eikmeier recommends using a model that describes Relationships, Actors, Functions, and Tensions (RAFT) to frame the current environment (Eikmeier 2010, 5). Eikmeier calls this the RAFT map, and explains that it is a system tool used to depict active environmental variables (2010, 3). An example is shown in figure 2.

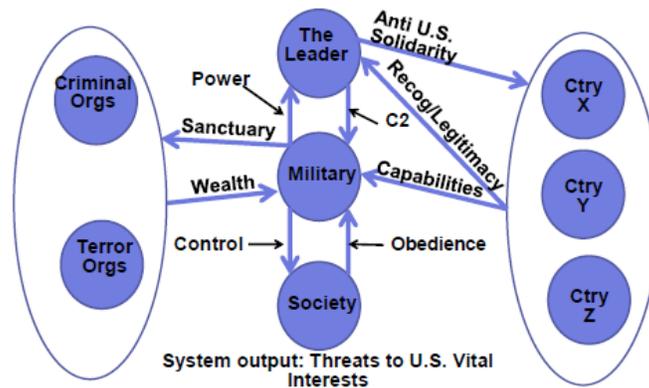


Figure 2. Sample RAFT Map

*Source:* Dale Eikmeier, “Design for Napoleon’s Corporal,” *Small Wars Journal* (September 2010): 5.

Since the problem of maritime smuggling does not necessarily deal with operations “among the people,” not all aspects of the environment will be relevant to this study. The current environment frame will focus on the current state and future goals of relevant actors through the RAFT model discussed above. This environmental frame

would be incomplete however if it focused solely on the aspects of the RAFT model. Design allows the discovery of operational approaches in a free-thought environment, but there must be limits to keep the frame relevant. In order to develop a complete, yet relevant environmental frame, there must be “boundaries for analyzing, understanding, and acting” (Cardon and Leonard 2010, 8). The applicable boundaries for the current environment exist in time and geographic space. The timeframe applicable to this frame encompassed 2006 through October 2011. There were two factors that led to the selection of this time period. First, the period was necessarily limited in order to make the data manageable. A five year period is desirable to identify and analyze current trends, however due to the timing of this research it was necessary encompass slightly more than five years. Second, 2006 was selected as the earliest year studied due to the emergence of SPSS craft in that year. SPSS significantly changed smuggling operations, and their affect must be included in this study. Additionally, this study analyzed only documented, unclassified narcotics events occurring in the maritime transit zone. It was necessary to use only unclassified narcotics events in order to maintain the unclassified nature of this research. Although significant, this study did not analyze seizures that occurred on land, whether the U.S. government was involved or not, in order to ensure that the conclusions reached by this research were wholly relevant to maritime interdiction. Finally, necessary boundaries were placed on the inputs to the RAFT model; specifically limiting the entries to state entities. Relationships between actors were only considered if they contributed to or disrupted the drug trade in the maritime environment. Functions only included narcotics smuggling or interdiction. Actors either worked to facilitate smuggling, acted as neutral parties capable of being influenced, or they sought to disrupt it. Tensions were

bound more broadly to include international political tensions, regional law enforcement tensions, and tensions between DTOs and LEAs. In terms of developing effective operational approaches to maritime smuggling, complete understanding of the current environment through a RAFT map is an essential element of analysis and begins to illustrate where action can be taken.

The current environment frame analyzed USCG drug interdictions from 2006 to 2011. These interdictions served as events in a multi-point case study designed to discover and interpret maritime smuggling and interdiction trends. Analysis included what type of vessel was interdicted, geographic location, and what LEA affected the interdiction. Data was provided by the USCG Counter-Drug office in FOUO form and included date of event, type of vessel interdicted, estimated amount of narcotics, and what type of unit affected the interdiction. These individual events were entered into spreadsheet form with latitude, longitude, and icons for the other fields described above. The spreadsheets were then exported to Google Earth for trend analysis. The resultant raw data was consolidated to produce a modified choropleth map, sometimes called a “heat map” in the law enforcement community. Choropleth maps provide significant assistance to law enforcement by correlating spatial data and interdiction sites, leading to a probability model that can be used as a predictive tool (Rossmo 1993, 1). In the *American Journal of Criminal Justice*, Kim Rossmo states that choropleth analysis allows law enforcement to “Focus their activities, geographically prioritize suspects, and to concentrate saturation or direct patrolling efforts in those zones where the criminal is most likely to be active” (Rossmo 1993, 1). In short, choropleth mapping was chosen for this research because it allows the USCG and other interdiction agencies to

geographically profile the extensive maritime operating area in order to concentrate resources and achieve efficiencies.

Physical terrain was also analyzed through simple chart study. This enabled the identification of chokepoints and coastal areas conducive to smugglers. Additionally, the physical terrain analysis identified most likely departure points from the source zone enabling LEA's refined deep transit zone interdiction zones. Finally, this analysis recognized potentially ungoverned locales within transit zone countries and provided leverage for future partnerships by identifying areas where U.S. LEAs could improve PN efforts.

### Desired Environment

Perez asks: "What do we want the environment to look like?" (2011, 44). It is vital to develop and communicate a desired end-state in this frame. It is important to understand that single unit action will likely not result in achieving an overarching nationally-desired end state. This frame provides the tools required to answer the Problem Frame and assists in identifying potential opportunities (Perez 2011, 44). For the primary research question asked in this paper, the desired environment frame was relatively easy to develop and was completely qualitative in structure. Chapter 2 described national and agency-specific ends through multiple strategy documents. These ends as they pertain to maritime smuggling indicate the desired environment.

Unfortunately, these ends can at times be abstract. In order to determine measures of effectiveness, current and future USCG removal metrics were introduced. Eikmeier's RAFT map was adjusted to reflect not just the desired environment but to illustrate possible means of achieving those ends. An example of a modified RAFT map is below.

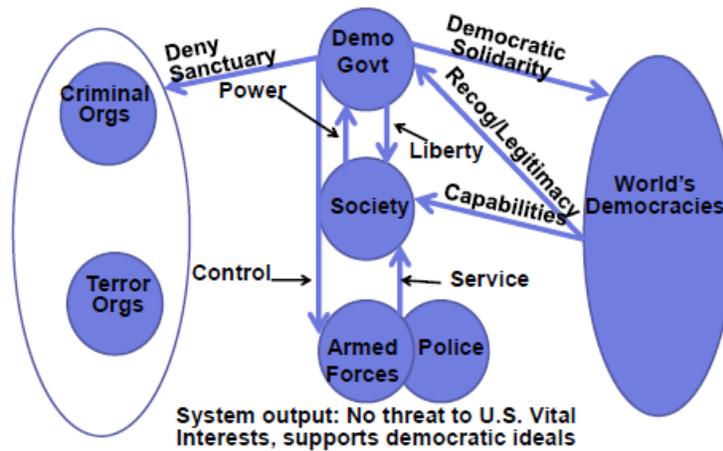


Figure 3. Sample Desired RAFT Map

Source: Dale Eikmeier, “Design for Napoleon’s Corporal,” *Small Wars Journal* (September 2010): 5.

### Problem

In order to fill out the problem frame, Perez recommends asking the following question: “Where-conceptually-do we act to achieve our desired end state?” (2011, 44). Eikmeier further clarifies this question by asking: “What is the problem or obstacle blocking the transition from the current state to our desired state?” (2010, 3). Accurately assessing this frame is vital to developing a feasible operational approach. The problem frame allows the researcher to determine where change needs to happen, identify the strengths and weaknesses of the actors, determine opportunities and threats, and define what conditions need to exist for success (Eikmeier 2010, 9).

The problem frame completed the Design research framework. In this frame, research attempted to determine impediments in moving the current environment to the desired environment through a RAFT map as depicted by Eikmeier (2010, 5). It

identified relationships that could be improved, pertinent actors, their functions, and tensions to be exploited (for DTOs) or relieved (between governments).

### Operational Approach

Finally, Design requires the user to develop an Operational Approach, or determine how to act in order to achieve the desired end state (Perez 2011, 44). More specifically, it describes how the U.S. uses resources and relationships to move toward the desired end state. In essence, that is the purpose of this paper. Determining the answers to these questions will provide insight into both the primary and secondary research questions. Chapter 5 will thoroughly discuss recommended courses of action for improved maritime interdiction.

The operational frame brought the three other frames together in order to provide a way ahead and answer the questions posed in this paper. The RAFT model used in the problem frame was enhanced based on interdiction trends, geographic study, and existing political relationships. This frame synthesized data accumulated during the previous three frames.

### Data Collection

Due to the unclassified nature of this thesis, data collection relied heavily on publicly available, open source documents as well as law enforcement sensitive data supplied by the USCG. In order to ensure the accuracy of qualitative documents, only official U.S. Department of State documents were used. These documents were particularly useful in the literature review and in building the RAFT analysis. Law enforcement sensitive seizure data was supplied through official USCG law enforcement

channels with the understanding that the raw data would not be displayed in any form. This agreement ensured that accurate data was used for all seizures appearing on the analysis map without compromising operational security. For qualitative measure, national level strategy documents were relied on heavily for both guidance and desired performance metrics. Where quantitative measures were required for interdiction events, the USCG Counterdrug Office was invaluable in providing cleared metrics. While they could not be used in their FOUO form, it was relatively easy to translate the information to a usable analytical format through the use of web based tools. Measures on purity and street cost of narcotics were easily available through open source documents provided by the U.S. Department of Justice.

#### Risks, Biases, and Validity of Data

The various agencies involved in narcotics interdiction each provide releasable data, although their measures are different. The USCG and direct-action interdiction agencies (DOD, PN's) primarily measure effectiveness by number of events, gross weight seized, narco-terrorists apprehended, and annual percentage removal rates. The Attorney General's office measures interdiction success based on the number of successful prosecutions, annually. Finally, the Department of Justice often measures the impact of transit zone seizures through cost and purity analysis (Yeatman 2006, 26). Higher cost, lower purity drugs are a sign that removal efforts are having a positive impact. There are no holes in the availability of this data. When it comes to stemming the flow of illicit narcotics into the U.S., there is a significant disconnect between measures of effectiveness (data) for government agencies. This study primarily relied on data provided by the USCG with the exception of cost and purity data provided by the DOJ.

USCG data was chosen because it measures interdictions and because of the USCG's role as the lead agency for maritime interdiction. The U.S. government, through the ONDCP, has developed an assessment tool to estimate cocaine production in the source zone. The Sequential Transition and Reduction (STAR) model enables the U.S. to track the flow of cocaine from cultivation to consumption (Abt Associates 2002, 1). STAR model accounting has become the standard for ONDCP, although it does have some limitations. First, it does not take into account the temporal dimension inherent in cocaine production; meaning cocaine smuggled in one year could have been grown the previous year (Abt Associates 2002, 32). Second, it does not take into account the economic factors of supply and demand as they pertain to growing in the source zone (Abt Associates 2002, 32). Even with the limitations described above, the growth volume does not vary enough to introduce significant enough error and makes source zone estimates reasonably reliable. Counting disruption totals are also reasonably reliable. The largest exception to this statement involves loads that are jettisoned prior to apprehension or scuttled with the vessel upon apprehension. LEAs must rely on analysis of intelligence or statements from the smugglers themselves to determine the quantity lost to the sea. This analysis may lead to faulty data, however this researcher does not believe the quantities involved in these events is enough to skew the results. Finally, there were several interdiction events reported by the USCG that were completely classified. It is impossible to know the type, location, or quantity disrupted during these events. These events have been excluded from the data set.

## Summary

This study used Design as a problem solving model. It sought to identify the current environment, desired environment, determine impediments to the desired environment, and finally provide a suggested operational approach to solving the primary research question. While no frame independently answered how the U.S. government uses limited resources to increase maritime interdiction effectiveness, they combined to provide this answer. The current environment frame identified trends that exist in maritime smuggling. The problem frame assisted in determining the effectiveness the current U.S. counter-narcotics strategy. Finally, the desired environment and problem frames discussed how HN and PN relationships affect U.S. efforts.

The stated goal of this research was to determine how the U.S. government can use limited resources to increase maritime interdiction effectiveness. The Design methodology employed throughout this research answers this question by assessing the current state of smuggling and comparing it to a realistic, but improved state. Design provided a method in which research could identify areas (particularly states) where operational efficiencies could be gained. Finally, the analysis facilitated by Design provided comprehensive recommendations that answer the critical question of how the U.S. can more efficiently accomplish maritime interdiction.

## CHAPTER 4

### ANALYSIS

#### Introduction

Chapter 3 discussed how Design was used as a methodological approach to answer the primary research question of how the U.S. government can more effectively conduct maritime interdiction operations. This chapter will provide analysis of the current environment, desired environment, the problem, and conclude with the operational approach frame. Generally speaking, there is a single graphic and narrative for each frame. In the case of this research it has been modified in order to convey the difficulties of this problem. A single graphic cannot fully convey the full scope of the problem the environment creates for the U.S. government.

#### Current Environment

This research is focused on two distinct geographic regions, the Eastern Pacific Ocean and the Western Caribbean Sea. These two operational areas possess unique characteristics that must be analyzed separately, thus resulting in multiple graphics for the current environment frame. The graphics in this frame will represent interdiction events in the Caribbean Sea, Eastern Pacific Ocean, and a current RAFT analysis.

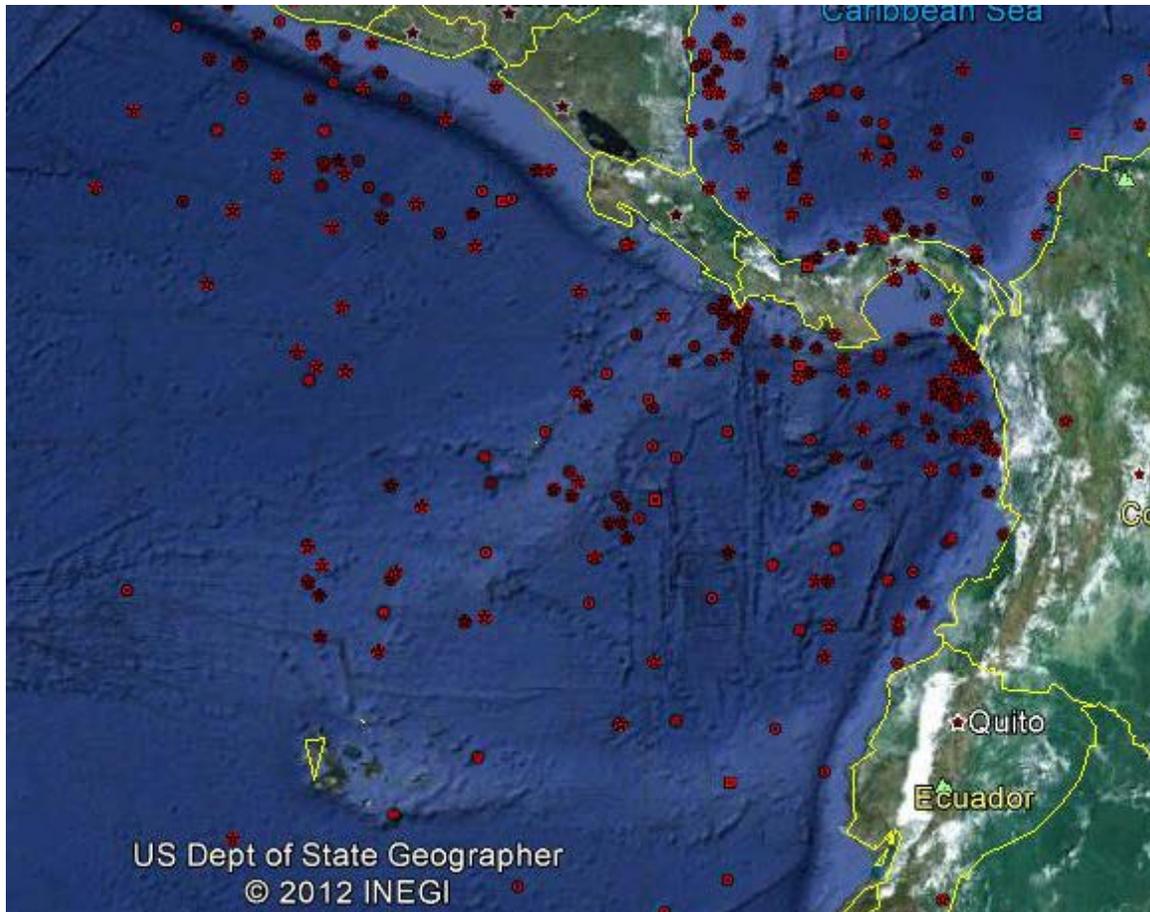


Figure 4. Interdiction Event Analysis

*Source:* Created by author.

The above figure is a modified choropleth map designed to illustrate unclassified interdiction events in the Eastern Pacific between 2006 and 2011. Analysis shows that there has been a great deal of success over the last five years in interdictions that occur near the source zone. Specifically, the western coast of Colombia has proven to be fertile ground for interdiction assets. Additionally, the southern coasts of Panama and Costa Rica have seen a significant number of events over the time period studied. Finally, U.S. assets have had success near El Salvador, although the seizures have occurred further offshore than in the southern portion of the transit zone. It should be noted that PN

primarily operate out of El Salvador, Costa Rica, and Panama with close cooperation from the HNs.

The figure below depicts Western Caribbean Sea narcotics interdictions between 2006 and 2011.

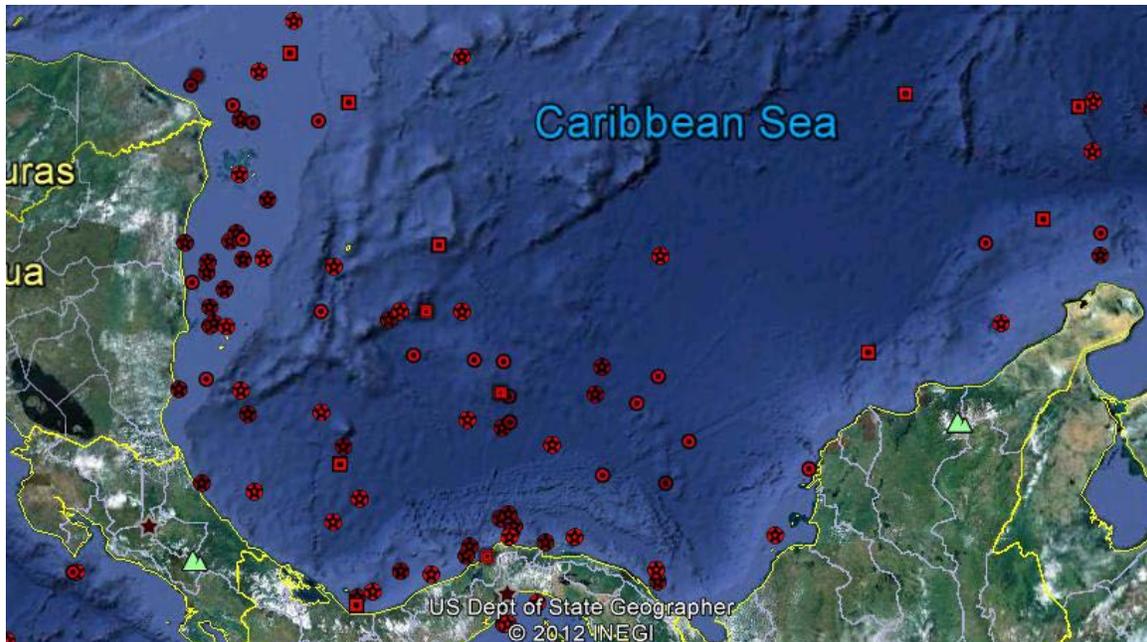


Figure 5. Western Caribbean Interdiction Events

*Source:* Created by author.

This modified choropleth map provides the same type of data interpretation as the map of the Eastern Pacific. First, it should be noted that there have been significantly fewer events in the Western Caribbean Sea than in the Eastern Pacific Ocean. While Eastern Pacific seizures indicate several hot spots, Caribbean seizures follow a general coastal trend. A majority of the seizures in this operational area have occurred along a mostly littoral path. Terrain is likely the key reason for this. Unlike the Eastern Pacific

coast of Central America, the Caribbean coast is largely unpopulated, desolate, and full of small inland waterways that play host to mangrove swamps (Alonso, 2011). This enables smugglers to use more efficient routes and provides locations for smuggling vessels to hide during the day. In essence, DTOs have traded the vast open spaces of the Pacific Ocean for the dense foliage of the Caribbean coast. The prime smuggling routes of the Caribbean are easily accessed by patrol assets operating out of established bases in Central America (for aircraft) or from the U.S. mainland (for ships and aircraft). Additionally, Caribbean coastal nations are for the most part dedicated partners in the war on drugs, and their willingness and ability to assist in interdiction events is evidenced by the clusters of seizures in figure 5. The below table illustrates how effective the USCG and its partners have been when the successes of the two geographic areas are combined. It is important to note that when this data was released, Fiscal Year 2011 was not yet complete.

Table 1. Coast Guard Drug Removal Statistics (in pounds)

<b>Fiscal Year</b>	<b>Events</b>	<b>Vessels Seized</b>	<b>Detainees</b>	<b>Marijuana</b>	<b>Cocaine</b>
<b>2011</b>	107	40	191	25,938.8	151,702.0
<b>2010</b>	122	56	229	36,739	202,402.1
<b>2009</b>	123	58	322	71,234.1	352,862.8
<b>2008</b>	85	43	209	22,173.8	367,926.1
<b>2007</b>	65	37	188	12,380.0	355,754.6
<b>2006</b>	64	23	200	9,059.3	287,035.4

*Source:* U.S. Coast Guard Office of Law Enforcement, “Coast Guard Drug Removal Statistics,” <http://www.uscg.mil/hq/cg5/cg531/Drugs/stats.asp> (29 December 2011).

## Current RAFT Analysis

The current RAFT analysis illustrates the relevant actors, their relationships, and highlights tensions. Relevancy was determined by analyzing actors that either participated in smuggling, participated in interdiction, or state actors that were potential enablers for smuggling or interdiction. State actors were grouped into several categories. They were first separated by zone (transit or source), and then again by cooperative status. Actors that directly contributed to the war on drugs are labeled green, adversarial relationships are indicated by red, and neutrals are labeled black. This figure rapidly demonstrates both cooperation and tension among the relevant actors.

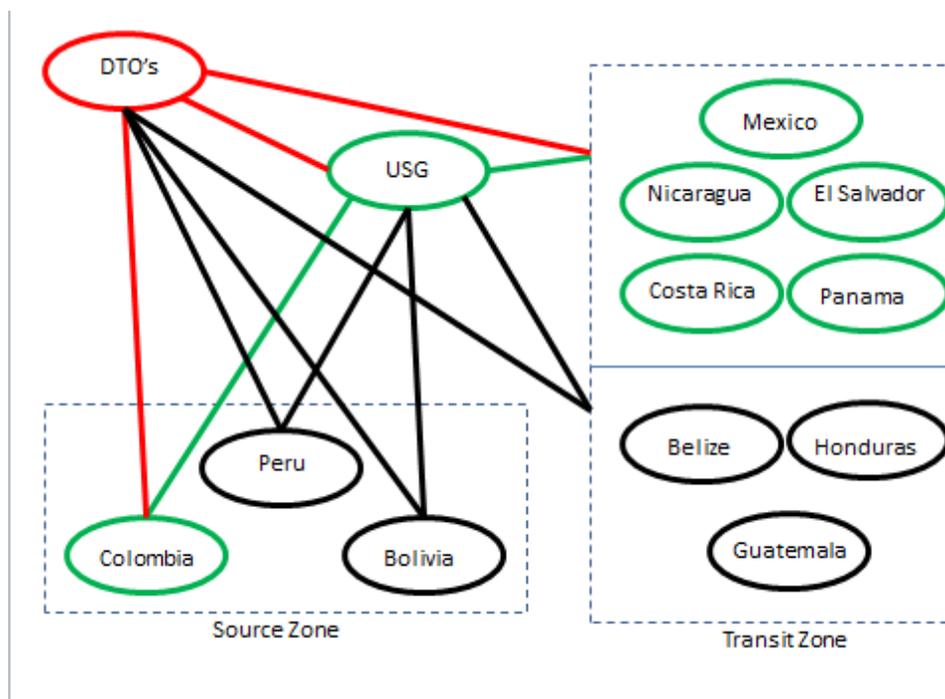


Figure 6. Current RAFT Analysis

Source: Created by author.

## Desired Environment

It can be fairly assumed that DTOs will always attempt to traffic illicit narcotics and there will always be citizens who seek out artificial thrills. Additionally, the geographic environment is a constant and cannot be affected; however access to geography and DTOs can be changed. In order to improve maritime interdiction efforts, the U.S. should turn neutral national stakeholders into active partners. This allows access to territorial waters, bases of operations, national intelligence, and national assets.

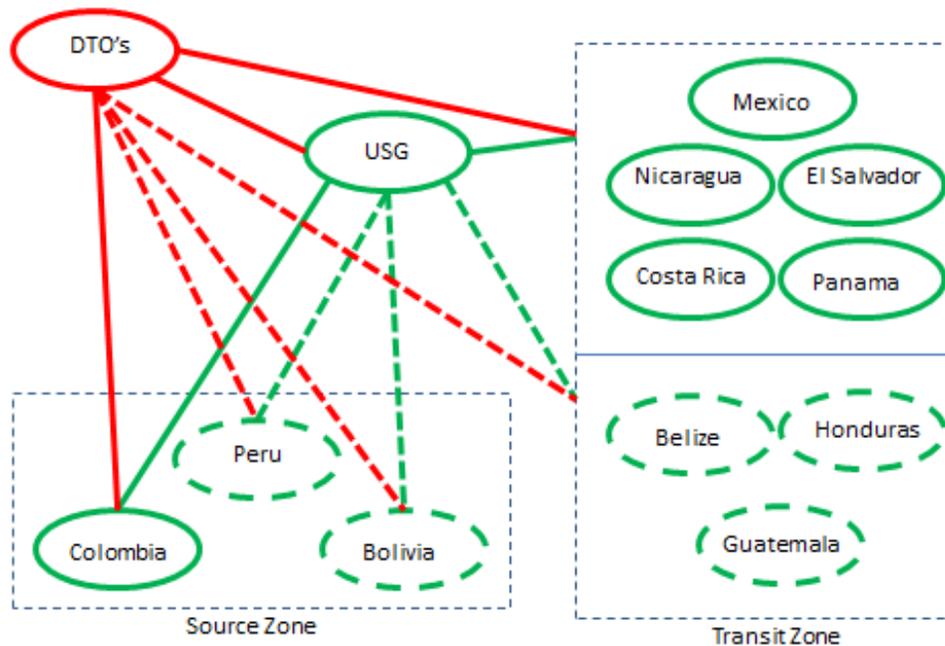


Figure 7. Desired RAFT Chart

Source: Created by author.

## Strategic Guidance

Strategic guidance is vital for shaping the desired environment; if you do not know where you are going, then you cannot very well make a plan to get there.

Eliminating drug smuggling completely is an unrealistic goal, so cabinet level agencies rely on metrics to measure efficiencies. In terms of narcotics smuggling, drug removal rate metrics are the most appropriate. Until 2010, seizure rates in the transit zone were separated into non-commercial means and commercial means. In 2010, these two means were combined into a single removal total with the validation of the combined counter-drug database (ONDCP 2011). This consolidated figure is significantly more relevant to this study as it seeks to find a comprehensive approach to narcotics that travel the maritime domain. According to the *National Drug Control Strategy*, target removal rates escalate from 30 percent in 2010 to 40 percent in 2015, with a two percent increase each year (ONDCP 2011). This neatly sums up the desired environment.

Table 2. Total Maritime Cocaine Removal Rate Goal

2010	30%
2011	32%
2012	34%
2013	36%
2014	38%
2015	40%

*Source:* Office of National Drug Control Policy, “2011 National Drug Control Strategy,” 2011, <http://www.whitehouse.gov/ondcp/2011-national-drug-control-strategy> (accessed 29 December 2011).

## Problem

Chapter 3 presented a plain language question that is extremely useful in framing the problem. It is important to remember that the nature of this frame is to identify the problem, not present solutions. Conceptual understanding of the process allows the researcher to ask: What is preventing movement from the current environment to the desired environment? In terms of this research: What is preventing the U.S. government from achieving a 34 percent maritime interdiction rate in 2012, and up to 40 percent by 2015? There are two distinct facets to this problem, and each must be considered as critical to the solution. These two aspects are: resources and partnerships.

### The Resource Problem

There are two aspects to the resource problem. The first is resource availability, and the second is geographic positioning. Capital resourcing was addressed earlier in this paper, but must be readdressed. As discussed, JIATF-S uses an unclassified planning factor of four long-range patrol aircraft, four airborne use of force helicopters, and eight ships (Munsing and Lamb, 2011 69). These assets are not all operating at the same time and need to cover a Joint Operating Area of over 42 million square miles. Simple math makes the true nature of this problem obvious. Ideally, all eight ships with their embarked helicopters and all four of the PN would operate around the clock to cover the operating area. This would leave each ship over 5.2 million square nautical miles of patrol area and each aircraft 10.5 million square nautical miles of patrol area. In order to increase interdiction effectiveness and solve the resource problem, the U.S. government either needs increase resources and/or decrease asset patrol areas without sacrificing overall area coverage.

In an age when military forces are facing significant reductions in funding, it is unlikely that the U.S., especially the USCG, will see a significant increase in resources in the Eastern Pacific Ocean or Caribbean Sea. In fact, USCG Commandant Admiral Robert Papp recently lamented that both the Coast Guard and the Navy will likely be forced to reduce their commitments to the drug war due to resource shortfalls and competing missions (Freedberg 2012). The U.S. government and its agencies must determine how to optimize geographic allocation of its resources in order to increase maritime interdiction efficiency.

### The Partnership Problem

There appears to be a series of common threads among exploited transit zone nations. Broadly speaking, geographic accessibility, domestic law enforcement capabilities, and a lack of institutional will hinder the efforts of transit zone states. Each of these issues presents its own unique problems. Chapter 2 of this research provided examples of each of these problems among nations in the transit zone. Many Caribbean coastlines are inaccessible for domestic enforcement agencies due to their lack of infrastructure and mangrove-wetland makeup. A thorough literature review revealed that every nation in the transit zone, and nearly all of the nations in the source zone rely heavily on U.S. provided law enforcement equipment in an attempt to meet basic domestic needs. Guatemala is a prime example of a nation that does not demonstrate the institutional will to fight the war on drugs. Chapter 2 highlighted declining law enforcement budgets in favor of social programs. The partner problem is this: How does the U.S. get commitment from key partners in the transit zone to fight the war on drugs and increase interdiction efficiency?

## Problem Summary

The preceding discussion of the problem frame illuminated numerous obstacles to improving maritime interdiction efficiency. The problem framing process made it clear that there are not enough resources to effectively patrol the vast operating area.

Additionally, (list all of the questions that came up). While these hindrances may appear to be significant problems, they are all actually symptoms to the larger issue. So, what is actually keeping the U.S from achieving its desired narcotics removal rate in the transit zone? The answer is clearly insufficient resources. Fortunately, there is a solution.

## Operational Approach

There are several key elements required for effective interdiction in the maritime environment. JP 3-03 provides a useful graphic to depict these elements. It will become obvious that many of these elements cannot be fully implemented without addressing the larger issue presented in the problem frame; the problem of insufficient resources.

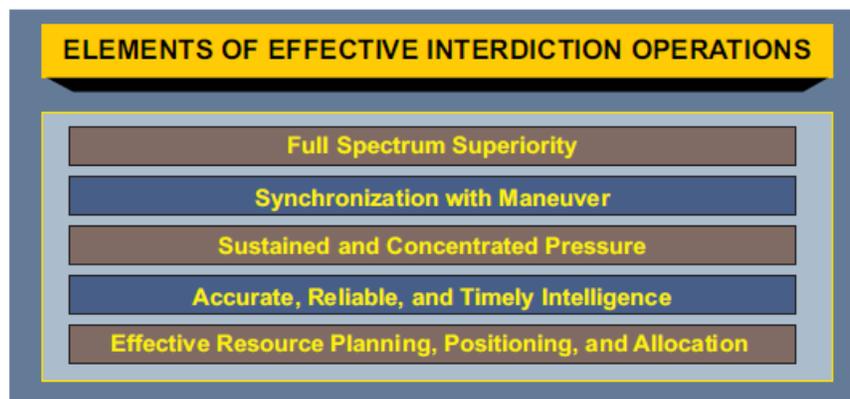


Figure 8. Elements of Effective Interdiction Operations

Source: Joint Chiefs of Staff, Joint Publication 3-03, *Joint Interdiction* (Washington, DC: Government Printing Office, 2007), I-10.

## Effective Resource Planning, Positioning, and Allocation

The first element required for an effective operational approach to maritime interdiction is effective resource planning, positioning, and allocation. The difficulties in achieving this were discussed in the resource portion of the problem frame. The U.S. does not possess sufficient resources to effectively patrol the entire operating area. JIATF-S will likely have no control of resources allocated to them for prosecution of the drug war; therefore they must focus on positioning. Careful and continued analysis of smuggling trends will help fulfill the first tier element of the maritime interdiction model. If history is any indication of the future, improved relationships with U.S. PNs will also yield access to sovereign waters. According to the two figures presented in the current environment frame, access to these waters provides fruitful grounds for interdiction as recent trends indicate littoral transit is favored by DTOs.

The shift in favor of littoral transit is certainly a challenge to U.S. efforts, but it also presents an opportunity to advance partnerships. Resource and capability shortfalls among PNs have been highlighted throughout this paper. While none of the Central or South American maritime interdiction forces have a force structure that can compare to that of the U.S., they do have some capability. Many hands make light work, and in this case leveraging PN assets greatly multiple forces available to fight DTOs. In summary, effective resource positioning in the maritime domain requires refined patrol areas and access to sovereign waters of PNs. These assets do not necessarily need to be U.S. assets if the U.S. can successfully build partner capacity and trust.

### Accurate, Reliable, and Timely Intelligence

The second required element for effective interdiction is accurate, reliable, and timely intelligence. This is one area where JIATF-S is truly excelling. In fact, USCG Commandant Admiral Papp recently commented that there are simply not enough assets to respond to the vast amounts of refined intelligence provided by the U.S. intelligence system (Freedberg 2012). While this is a ringing endorsement for the intelligence community, it may not be enough. Trend analysis and choropleth mapping illuminates areas of interest, but refined intelligence is still required to place interdiction assets in the right place at the right time. This concept also applies to PNs. In the author's own experience, many PNs do not possess the resources to actively patrol; however they are capable of executing interdiction operations when they are presented to them. In order to leverage the strengths of PNs, accurate and timely intelligence must be shared with them.

### Sustained and Concentrated Pressure

The third essential element for effective interdiction is sustained and concentrated pressure. This has not been a salient issue for the U.S. in decades. Even as budgets and asset allocations decrease, intelligence driven operations have enabled JIATF-S to concentrate forces and sustain pressure. As demonstrated throughout this paper, the U.S. has been applying sustained, consistent pressure to this problem in one form or another since the 1970s. The result, as supported by the current environment frame, has been to push DTOs into areas where they do not feel this pressure; specifically littoral waters along the Central American transit zone. Currently, Central American partners do not possess the ability to apply consistent and sustained pressure. This, in effect, creates maritime zones of impunity where DTOs can operate without significant fear of being

interdicted. In order to eliminate these zones of impunity, the U.S. must assist PNs in building internal law enforcement capacity.

### Synchronization with Maneuver

Effective interdiction operations also require synchronized maneuver. Through years of practical experience, JIATF-S has grown efficient in synchronizing U.S. maritime patrol with U.S. and PN surface interdiction. In order to further improve operational efficiency, this capacity must be expanded. This will require a significant commitment to building partner capacity and intelligence sharing. Synchronization requires that PNs be a part of command, control, and communication networks. An expanded network of PN liaisons, especially at JIATF-S headquarters, can help achieve this. It is only through shared burden that shared success can be achieved.

### Full Spectrum Superiority

The final element of effective interdiction is full spectrum superiority. The traditional warfighting functions of offense, defense, and stability do not necessarily apply here; however the concept is valid. In the case of the war on drugs, full spectrum superiority requires control of the source zone, transit zone, and arrival zone. This simply cannot be achieved without enhanced partner capacity and resolve. Plan Colombia has been extremely effective in the source zone, and could be expanded to other source zone states. The requirements to achieve superiority in the transit zone have been discussed extensively in this frame. Finally, although the arrival zone is important to attaining full spectrum superiority, it is not the focus of this research. It goes without saying however that current effort in the arrival zone must be assessed and refined. Full spectrum

superiority is achievable despite the lack of U.S. resources if PN's internal capabilities are addressed.

### Summary of Operational Approaches

The operational approach frame makes it abundantly clear that the U.S. cannot achieve the desired result of increasing maritime interdiction effectiveness alone. Research suggests several key components to an enhanced operational approach in the maritime environment. Research has identified several lines of effort that will be expanded in chapter 5 to fully answer the primary research question of how the U.S. government uses limited resources to improve interdiction efforts on the high seas. The first requirement is to refine patrol areas and concentrate forces based on trends analysis. The second requirement is build relationships with PNs (or turn neutral nations into partners). Third, the U.S. must make a long-term investment into building partner capacity. These approaches will reinforce the belief that the war on drugs is an international issue rather than just a U.S. problem.

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

#### Restated Research Question

The focus of this research was to determine how the U.S. best uses limited resources to interdict narcotics on the high seas. In order to answer this critical question, research focused on three subordinate questions. These questions were: What trends exist in maritime smuggling? How effective is the current U.S. counter-narcotics strategy? Finally, how do Host-Nation (HN) and Partner-Nation (PN) relationships affect U.S. efforts? Each of these questions will be addressed independently to draw research conclusions and form recommendations for further action.

#### What Trends Exist in Maritime Smuggling?

There are two distinct trends that currently exist in maritime smuggling. First, conventional type vessels (G/Fs, pangas, lanchas) have more or less abandoned the far offshore routes in favor of a more coastal route. These routes provide freedom from U.S. interdiction when they are in sovereign waters and feature ungoverned, often inhospitable locations to hide during the day. It is likely that this trend will continue until either U.S. assets are consistently granted permission to access these waters or PNs demonstrate the will and the ability to counter the threat themselves.

It should also be noted that these conventional vessels use different offload methods dependent on which environment they are operating in. On the Caribbean side, the coast is generally unpopulated, ungoverned, and extensively covered by mangrove swamps and inland waterways. These factors combine to make it easier for narcotics

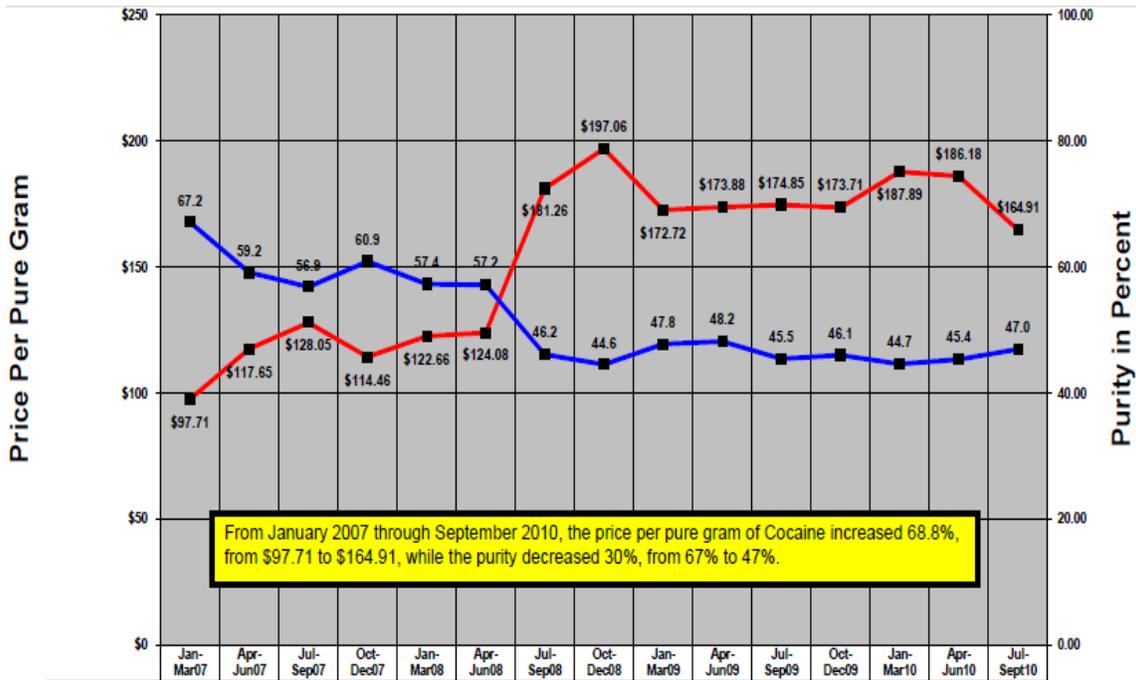
loads to be delivered directly to shore for overland transport. On the Pacific side, coastlines are generally characterized by either sandy beaches or populated areas, making it more difficult for direct delivery. Smugglers tend to rely on commercial fishing vessels or other forms of legitimate traffic to make the final transport to land after transferring the shipment offshore.

The second, more difficult trend to counter is the SPSS threat. The construction of these vessels makes them difficult to detect, and their size and endurance makes them extremely desirable for DTOs. Until very recently, these vessels operated exclusively in the Pacific, but recent activity has shown that they are present in the Caribbean as well. It is highly likely that the use of these vessels will continue, and just as likely that DTOs will improve the technology to make fully submersible vessels more commonplace. This frightening trend makes it absolutely essential that the U.S. government set conditions for PNs to take on a greater share in the littoral environment so that the more advanced assets used by the U.S. can concentrate on this threat.

#### How Effective is Current U.S. Counter-Narcotics Strategy?

The balanced policy approach to both supply and demand reduction seems to be making an impact on the drug trade. According to DEA estimates, the price of one gram of cocaine increased 69 percent from 2007 to 2010 while the purity decreased 30 percent over the same period (National Drug Intelligence Center 2011, 24). The 2011 National Drug Threat Assessment also indicates that first time users of cocaine has decreased significantly, reaching its lowest level since 1973 (2011, 24).

Table 3. Price/Purity Index



Source: National Drug Intelligence Center, *2011 National Drug Threat Assessment* (Washington, DC: Government Printing Office, 2011), 25.

Several factors have led to this decline. First, eradication and alternative crop efforts in source zone countries have made significant impacts on cocaine production. Second, interdiction in transit zone and ports of entry has made it more difficult for DTOs to get their drugs to market. Finally, the concentrated efforts of the U.S. government to attack the demand side of the equation are showing signs of success as evidenced above. U.S. policy is effective and should be maintained as is. This recommendation does not address U.S. policy towards PNs as that will be discussed below.

## How Do Host Nation and Partner Nation Relationships Affect U.S. Efforts?

HN and PN relationships are the single biggest factor in the success of U.S. interdiction efforts. Solid relationships provide access to intelligence, national resources, and state territory. Without dedicated PNs, littoral movement of narcotics will continue. Initially, relationships should focus on U.S. access in exchange for internal capacity building. When PNs are capable of policing their own sovereign waters, the limited high endurance assets the U.S. provides are freed up to counter the SPSS threat that has invaded the offshore environment. Eventually, the technological, financial, and knowledge investment will enable PNs to stand on equal footing in the war on drugs.

### Summary of Conclusions

In order for the U.S. to more effectively execute narcotics interdiction operations on the high seas, the U.S. must strengthen partnerships with transit zone countries, enhance PN abilities, and concentrate efforts in high payoff areas of interest. Strengthening partnerships builds trust among the U.S. and its partners and provides access to geographic areas of interest. Enhancing the abilities of PNs serves to fill existing capacity gaps borne of declining resources. This makes it possible to dedicate fewer U.S. assets to the operating area without compromising effectiveness as well as counter DTO technology with U.S. technology. Finally, the U.S. must basically ignore a majority of the 42 million mile operating area and concentrate forces exclusively in high payoff areas; specifically coastal areas nearest the source zone and at transit zone arrival points. It is understood that this approach will likely be countered eventually, but the gains achieved by this strategy will likely have lasting impacts on DTOs. If these

geographic areas are exploited in combination with PNs, the short-term successes will also have a legitimizing effect for PN efforts.

### Recommendations

Maritime drug interdiction is not simply a law enforcement (or military) endeavor. The drug war is an unconventional war where state actors face non-state actors who largely operate outside of the rule of law. Dr. Max Manwaring of the Strategic Studies Institute summed up the requirements for winning an unconventional war. First, the state must dig out the leadership of the non-state groups. Second, the state must poison the non-state actor's sources of support. Finally, the state must completely deprive the non-state actor's source of support to include financial, political, and social (Manwaring 2012). In short, says Manwaring, the actor that uses all aspects of power the most effectively wins. (Manwaring 2012). It is now obvious that the solution to improve interdiction efficiency requires a whole of government approach that includes diplomatic, economic, and military (law enforcement) aspects. Based on Manwaring's assertions, research has provided the following recommendations.

### Diplomatic and Economic Recommendations

Susan Doman, a Foreign Service Officer with the U.S. State Department on assignment to the U.S. Army Command and Staff College sums up diplomacy very neatly. She says: "Figure out who you want to work with. Determine what they want, and dangle it in front of them" (Doman 2012). Quite often, what other nations want is money or resources (which cost money). The U.S. does not supply economic aid without a favorable diplomatic relationship; therefore diplomatic and economic efforts are often

tied very closely together. For the purpose of these recommendations, they will be treated as a single line of effort.

The first recommendation is to continue to develop regional partnerships that grant U.S. access to PNs. One example of this is the Defense Cooperation Agreement signed between the U.S. and Colombia. This agreement allows U.S. forces access to Colombian military bases until 2019 (Sullivan 2010, 2). Specifically, it is recommended that cooperation agreements be enhanced or developed with Peru, Bolivia, Guatemala, Belize, and Honduras.

Second, it is recommended that assist to regional nations in their effort to combat narcotics trafficking should be continued. For example, Police and Public Safety Minister Singh believes that Belize has a chronic need for aerial support and radio detection equipment (Miroff 2011); a capability that the USCG can, and does provide to other PNs. States that demonstrate willingness and an ability to benefit from this type of assistance include Belize, Nicaragua, Costa Rica, and Panama.

The third recommendation is to continue eradication efforts that currently exist as a part of Plan Colombia and attempt to expand them to Peru and Bolivia. Common sense analysis demonstrates that when less cocaine is produced, less is trafficked through the maritime environment.

Fourth, it is recommended that other incentives be provided to transit zone partners willing to spend time and treasure on the war on drugs to include beneficial trade agreements and other economic aid packages. This will have a positive effect not only on the drug war but also on hemispheric relationships.

## Military/Law Enforcement Recommendations

It would certainly be desirable to conduct the drug war exclusively through partners or without the commitment of overtasked U.S. interdiction agencies, however this is simply not feasible. Effective high seas interdiction efforts are vital to the success of the U.S. counter narcotics program. The recommendations that follow account for the abilities of both U.S. and PN assets to interdict drugs on the high seas.

The first recommendation is to continuously update and analyze seizure data in order to facilitate optimal placement of the limited assets dedicated to interdiction. The research provided in this paper provides an acceptable starting point, but law enforcement analysis would enable the inclusion of classified interdictions and help enhance the reliability of the model. Use of this model also minimizes operational risk as it pertains to unpatrolled spaces in the operating area.

Second, it is recommended that new aircraft basing locations based on diplomatic initiatives and geographic location be pursued. Specifically, it is recommended that El Salvador, Costa Rica, and Panama continue to be exploited as basing locations. It is also recommended that basing locations be pursued nearer to the source zone to include a return to Ecuador or a new venture in Peru.

The third recommendation is to expand the use of USCG law enforcement agents in conjunction with DOD assets. Recently, USCG Law Enforcement Detachment (LEDET) teams were appropriated funds to allow them full staffing. These teams are specifically designed to execute maritime law enforcement missions aboard U.S. Navy and foreign flagged warships, and they have been extremely successful. In FY 2009 alone

LEDET teams accounted for 50 percent of total cocaine removals in the maritime domain (USCG 2011, 15).

Fourth, it is recommended that whenever possible; ensure that deployed surface assets are supported by both embarked helicopters and fixed-wing patrol aircraft. The support provided by both aircraft types exponentially expands the detection capabilities of surface vessels. Allen G. McKee, long time knowledge manager for JIATF-S, stated: “Detection rates skyrocketed when ships were augmented with helicopters, and both were supported by aircraft” (Munsing and Lamb 2011, 14). Common sense dictates that in an environment of limited capital assets, it only makes sense to use proven means to make operations as efficient as possible.

#### Recommendations for Further Study

This study has proposed diplomatic, economic, and law enforcement/military lines of effort for the U.S. government to pursue, however it stops short of making specific implementation decisions. In order to make the recommended lines of effort effective, further study is required along several fronts. These areas are described below.

The first recommendation for further study is to update and analyze seizure data in order to facilitate optimal placement of the limited assets dedicated to interdiction. Recommended further study would refine seizure analysis to include time of year, time of day, effects of illumination, and inland tidal cycles. The additional granularity provided by comprehensive quantitative study would likely provide an even more refined efficiency model than this research has presented and further enhance geographic models for placement of interdiction assets.

It was recommended to pursue new aircraft basing locations based on diplomatic initiatives and geographic location. This study would require two approaches. The first would be to analyze the suitability of existing airfields in the transit and source zones. A suitability study should expand beyond the airfield structure itself to include crew and maintenance support and logistics concerns, transit time from the continental U.S., and likelihood of continued diplomatic support from the HN. A second approach would be to consider construction of an airfield and support facilities as partners with a HN. The construction and joint use of Eloy Alfaro Airport in Manta, Ecuador would serve as a model for this type of study.

The final area for recommended study is extensively diplomatic in nature. A comprehensive study of national attitudes of transit and source zone countries would facilitate localizing diplomatic and economic incentives in order to determine the most efficient use of U.S. financial resources. A targeted list of potential national partners would focus diplomatic efforts and allow counter-narcotics planners' greater certainty with long-term planning.

### Summary of Conclusions and Recommendations

The conclusions and recommendations made in this chapter serve as the author's attempt to synthesize background information, historical data, and trends in an effort to answer both primary and secondary research questions. This research made it rather easy to answer the primary question of how the U.S. government can improve maritime interdiction efficiency, even though it may be difficult to implement. In order to increase interdiction efficiencies, the U.S. government must do three things: (1) Continue to refine targeting models based on historical trends and intelligence analysis; (2) Solicit regional

partners through diplomatic and economic means; and (3) Engage in capacity building among PNs. Achievement of these three objectives will allow the U.S. to rigorously pursue maritime interdiction with limited resources and provide partners the ability to gain regional legitimacy and control through their own U.S. enabled efforts.

Conclusions were also drawn with respect to the secondary research questions posed. Research based on trend analysis and environmental study identified two distinct trends in maritime smuggling. First, smuggling in the Caribbean is primarily littoral in nature and requires a multi-national response due to sovereignty issues. Research also determined that the U.S. counter-narcotics strategy is an effective plan for demand reduction as well as supply reduction. Staying the course domestically while enhancing the abilities of PNs, will likely continue to cause price increases and purity decreases in illicit narcotics. Finally, it was determined that PN relationships are vital to U.S. interdiction success in the maritime domain. Partners provide access, critical intelligence, and interdiction forces of their own. PN interdiction forces will likely become more important as U.S. resources dedicated to the war on drugs become more scarce.

In order for the U.S. to become more effective in maritime interdiction, the domestic war on drugs must expand to a regional war on drugs. The U.S. government must demonstrate regional commitment to source and transit zone nations on the diplomatic, economic, and public safety fronts. The drug problem does not exist in a U.S. vacuum, and neither does the solution.

## REFERENCE LIST

- Abt Associates. 2002. Estimation of cocaine availability 1996-2000. Prepared for the Office of National Drug Control Policy, Washington, DC. <https://www.ncjrs.gov/ondcppubs/publications/pdf/cocaine2002.pdf> (accessed 22 March 2012).
- Allen, Thad. 2007. *U.S. Coast Guard strategy for maritime safety, security, and stewardship*. Washington, DC: U.S. Government Printing Office.
- Alonso, Luis. 2011. Honduras becomes cocaine hub. *Huffington Post*, 31 October. [http://www.huffingtonpost.com/2011/10/31/honduras-cocaine-hub\\_n\\_1068422.html](http://www.huffingtonpost.com/2011/10/31/honduras-cocaine-hub_n_1068422.html) (accessed 22 December 2011).
- Amador, Iris. 2011. Los Zetas draws new smuggling routes through Belize. 11 July. [http://www.dialogo-americas.com/en\\_GB/articles/rmisa/features/regional\\_news/2011/11/07/aa-belize-los-zetas](http://www.dialogo-americas.com/en_GB/articles/rmisa/features/regional_news/2011/11/07/aa-belize-los-zetas) (accessed 23 December 2011).
- Ballve, Teo. 2009. The dark side of Plan Colombia. *The Nation*, 27 May. <http://www.thenation.com/issue/june-15-2009> (accessed 23 December 2011).
- Beale, Melissa. 2011. The CARICOM blueprint for illicit drug trafficking. Council on Hemispheric Affairs. <http://www.coha.org/the-caricom-blueprint-for-illicit-drug-trafficking/> (accessed 23 December 2011).
- Benson, Rodney. 2011. *U.S.-Andean security cooperation: statement for the record before the Senate caucus on international drug control*. Washington, DC, 19 October.
- Bureau of Western Hemisphere Affairs. 2000. *United States support for colombia fact sheet*. Washington, DC: U.S. Government Printing Office, 28 March.
- Calderon, Francisco Santos. 2003. *Regarding U.S. narcotics policy in Colombia: statement for the record before the Senate caucus on international drug control*. Washington, DC, 3 June .
- Caldwell, Stephen. 2009. *Coast Guard: Observations on the fiscal year 2010 budget and related performance and management challenges*. Washington, DC: U.S. Government Accountability Office.
- Cardon, BG(P) Edward C. and LTC Steve Leonard, U.S. Army. 2010. Unleashing design: Planning and the art of battle command. *Military Review* (March-April): 2-12.
- Conklin, Jeff. 2006. *Dialogue mapping: Building shared understanding of wicked problems*. Indianapolis, IN: Wiley.

- Customs and Border Protection. 2011. *U.S. customs and border protection Office of Air and Marine fact sheet*. Washington, DC: U.S. Government Printing Office.
- Defense Media Network. 2011. 15,000 pounds of narcotics seized from drug sub in Caribbean. July. <http://www.defensemедianetwork.com/videos/15000-pounds-of-narcotics-seized-from-drug-sub-in-caribbean/> (accessed 23 December 2011).
- Doman, Susan. 2012. Seminar discussion. U.S. Army Command and General Staff College, Ft. Leavenworth, KS, 13 April.
- Eikmeier, Dale. 2010. Design for Napoleon's corporal. *Small Wars Journal* (September): 5, 9.
- Farah, Douglas. 2011. Organized crime in El Salvador: The homegrown and transnational dimensions. Working paper, Woodrow Wilson International Center for Scholars.
- Ford, Jess. 2000. *Drug control: Challenges in implementing Plan Colombia: GAO testimony*. Washington, DC.
- Fraser, Douglas. 2010. *United States Southern Command strategy 2020*. Washington, DC: U.S. Government Printing Office.
- Freedberg, Sydney. 2012. Shrinking Coast Guard must cut drug war to boost cyber, arctic. *AOL Defense*, 16 April. <http://defense.aol.com/2012/04/16/shrinking-coast-guard-must-cut-drug-war-to-boost-cyber-arctic/> (accessed 23 April 2012).
- French, Doug. 2011. Criminal justice is no job for the state. Ludwig von Mises Institute. 4 April. <http://mises.org/daily/5175/Criminal-Justice-Is-No-Job-for-the-State> (accessed 11 January 2012).
- Headquarters, Department of the Army. 2010. *Field Manual 5-0, The operations process*. Washington, DC: U.S. Government Printing Office.
- InSight. 2011. Organized crime in the Americas. <http://insightcrime.org/criminal-activities/item/112-drug-trafficking> (accessed 23 December 2011).
- Joint Chiefs of Staff. 2008a. Joint Publication 3-32, *Command and control for joint maritime operations*, Change 1. Washington, DC: U.S. Government Printing Office.
- . 2008b. Joint Publication 3-57, *Civil-military operations*. Washington, DC: U.S. Government Printing Office.
- . 2007a. Joint Publication 3-03, *Joint interdiction*. Washington, DC: U.S. Government Printing Office.

- . 2007b. Joint Publication 3-07.4, *Joint counterdrug operations*. Washington, DC: U.S. Government Printing Office.
- Joint Interagency Task Force South. 2011. <https://www.jiatfs.southcom.mil> (accessed 16 October 2011).
- Kerr, Than. 2011. *National geographic*, 24 July. <http://news.nationalgeographic.com/news/2011/06/pictures/110624-cocaine-subs-submarines-first-submersible-science-colombia-drug-smuggling/> (accessed 23 December 2011).
- Ledwith, William. 2000. Criminal justice oversight: Testimony to U.S. Congress subcommittee. 16 May. [http://www.justice.gov/dea/pubs/cngrtest/ct051600\\_01.htm](http://www.justice.gov/dea/pubs/cngrtest/ct051600_01.htm) (accessed 22 December 2011).
- Manwaring, Max Dr. 2012. New war. Lecture, Ft. Leavenworth, KS, 14 March.
- Miller, Andrew. 2010. Colombia in crisis. Centro De Estudios De Opinion. <http://aprendeenlinea.udea.edu.co/revistas/index.php/ceo/article/viewFile/6881/6298> (accessed 23 December 2011).
- Mullen, M. G. 2011. *National military strategy of the United States of America 2011*. Washington, DC: U.S. Government Printing Office.
- Munsing, Evan, and Christopher Lamb. 2011. *Joint Interagency Task Force South: The best known, least understood interagency success*. Washington, DC: Institute for National Strategic Studies, National Defense University.
- National Drug Intelligence Center. 2011. *2011 national drug threat assessment*. Washington, DC: U.S. Government Printing Office.
- NPR.org. 2007. Timeline: America's war on drugs. 2 April. [www.npr.com](http://www.npr.com). <http://www.npr.org/templates/story/story.php?storyId=9252490> (accessed 25 September 2011).
- Nuland, Victoria. 2011. Presidential determination for major drug producing and transit countries. 15 September. U.S. Department of State Website. <http://www.state.gov/r/pa/prs/ps/2011/09/172512.htm> (accessed 29 October 2011).
- Office of National Drug Control Policy. 2011. *2011 national drug control strategy*. <http://www.whitehouse.gov/ondcp/2011-national-drug-control-strategy> (accessed 29 December 2011).
- Papp, Robert. 2011. *United States Coast Guard 2011 posture statement*. Washington, DC: U.S. Government Printing Office.
- Perez, Celestino. 2011. A practical guide to design: A way to think about it, and a way to do it. *Military Review* (March-April): 41-51.

- Romero, Simon. 2009. Cocaine trade helps rebels reignite war in Peru. *New York Times*, 17 March.
- Rossmo, Kim. 1993. A methodological model. *American Journal of Criminal Justice* 17, no. 2: 1-21.
- Schipani, Andres. 2010. Cocaine production rise spells trouble for Bolivia. *BBC News*. 16 June. <http://www.bbc.co.uk/news/10231343> (accessed 23 December 2011).
- Sullivan, Mark. 2010. *Congressional research service issue statement on Latin America and the Caribbean*. Washington, DC: Government Printing Office.
- . 2011. *Panama: political and economic conditions and U.S. Relations*. Washington, DC: Congressional Research Service, 11 May.
- U.S. Coast Guard Office of Law Enforcement. 2011. Coast Guard drug removal statistics. <http://www.uscg.mil/hq/cg5/cg531/Drugs/stats.asp> (accessed 29 December 2011).
- . 2011. *United States Coast Guard fiscal year 2011 congressional justification*. Washington, DC: U.S. Government Printing Office.
- U.S. Congress. *Drug trafficking vessel interdiction act of 2008*. 18 U.S.C. 1 S. 3598.
- U.S. Department of Defense. 2004. *Homeland security joint operating concept*. Washington, DC: U.S. Government Printing Office.
- . 2010a. *Naval operations concept 2010*. Washington, DC: U.S. Government Printing Office.
- . 2009. *Quadrennial roles and missions review report*. Washington, DC: U.S. Government Printing Office.
- . 2005. *Strategy for homeland defense and civil support*. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Homeland Security. 2008. *U.S. Department of Homeland Security strategic plan fiscal years 2008-2013*. Washington, DC: U.S. Government Printing Office.
- U.S. Department of State. 2011a. *2011 international narcotics control strategy report volume I*. Washington, DC: U.S. Government Printing Office..
- . 2011b. The merida initiative: Expanding the US/Mexico partnership. 19 September. <http://www.state.gov/r/pa/plrmo/172874.htm> (accessed 30 December 2011).

- U.S. General Accounting Office. 2002. *Drug control: Difficulties in measuring costs and results of transit zone interdiction efforts*. Washington, DC: U.S. Government Printing Office.
- U.S. House of Representatives. 2009. Overview of Coast Guard drug and migrant interdiction. Subcommittee On Coast Guard and Maritime Transportation, U.S. Congress, Washington, DC. <http://www.gpo.gov/fdsys/pkg/CHRG-111hrg48204/html/CHRG-111hrg48204.htm> (accessed 22 December 2011).
- United Nations News Centre. 2011. UN helps Panama strengthen maritime security to curb illicit trade. <http://www.un.org/apps/news/story.asp?NewsID=35101&Cr=unodc&Cr1=> (19 December 2011).
- United Nations Office of Drugs and Crime. 2005. *Bolivia coca cultivation survey*. New York.
- . 2010. *World drug report 2010*. New York.
- U.S. President. 2011. *Strategy to combat transnational organized crime*. Washington, DC: U.S. Government Printing Office.
- . 2010a. *National security strategy*. Washington, DC: U.S. Government Printing Office.
- . 2010b. *Strategy to combat transnational organized crime*. Washington, DC: U.S. Government Printing Office.
- Washington Post. 2012. Three Central American presidents oppose Guatemala leader's proposal to legalize drugs. 30 March. [http://www.washingtonpost.com/world/the\\_americas/3-central-american-presidents-oppose-guatemalan-leaders-proposal-to-legalize-drugs/2012/03/30/gIQA6WYSmS\\_story.html](http://www.washingtonpost.com/world/the_americas/3-central-american-presidents-oppose-guatemalan-leaders-proposal-to-legalize-drugs/2012/03/30/gIQA6WYSmS_story.html). (accessed 3 April 2012).
- Yeatman, Richard. 2006. JIATF-South; blueprint for success. *Joint Force Quarterly* (3rd Qtr): 26-27.

## INITIAL DISTRIBUTION LIST

Combined Arms Research Library  
U.S. Army Command and General Staff College  
250 Gibbon Ave.  
Fort Leavenworth, KS 66027-2314

Defense Technical Information Center/OCA  
825 John J. Kingman Rd., Suite 944  
Fort Belvoir, VA 22060-6218

Dr. Shawn Cupp  
Department of Logistics  
USACGSC  
100 Stimson Avenue  
Fort Leavenworth, KS 66027-2301

Mr. Richard Berkebile  
Department of Joint and Multinational Operations  
USACGSC  
100 Stimson Avenue  
Fort Leavenworth, KS 66027-2301

Mr. Brian Gerling  
Department of Joint and Multinational Operations  
USACGSC  
100 Stimson Avenue  
Fort Leavenworth, KS 66027-2301

LCDR Patrick Dougan  
US Coast Guard Headquarters  
Office of Law Enforcement (CG-531)  
2100 Second Street (SW)  
Washington, DC 20593

LTC Erik Valentzas  
750 17<sup>th</sup> Street, N.W., Rm. 725  
Washington, DC 20503