UNIVERSITY OF CALGARY

The Security of Canadian and American Transportation Systems: Has Anything Changed Since

9/11?

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE

DEGREE OF MASTER OF STRATEGIC STUDIES

CENTRE FOR MILITARY AND STRATEGIC STUDIES

CALGARY, ALBERTA

APRIL, 2008

UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

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April 29/08

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Abstract

Canada and the United States have been victims of terrorist attacks in the past. After 9/11, both of these countries evaluated their security measures in airports, at sea, and in the Arctic. These countries created new legislation and implemented new security policies to deter further potential terrorist attacks against their airports and in their waters. Overall, the American government has implemented more security initiatives, created more legislation, and has taken the threat to its homeland security more seriously than the Canadian government. However, in the Arctic the Canadian government has not made many significant changes to its security policies since the Cold War and the American government has not publicized the security measures in their north. It is unfortunate that Canadian citizens will be the ones to suffer from another successful terrorist attack because their government has not taken the threat to homeland security as seriously as the American government.

Preface

The intention of this thesis is to analyze the current security position in Canada in comparison to the United States to establish whether these two countries have learned from the mistakes made on 9/11 and transfer that knowledge into the security of other transportation systems. It examines homeland security and defence policies and ultimately whether Canadians and Americans are in a more secure environment than before 9/11. The conclusions offer a disturbing look at the reality of the security of three transportation systems and, ultimately, the safety of the citizens.

Dedication

This thesis is dedicated to my family, my friends, my supervisor, my professors, and colleagues

who all helped to make this possible. It could not have been completed without them.

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List of Abbreviations

Abbreviation	Definition
9/11	September 11, 2001
ACIA	Arctic Climate Impact Assessment Report
AIS	Automatic Identification System
API/PNR	Advance Passenger Information/Passenger Name Record
BPG	Bi-National Planning Group
CARC	Canadian Arctic Resources Committee
CATSA	Canadian Air Transport Security Authority
CBC	Canadian Broadcasting Corporation
CCG	Canadian Coast Guard
CF	Canadian Forces
CN	Canadian Navy
Col.	Colonel
CUPE	Canadian Union of Public Employees
DAMOCLES STUDY	Developing Arctic Modelling and Observing Capabilities for Longterm Environmental Studies
Defence R&D Canada	Defence Research and Development Canada
DFO	Canadian Department of Fisheries and Oceans
EDS	Explosives Detection Systems
EDT	Eastern Daylight Time
EEZ	Exclusive Economic Zone
FAA	Federal Aviation Administration
G-8	Group of Eight
GAO	United States General Accounting Office
HFSWR	High Frequency Surface Wave Radar
IMSWG	Interdepartmental Marine Security Working Groups
MariTEL	An American company responsible for maritime communications
NORAD	North American Aerospace Defence Command
NSP	Canada's National Security Policy
RADARSAT-1	Canadian satellite to monitor environmental changes
RADARSAT-2	Canadian surveillance satellite
RCMP	Royal Canadian Mounted Police
Ret.	Retired
SLOC	Sea Lines of Communication or Commerce
TSA	Transportation Security Administration
U.S.	United States of America
UAV	Unmanned Aerial Vehicles
USCG	United States Coast Guard
USD	Unites States Dollars

USN	United States Navy
USSR	Union of Soviet Socialist Republics
WTO	World Trade Organization

Epigraph

[...] Unconventional attacks have changed the nature of warfare. North America needs a new security focus: defending against what was once the unthinkable.

Standing Senate Committee on National Security and Defence, Canada's Coastlines: The Longest Under-Defended Borders in the World

Introduction

The Importance of Transportation Systems

Canada and the United States were dealt a tremendous blow on September 11th, 2001, with the destruction of the World Trade Center. Airport security grew to be a central topic of concern to the public (through the media), and to the governments of Canada and the United States. These events created serious repercussions in both the public and government domains. The public struggled to deduce how the events happened, why they had happened, and who was to blame. The governments created emergency legislation, shifted the public blame onto other targets, and attempted to assuage public unrest. Within a matter of days the immediacy of the threat became lost behind more current world news and events. However, more recent attacks such as the foiled airplane plot in August 2006, the transit bombings in London during June 2005, and the commuter train system bombings in Madrid during March 2004 positioned transportation security at center stage again. The attempted airplane attack and attacks such as the London transit bombings, Madrid commuter train bombings, and 9/11 show that transportation systems have become a common target for terrorist groups. Although the attacks on 9/11 are considered by many to be the most significant against North America, there are other areas of our transportation systems that require immediate attention.

A transportation system can be simply defined as "a facility consisting of the means and equipment necessary for the movement of passengers or goods."[1] This encompasses the three modes of travel: by land, by air, or by sea. The structures included in these systems would consist of many facets such as people, machinery, land, air space, water, and legislation; therefore the importance of these systems cannot be understated. A large portion of Canadian and American

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[1] Dictionary.com, "Transportation systems,"<http://dictionary.reference.com/search?q=transportation %20system> (November 27, 2005).

transportation systems involves the movement of people and goods. Trade agreements are a significant component of Canadian and American economies; the free flow of goods and people sustains our trade-based markets and our standard of living. Transportation plays a pivotal role in Canada and the U.S. every day because these societies have become accustomed to a quality of life that relies heavily upon their transportation systems. The free flow of goods and people is an essential component for the continued prosperity of American and Canadian economies.

Maritime and Arctic security are prevalent sectors that must be analyzed and improved in the same manner that airport security has been handled. Transportation security is a vital aspect of Canadian and American security that affects the majority of the population in both countries in at least one area. Have the governments in these two countries established acceptable modifications to increase security in principal transportation security sectors in order to minimize their vulnerabilities to further potential terrorist attacks?

The use of transportation systems by terrorist organizations to instill terror in a population demonstrates that these structures must be examined by the governments of both countries. Terrorist groups such as Al-Qaeda have proven to be inventive in their strategy to generate terror in their enemies. Therefore, security structures must be re-evaluated and improved where necessary to minimize the potential of another terrorist attack.

This thesis concentrates on the security of transportation systems found in both Canada and the United States. The assessment is based on the efficacy of the legislation in combination with realistic implementation methods to determine whether the systems can be seen as easy targets for terrorist groups to exploit for their benefit. If this is the case, the conclusions will be obtained from the information collected and analyzed in each chapter and will identify the key areas of concern and whether Canada and the United States have significantly lowered their vulnerabilities to a potential terrorist attack against their transportation systems.

The reasons for this analysis delve deeper than personal knowledge. There exists minimal exposure and analysis on the security of fundamental transportation systems in these countries. This is unacceptable because Canada is one of the main target countries of Al-Qaeda. Canada's transportation security contains significant vulnerabilities that would affect a considerable percentage of Canadians in the event that these vulnerabilities are exploited. Canadians cannot remain naïve and passive to potential terrorist attacks because they believe that a tragedy similar to 9/11 will not happen on their soil.

Methodology

The limitations of this research paper involve the reliability of government sources and the inability to access secure documents. Therefore, the information has been derived from published or released government policies and reviews. The analysis revolves around the information that the government and security agencies feel is safe for public circulation. A complete evaluation of transportation security policies and security risks in the specified areas is unattainable because it is not possible to have complete access to all transportation security reports, both classified and public. However, many of the relevant and available reports are created by governmental organizations and committees of the Canadian and American governments for their own information and analysis. They are based on information collected, organized, and analyzed by accredited individuals and/or institutions, mainly for use by other government organizations. The available documentation is sufficient to complete a detailed analysis of transportation security and to address potential threat concerns in Canada and the United States.

The majority of the information for the thesis chapters has been obtained from government reports from both the United States and Canada, newspaper articles, papers written by area specialists, published papers by military personnel, and websites. Due to the ever-evolving nature

of this field, especially in the post-9/11 world, there are not many books on this topic because the information could be outdated by the time it is printed. The books concentrate on transportation security system strategy in general, as a guideline to analyze the changing direction of these security systems. The websites are government websites and news websites. The government websites contain reports from committees' evaluations, new policy implementations, and suggested security measures to the transportation sectors. News websites, where applicable, contain support or criticisms of the current transportation security policies and security procedures and are necessary for the varying views and opinions expressed. Because of the level of protection surrounding this information, a significant obstacle is that the nature of this information may not be available past a certain security clearance area.

This thesis concentrates on the time period between September 11, 2001 and September 11, 2006. Because it is still relatively fresh in the public's mind, the first five years after an event of this magnitude should contain the greatest amount of information and place the greatest pressure on the governments to act accordingly. The governments of both countries have had time to create new security policies, to enact the necessary legislation, and to implement the new security measures. Therefore, a comparative analysis of the governments' reactions to the severity of the threats can be based on the legislation enacted as well as the successful and effective execution of the new security measures. The inquiry into the efficacy of the policies and their status of enactment is essential for analyzing the importance of these obstacles to the governments. Even though new legislation and security measures continue to be implemented, the majority of the critical reactions would be within the first five years. This is an appropriate timeframe for an accurate assessment of the security of transportation systems post 9/11 and to conclude whether these systems are more secure against possible terrorist attacks.

Are Our Airports Safer?

This chapter will discuss the security of airports in Canada and the United States (U.S.). Specifically, it will evaluate the changes in policies and initiatives as a result of 9/11. It will compare and contrast the changing nature of airport security in these two countries. The subjects being examined include an introduction to terrorism in relation to airport security, potential threats to Canada and the U.S., false assumptions and challenges, outdated security measures, a brief overview of the events of 9/11, the effects of 9/11 on tourism, new initiatives and their costs, the successful implementation of the new policies, and continuing challenges. The analysis of these topics will provide the basis for the results of the evaluation and their effects on these two states. It will also provide a portrait of the present situation in airport security, which creates an interesting comparison against what airport security should resemble according to the governments' ideal legislative changes. This will lead to an overall analysis of whether the vulnerabilities exploited in these attacks have decreased or if they still exist. The conclusions will be derived from how airport security has changed and improved in these two states after the dramatic events of 9/11.

Terrorism and Airport Security

The current international setting is entirely different from just a few decades ago. Throughout the first half of the twentieth century, states protected themselves from other states endangering their civilization and their very existence. From the end of World War II and leading into the twenty-first century, the world now faces a different type of threat known as terrorism. The *Canadian Security Intelligence Services Act* defines terrorism as "activities...directed toward or in support of the threat or use of [serious violence] against persons or property for the purpose of

achieving a [political objective] within Canada or a foreign state[.]"[2] The Senate report further

details the causes of terrorism to "include political or ideological objectives, religion, nationalism,

[or] ethnic separation[.]"[3] Similarly, the United States defines terrorism as "premeditated, politically

motivated violence perpetrated against noncombatant targets by subnational groups or clandestine

agents, usually intended to influence an audience[,]" with an added emphasis on international

terrorism.[4] International terrorism "involves the territory or the citizens of more than one country."[5]

Instead of obvious threats from other states upon a nation's sovereignty, the new threat comes

from extremist groups that use terror tactics to intimidate and coerce a state's citizens.

Before 9/11, most instances of terrorist activities occurred overseas in Europe, Africa,

Central Asia, the Middle East and the Asia Pacific; far removed from the North American continent.

The terrorist activities in these areas were a continual part of current event news reports that North

Americans were unable to relate to. Indeed, it felt as if these events were taking place in a location

far removed from our ever-prosperous democratic societies. Events changed dramatically when

North America became the new target of extremist Islamic fundamentalist groups. On September

11th, 2001, Canadians and Americans awakened to the horrifying images of the World Trade

Center and the Pentagon terrorist attacks. Since its occurrence, the tragedy of September 11th has

ignited security concerns in both the U.S. and Canada in hopes of preventing another catastrophe

due to insufficient security. This is especially evident in the area of airport security. The airplane

hijackers were easily able to clear security and successfully carry out their objective. New

regulations have been introduced in both the United States and Canada to deter another airplane

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[2] The Senate Special Committee on Terrorism and Public Safety, "The Current Security and Intelligence Environment and a Current Assessment of Risks to Canada's Security," *Government of Canada*, January 1999, <http://www.parl.gc.ca/36 /1/parlbus/commbus/senate/com-e/secu-e/rep-e/repsecintjan99part1-e.htm> (July 30, 2003).
[3] Ibid.
[4] Ivan R. Dee, edited by John Prados, *America Confronts Terrorism: Understanding the Danger and How to Think About It*, (Chicago: Ivan R. Dee, 2002), 29.
[4] Ibid.

catastrophe in North American airspace. What changes have occurred in airport security in Canada and the U.S. and what have been the effects of these modifications?

Threats to Canada and the United States

Threats to these two states should be quickly illustrated to describe the importance of this paper and its continued relevance in the international system. A state has an obligation to protect its citizens from threats to its territory, borders, and populations. Therefore, an explanation of the threats to Canada and the U.S. is necessary to develop an understanding of the hazards facing these two countries.

Before the terrorist attack of September 11th, many North Americans held an attitude of "considerable complacency."[6] Realistically, most of the territory in North America will likely never become viable targets. However, this is a dangerous mindset because many individuals in probable target areas may adopt this attitude and therefore will not believe that they are at risk. The idea that there has not been a successful attack, or an attack on a target has not occurred to date, or that an attack is improbable, transforms into a liability because it causes a relaxed attitude which generally leads to a reduction of security measures and vigilance. The absence of an attack therefore creates a general attitude of considerable complacency, even in the majority of the population of a target area. However, contrary to this common perception, there were many terrorist attacks launched against the U.S. During 1997, "over one-third of all terrorist attacks [in the world] were against United States targets."[7] Canada has become a target of terrorist groups because of its close proximity to the U.S. This proximity goes far beyond sharing the largest

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[6] The Senate Special Committee on Terrorism and Public Safety, "The Current Security and Intelligence Environment and a Current Assessment of Risks to Canada's Security," *Government of Canada*, January 1999, <http://www.parl.gc.ca/36 /1/parlbus/commbus/senate/com-e/secu-e/rep-e/repsecintjan99part1-e.htm> (July 30, 2003).
[7] Ibid.

international border in the world. It includes close economic, military, and civilian relationships, which have bound the two countries closer than many other international partnerships. This relationship between Canada and the U.S. makes Canada increasingly more vulnerable to terrorist activities. In a 1999 report, the Canadian Senate Special Committee on Terrorism and Public Safety emphasized that

> the government's counter-terrorism capability must include not only the government's ability to respond effectively to a terrorist incident and the current situation, but [...] also include sufficient forward thinking to be able to identify and counter future situations." Because terrorist groups aim to inflict fear upon a nation, they "tend to seek out other [...] targets that remain relatively [undefended].[8]

Because Canada is a viable target to terrorist groups, the government must be concerned with vulnerable, undefended targets, as well as its ability to respond to a terrorist attack. The Senate Committee is emphasizing the need to implement preventative measures to create a better defence for susceptible Canadian targets. The attitude of considerable complacency is not a deterrent or a credible defence strategy in a terrorist attack. Therefore, the governments of Canada and the U.S. must consider the possibility of a potential terrorist attack if security initiatives within major transportation systems do not increase.

False Assumptions and Challenges in Canada and the U.S.

There are a few challenges and false assumptions facing Canada and the U.S. These provide resistance or obstructions for the governments of these states to overcome before new security initiatives can be implemented. They must be recognized so that the underlying challenges can be addressed to create a more effective airport security policy.

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[8] Ibid.

In a 1999 report, the Special Senate Committee on Security and Intelligence "[recognized] that increased security often slows passenger flows and increases inconvenience."[9] Further, the Committee hesitantly accepted the argument from Transport officials that added safety features would not be "cost-effective."[10] A similar 1999 review conducted by the Special Senate Committee on Transportation Safety and Security noted that there was a "lack of daily screening of employees and [...] ease of access to the airside through catering facilities by those who may not have been security checked."[11] This was an alarming reality that should have been corrected to prevent terrorist attacks on aircraft. This Committee also noted that security screeners did not have efficient security knowledge. These concerns, along with the current airport security initiatives, should have been reexamined after a terrorist attack against Canada in June 1985.

Air India Flight 182 traveling from Montreal to London exploded and crashed into the North Atlantic on June 23.[12] All of the 329 people on board the airplane were killed, and approximately 280 of the 329 were Canadians or landed immigrants. The *Globe and Mail* deemed this to be "the worst aviation disaster ever involving Canadians."[13] Then Transport Minister Donald Mazankowski proclaimed that Canada must increase security checks at airports.[14] However, the increase in security checks was applied solely to all departing international flights without any consideration to domestic flights. He also requested that "other nations strengthen security measures on flights

[9] Senate Special Committee on Terrorism and Public Safety, "Response to Recommendation of the Senate Special Committees on Terrorism and Public Safety," *The Report of the Special Senate Committee on Security and Intelligence, Government of Canada,* January 1999, <http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/secu-e/rep-e/repsecintjan99part2-e/html> (September 20, 2003), 14.
[10] Ibid.
[11] Special Senate Committee on Transportation Safety and Security, "Air Safety and Security," *Government of Canada,* January 1999, <http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/saf2-e/rep-e/repintjan99part4-e.html> (September 20, 2003).
[12] Ministry of Attorney General, Government of British Columbia, "Air India: Brief Summary of Events of the Air India Prosecution," *Criminal Justice,* September 5, 2003, <http://www.ag.gov.bc.ca/airindia/index.htm> (October 12, 2003).
[13] Zuhair Kashmeri, "Sabotage feared as 329 die in jet," *The Globe and Mail,* August 4, 1986, <http://www.globeandmail.com/backgrounder/airindia/pages/s_Indirect.html> (October 12,2003).
[14] Ibid.

bound for Canada."[15] After this incident, the issue of security at Canadian airports was virtually forgotten because the investigation of the crash lasted approximately seventeen years.[16] During sixteen of those seventeen years, airport security was not an issue to the Canadian public because there were no other significant known incidents of terrorism aboard commercial aircraft in Canada.

While Canada can attribute its complacency towards airport security to a lack of terrorist threats or potential attacks, the U.S. cannot afford to possess this same attitude. The U.S. and its citizens remain significant targets for potential terrorist attacks. According to Bruce Hoffman, Vice President of External Affairs and Director of the RAND Washington Office, the United States security and intelligence agencies made three false assumptions. He suggested that the United States "overestimated the significance of [their] past successes."[17] In the years leading up to September 11th, the United States intelligence community had stopped numerous terrorist attacks against American targets. The prevention of these attacks led to the assumption that terrorist groups were inefficient and prone to mistakes. Also, "attention was [...] focused too exclusively either on the low-end threat posed by car or truck bombs against buildings or the more exotic high-end threats, against entire societies, involving biological or chemical weapons or cyber-attacks."[18] The security and intelligence communities prepared responses to the "worst case scenarios" involving massive numbers of people and incredible devastation and destruction. They assumed that, if prepared for these events, they would be able to incorporate solutions for less significant incidents. The third false assumption was that terrorists are more concerned about publicity for their cause than in killing numerous innocent people.[19] Based on this information, it was believed

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[15] Ibid.
[16] Ministry of Attorney General, Government of British Columbia, "Air India: Brief Summary of Events of the Air India Prosecution," *Criminal Justice*, September 5, 2003, <http://www.ag.gov.bc.ca/airindia/index.htm> (October 12, 2003).
[17] Bruce Hoffman, "Lessons of 9/11," (Santa Monica: RAND, 2002), 17.
[18] Ibid.
[19] Ibid.

that terrorist groups preferred to have the international community aware of their cause with the lowest possible mortality rate. September 11th certainly proved this supposition inaccurate.

Airport Security the Old-Fashioned Way

For an accurate assessment on the changes in airport security post-9/11, the previous airport security measures must be examined. This examination creates a basis for comparison against new changes in legislation, new security concerns, and whether advanced security policies are based on older ideals. It will also reveal where the governments determine that further security measures are required. Laurie Taylor wrote a book about air travel which has a section that details airport security measures present in most international airports prior to 1988. This book is important because the new security initiatives introduced by the governments of Canada and the U.S. can be compared to previous measures to also observe the number of changes that have occurred post-9/11.

In a book entitled *Air Travel - How Safe Is It?*, Taylor describes the internationally accepted security devices used at airports prior to 1988. These measures were brought in to deter the increasing numbers of terrorist attacks on aircraft internationally. These security devices included x-ray luggage screening, metal detector gateways, body searches, explosives detectors, sniffer dogs and gerbils, psychological screening, separation of air and ground sides, separation of passengers, identification of airport employees, security patrols, screening of cargo, and screening of duty free goods and unaccompanied and interline passenger baggage.

X-ray luggage screening is able to create a three dimensional image of the contents of luggage. It is capable of identifying copper wire hidden behind steel plates.[20] X-ray machines with the capabilities of operating at two different frequencies and varying intensities are able to detect

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[20] Laurie Taylor, *Air Travel-How Safe Is It?* (Oxford: BSP Professional Books, 1988), 208.

plastic explosives and bombs.[21] A problem with x-ray machines was that the operators could not be stationed for long periods of time because the operator's mental sharpness deteriorated after a certain amount of time. This was emphasized in a study conducted in 1987 at random American airports. The average "miss rate" was twenty percent, and many of the missed objects "were weapons concealed in carry-on baggage."[22] This is an alarming statistic and demonstrates how easily the hijackers were able to manoeuver through x-ray security stations.

Metal detector gateways were able to detect concentrations of metals on a person. If the concentrations were abnormally high, the alarm would sound and the person would be subjected to a manual scanning and/or body search to determine where the concentration of metal was located on their body.

Body searches were used only on passengers who had set off a metal detector. These people were treated with a certain amount of suspicion and were therefore searched more thoroughly to ensure that they were not carrying any dangerous items aboard the aircraft. The one drawback is that body searches were a lengthy process and considerably impeded the inspection of passengers.

Explosive detectors were capable of "detect[ing] explosives that [were] tightly wrapped in metal foil or cling film."[23] In addition, these machines were able to identify plastic explosives and recognize small amounts of gas that were emitted by explosives. This greatly increased the ability to identify conventional bombs, but terrorist groups are ever-changing their techniques to accomplish their goal. A less expensive alternative to explosive detectors was sniffer dogs and

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[21] Ibid.
[22] Ibid, 209.
[23] Ibid, 209.

gerbils.[24] They were able to recognize explosives and drugs efficiently, however, as with any other living creature, they were prone to make mistakes.

Psychological screening was part of airline personnel training, but it was inaccurate at best. This technique based itself on the psychological profile of a "typical hijacker."[25] Dedicated terrorists, however, alter their appearances and demeanors to blend in with another group so they are less noticeable. This allows them to gain easier access to the aircraft and regroup with their partners.

It was recognized that the traveling public must be kept separate from the rest of the population after clearing security. This was to ensure that dangerous items were not passed through security from a person that was not traveling. It is accomplished "by controlling the flow of passengers down 'sterile' corridors and into lounges that are closed to the public."[26] The problem stems from passengers transferring from one flight to another. Often, transfers were sent to other terminals, allowing them to simply board their next flight without clearing security again. Because this was a great security threat, transferring passengers were subjected to security screenings again before they could board their connecting flight. It was implemented to virtually eliminate the possibility of transporting dangerous items onto an airplane.

Identification of airline personnel is crucial to maintaining a secure airport, especially for those employees who cross from the ground to the air side. Identification badges are effective if proper background screenings have been performed on all employees. Without proper checks, terrorist groups can place an operative into the airline's personnel, which would aid the hijackers in carrying dangerous items onto the aircraft. At the time Taylor wrote her book, she expressed optimism surrounding a new technology for electronic identification cards that would be more

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[24] Ibid, 209-210.
[25] Ibid, 210.
[26] Ibid.

secure while allowing the identical amount of traffic through security points.[27] These "electronically encoded cards have the further advantage of being readily cancelled if lost, stolen or withdrawn."[28] However, these cards do not necessarily increase security because terrorist groups can easily create or obtain false identification cards to allow easier access through secure locations. "Controlling passes is complicated by the fact that pass holders work for scores of different companies."[29] Therefore, a falsified card may be difficult to find because of the volume of cards used every day. The Standing Senate Committee on National Security and Defence further stated that

> [they] did not hear of any follow-up investigation of unsuitable candidates, nor receive any information about the number of employees denied a pass. Nor is it clear under what circumstances an employee might be asked to agree to additional security screening.[30]

This shows that there was not a comprehensive screening policy for acquiring security pass cards pre-9/11. The Committee also described a serious problem with the pass card system.

> Of the tens of thousands of passes that are currently in circulation, the [C]ommittee was advised that thousands cannot be accounted for, including those issued to employees of [a defunct airline] and others that have been lost, stolen, or kept by employees who had quit their jobs without notice.[31]

This left a significant number of pass cards with security clearances available to people if they were determined to obtain them, which greatly compromised the integrity of the security systems at airports overall.

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[27] Ibid.
[28] Ibid, 211.
[29] Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02part1-e.htm#_ftn4> (September 20, 2003).
[30] Ibid.
[31] Ibid.

The use of security patrols was a sensible introduction to airport security.[32] Taylor

believed that "[a] great deal can be achieved by instituting a system of irregular but frequent patrols

by trained security staff and by inculcating a sense of security awareness among all employees at

the airport and the general public."[33] In reality, it was a flawed security system; the addition of

security guards did add security to an airport, but it did not appear to create a significantly higher

security standard. These had greater psychological benefits for employees and the general public

because they observed security guards patrolling the airport. However, they were not capable of

covering every area of the grounds simultaneously. This means that while certain areas were

being patrolled by security guards, other areas could not be. There was a greater security liability

in the areas without the guards, which created a greater potential for those areas to be breeched.

In response to "terrorists [...] switching from hijacking to sabotage by bombs," stricter

screening processes on cargo were implemented.[34] Taylor acknowledged that "some explosive

devices are operated by pressure switches."[35] As the elevation increased in an airplane, air

pressure in the cargo compartment would decrease and activate a pressure-sensitive explosion.[36]

Cargo was exposed to similar levels of pressure, which would be experienced in the airplane,

detonating bombs that are pressure sensitive. However, this system did not further examine cargo,

leaving the aircraft considerably vulnerable if the bomb was reliant upon a timer or other method of

detonation. Similarly, a screening process for duty free goods was implemented to deter hijackers

from carrying on dangerous items. These items could be used to influence the passengers and

crew onboard the aircraft to fulfill the hijacker's demands.

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[32] Laurie Taylor, *Air Travel-How Safe Is It?* (Oxford: BSP Professional Books, 1988), 210-11.
[33] Ibid, 211.
[34] Ibid.
[35] Ibid.
[36] Please note: "Atmospheric pressure is the pressure above any area in the Earth's atmosphere caused by the weight of air. As elevation increases, fewer air molecules are above. Therefore, atmospheric pressure decreases with increasing altitude." Taken from Wikipedia, "Atmospheric Pressure," *Wikipedia.com, a registered trademark of Wikimedia Foundation, Inc.,* March 2, 2006, <http://en.wikipedia.org/wiki/Atmospheric_pressure> (March 5, 2006).

Lastly, airports were developing a system to "[check unaccompanied baggage] and reconciling passengers and bags in order to prevent terrorists from placing bombs on board while they themselves are safe."[37] This may have been implemented as a result of the bombing of Air India flight 182. One of the terrorists had relentlessly requested his luggage be checked for this flight while his reservation was still unconfirmed until the airline agent relented and checked in the luggage.[38] This piece of luggage later detonated and exploded the airplane mid-flight, killing all aboard.[39] The screening of luggage and reconciling checked-in passengers and their luggage was necessary to ensure the safety of passengers and crew aboard all flights.

The Day Everything Changed

The events of 9/11 became a significant part of modern history. It had far-reaching repercussions for the future, as well as in other areas and fields related and unrelated to transportation systems. Security concerns altered within the government and the public sectors and into the private sector. Therefore, the events must be explained to understand the importance and validity of this chapter, as well as this thesis.

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[37] Laurie Taylor, *Air Travel-How Safe Is It?* (Oxford: BSP Professional Books, 1988), 211.

[38] Please note: The information cited in Wikipedia is corroborated by a short time-line created by the Canadian Broadcasting Corporation (CBC). However, the CBC time-line does not offer as many details as the Wikipedia time-line. Therefore, this paper will use both as sources for the purpose of demonstrating the breakdown of security measures in this incidence. The terrorist under the alias of Mr. Singh "checked in at Vancouver Airport for CP Air Flight 60 to Toronto. He was assigned seat 10B. Singh requested that his suitcase, a dark brown, hard-sided Samsonite suitcase, be transferred to Flight 182. CP Agent Jeanne Bakermans initially refused his request to inter-line the baggage, since his seat from Toronto to Delhi was unconfirmed, but later relented. [T]he CP Air flight to Toronto Airport departed without Mr. Singh. Some of the passengers and baggage, including the bag Mr. Singh checked in, were transferred to the Air India flight. Other passengers and baggage from Air Canada Flight 136, which also came from Vancouver, were handled as well." Taken from Canadian Broadcasting Corporation, "In Depth: Air India, Timeline: The bombing," *cbc.ca, a division of Canadian Broadcasting Corporation*, March 15, 2005, <http://www.cbc.ca/news/background/airindia/timeline_bombing.html> (June 25, 2007). And Wikipedia, "Air India Flight 182," *Wikipedia.com, a registered trademark of Wikimedia Foundation, Inc.*, March 3, 2006, <http://en.wikipedia.org/wiki/Air_India_flight_182> (March 5, 2006).

[39] Wikipedia, "Air India Flight 182," *Wikipedia.com, a registered trademark of Wikimedia Foundation, Inc.*, March 3, 2006, <http://en.wikipedia.org/wiki/Air_India_flight_182> (March 5, 2006).

The tragedy on September 11th began to unfold at 7:58 in the morning, Eastern Daylight Time. United Airlines Flight 175, which would crash into the south tower of the World Trade Center, departed and was hijacked shortly after takeoff.[40] At 7:59 am EDT American Airlines Flight 11 took off from Boston, was hijacked shortly after takeoff as well, and crashed into the north tower forty-seven minutes later.[41] United Airlines Flight 93 was hijacked shortly after 8:01 am EDT and crashed into a field two hours later when the passengers opposed the hijackers.[42] The last airplane to be hijacked, American Airlines Flight 77, crashed into the Pentagon at 9:45 am EDT, an hour and thirty-five minutes after take off.[43] These four hijackings were successfully achieved within twelve minutes and accounted for the loss of over three thousand lives. Airport security measures were easily cleared by the terrorists, allowing them to smuggle their weapons onboard the flights without difficulty. With all of the security initiatives listed by Taylor, one has to question which of these measures and devices were ineffectual and allowed the hijackers to obtain control of the airplanes.

Even though these attacks were carried out swiftly and efficiently, the responses by Canada and the U.S. were virtually instantaneous and considerable. The Federal Aviation Authority in the U.S. shut down all New York City airports by 9:17 am.[44] Twenty-three minutes later the FAA ceased all flight operations at American airports.[45] Similarly, Canada's then Transport Minister David Collenette "declared that no commercial or private aircraft were allowed to depart

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[40] September 11 News.com, "Timeline & Images on the Morning of September 11, 2001," *September 11 New.com*, <http://www.september11news.com/AttackImages.htm> (October 12, 2003).
[41] Ibid.
[42] Ibid.
[43] CNN, "September 11: Chronology of terror,"*CNN.com*, September 12, 2001, <http://www.cnn.com/2001/US/ 09/11/ chronology.attack> (October 12, 2003).
[44] Ibid.
[45] Ibid.

Canadian airports until further notice."[46] Also, Collenette ordered all flights destined for the U.S. incapable of returning to their cities of departure due to insufficient amounts of fuel to land at airports across Canada. Increased security measures were instituted at all Canadian airports. By September 12th, domestic flights were allowed to resume in Canada with heightened security measures strictly enforced.[47] These enhanced security measures included elevated police presence at major airports, extensive passenger screening, and enhanced security measures such as more hand searches of luggage.[48] With approval by the FAA, some flights were allowed to continue into the U.S. Many American airports remained closed as a precautionary measure. The next day all Canadian restrictions on commercial flights were lifted, however many American airports remained closed to trans-border flights.[49] The 14th of September saw the restrictions lifted off of cargo flights in Canada and by the 16th the final American flight that had been diverted to a Canadian airport was allowed to fly to its final destination. Many American airports remained closed to trans-border flights for precautionary measures.

The Tourism Industry after 9/11

9/11 did not only affect the security measures employed by transportation systems in Canada and the U.S. There were far-reaching economic impacts on many goods and services traversing the border between these two countries. One of the areas that was significantly affected by 9/11 was the tourism industry. Both economies relied (and continue to rely) heavily upon trading goods, services, and people. Tourism infuses the economy not only of a certain city or

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[46]Susan Whelan, *Sixth Report of the Standing Committee on Industry, Science and Technology: Getting Back to Business,* By Susan Whelan, M.P., Chair, (Ottawa: November, 2001), 34.
[47] Ibid.
[48] Ibid.
[49] Ibid.

region, but affects the entire country. Therefore, tourism can be a simple example of the effects of 9/11 on industry and trade.

Tourism was greatly affected immediately following September 11th. In Canada "passenger traffic [was] down more than 40% from pre-attack levels[.]"[50] This shows that even though Canada was not directly attacked, many Canadians refused to fly. Many visitors to Canada also chose not to fly into Canada for fear of another attack. International tourist travel to North America dropped by approximately twenty-seven percent on average in the months of September to December of 2001.[51] Because Canada relied fairly heavily on tourism for government revenues, this was a tremendous blow to the economy. Canadian M.P. Susan Whelan explained that the reason people were not flying was that "many people fear[ed] the prospect of flying. Lingering psychological impacts of the attacks [...] reduced the number of people choosing air travel as a mode of transportation."[52] The psychological impacts of this event caused people to travel less. Therefore, if there were fewer passengers, the airlines were making less money. This psychological impact of the terrorist attacks forced declarations of bankruptcy by some Canadian airlines such as Canada 3000 (including the addition of Royal Aviation and CanJet Airlines) and Air Canada.[53] While Air Canada received a government grant of $70 million and was able to continue its operations under creditor protection, Canada 3000 could not prevent its closure.[54]

In the United States the situation was nearly as grim in the tourism industry. The World Tourism Organization recorded that in the year 2000, the United States received approximately

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[50]Ibid, 19.
[51] Tourism Recovery Committee, *The impact of the September 11th attacks on tourism: The light at the end of the tunnel,* (Madrid: Market Intelligence and Promotion Section, Division of World Tourism Organization, 2002), 15.
[52] Susan Whelan, *Sixth Report of the Standing Committee on Industry, Science and Technology: Getting Back to Business,* By Susan Whelan, M.P., Chair, (Ottawa: November, 2001), 19.
[53] Keith McArthur, "Airlines still suffer 9/11 aftershocks," *The Globe and Mail, distributed by CTV.ca,* September 10, 2002, <http://www.ctv.ca/special/sept11/hubs/america/macarthur.html> (October 15, 2007).
[54] Ibid.

fifty-one million international tourists.[55] However, the growth rate for international tourism in the

United States fell by 12.6 percent for the year 2001.[56] This was equivalent to a decline of 6.4

million tourists. The main reason for this sharp decrease was the tragic events that occurred on

September 11th. From September to December of 2001, the WTO stated that

> due to [the] fact that passenger aeroplanes were actually used as weapons on
> September 11th and due to the massive visual impact of the attacks, repeated
> thousands of times on TV, public perception [had] changed, and far more people
> [were] afraid to fly, especially in the USA.[57]

September 11th had tremendous sweeping effects for the entire American population, causing

psychological fears of flying to many people. For example, American business people altered their

routine dramatically. Following September 11th "[communication] that was previously conducted

personally on business trips [was] now frequently replaced by telecommunications."[58] This attitude

did change relatively quickly in the United States. By March 8th, 2002, USA Today maintained that

"the main reason daily passengers in the US post September 11th [were] down [...] is 'hassle, not

fear' due to the 'interminable delays and indignities many passengers suffer because of some

senseless searches."[59] Again, American business people "[found] that tightened security and

longer waiting and check-in periods [made] travel more cumbersome."[60] However, when it was

necessary to fly, many companies enforced their policies that board members were required to

travel in separate airplanes.[61] American sentiment became one of annoyance with the new

security measures, replacing the previous sentiment of fear.

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[55] Tourism Recovery Committee, *The impact of the September 11th attacks on tourism: The light at the end of the tunnel,* (Madrid: Market Intelligence and Promotion Section, Division of World Tourism Organization, 2002),15.
[56] Ibid.
[57] Ibid, 24.
[58] Hermann Simon, "Terrorism Hurts World Trade," Vol. 3, *Internationale Politik: Transatlantic Edition,* March 2002, 59.
[59] Tourism Recovery Committee, *The impact of the September 11th attacks on tourism: The light at the end of the tunnel,* (Madrid: Market Intelligence and Promotion Section, Division of World Tourism Organization, 2002), 24.
[60] Hermann Simon, "Terrorism Hurts World Trade," Vol. 3, *Internationale Politik: Transatlantic Edition,* March 2002, 59.
[61] Ibid.

New Canadian Initiatives and Costs

New initiatives and their costs are an essential part of an analysis to evaluate the response of the government to 9/11. The Canadian initiatives are evidence of the government's commitment to the safety of its citizens. Its analysis of the costs of these new measures is an indication that the Canadian government has dedicated a considerable amount of time to create the framework for the new policies.

The Canadian government implemented new policies and initiatives in response to the September 11th attacks. Transport Canada released a list of new initiatives on October 11th, 2001. These new initiatives included the purchase of advanced explosive detection systems, increasing the number of airport security inspectors, analyzing advanced security practices, acquiring better information systems for customs officials, increasing the number of customs officials, new equipment for the Royal Canadian Mounted Police, the purchase of new fingerprint card conversion technology, and an increase in the ability of the RCMP Emergency Response Team. Initially, these new initiatives cost the government of Canada over ninety million dollars. In total, the Canadian government budgeted over two billion dollars to be spent over a five-year period.[62]

Transport Canada committed itself to spending 55.7 million dollars on advanced Explosives Detection Systems at all major Canadian airports.[63] New EDS machines would include x-ray machines to identify baggage contents and trace detection that "detects residues of explosive material."[64] These new screening techniques would examine not only checked luggage, but carry-on luggage as well. They would also be able to test luggage monitors to ensure that they are continually attentive in their duties.

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[62] Kent Roach, *September 11: Consequences for Canada,* (Montreal and Kingston: McGill-Queen's University Press, 2003), 190.
[63] Transport Canada, "New Initiatives to Enhance Airport Security," *Government of Canada*, October 11, 2001, <http://www.tc.gc.ca/mediaroom/releases/nat/2001/01_h126e.htm> (November 23, 2003).
[64] Ibid.

Three million dollars was allocated to the hiring of additional airport security inspectors and to "strengthen [their] regulatory capacity for responding to new and emerging security threats."[65] This included additional training programs for cargo and luggage handlers so that they were fully aware of possible terrorist capabilities, and extra training programs to acquaint airport and airline staff with possible terrorist techniques that would enhance their knowledge and force them to consider possible resolutions to these threats if they should encounter them. Also included in this three million dollars was the training of airport and airline personnel in the new technologies being employed by the airports. This training would be necessary to support the new systems in place in airports so that they would be used in the most effective manner possible.

Seven hundred and fifty thousand dollars would be spent on a report that analyzed advanced and evolving security practices within the airport security sector. The purpose of this study was to analyze "requirements, availability, applicability and implementation of security technologies and systems at airports."[66] The efficiency of comparable security systems in other countries would be evaluated, as well as their expected advantages in Canadian airports. Some of these new technologies under examination were facial recognition systems, iris scans, and automated thumb printing.[67]

Transport Canada also emphasized the need to acquire the latest technology and information systems to be used by customs officers. Twelve million dollars were set aside for two enhanced security measures. The first of these measures was the Advance Passenger Information/Passenger Name Record (API/PNR). This technology would link the customs officials to a data bank to dispense relevant information concerning incoming passengers in advance of their arrival. This would allow customs officials time to examine their backgrounds and isolate any

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[65] Ibid.
[66] Ibid.
[67] Ibid.

suspicious or high-risk individuals. This information "would be the same information currently obtained through interviews with the traveler and the inspection of their travel documents at the time of arrival in Canada."[68] The second security measure was called Custom Controlled Areas. These would be placed in airports that charter international flights. "Customs officers would address the growing problems of internal conspiracies where some airline and airport staff misuse their position to engage in criminal activity."[69] Passenger screening would be much more efficient with these new security measures adopted by customs officials.

A further six million dollars would be placed towards strengthening existing technology to be more effective. The obvious machines to be upgraded would be x-ray machines, however there are two other upgrades in technologies that were under consideration. The first of these was the Integrated Primary Inspection Line. This database connected customs officials to Customs and Citizenship and Immigration databases and warned officials "whether the traveler is flagged for either customs or immigration, or has previous infractions that would warrant secondary inspection."[70] As well, there would be a Customs Intelligence Management System. This system was connected to a national database that contained intelligence information.[71] This would aid officials in analyzing potential risks entering Canada. Both of these technologies would ensure that our customs officials are increasingly efficient in their tasks.

Transport Canada allotted twelve million dollars for additional customs and security inspectors. This money would "be invested in hiring 130 customs inspectors and 27 security inspectors across Canada to strengthen regulatory capacity for responding to new and emerging security threats."[72] This shows that Transport Canada was attempting to increase security

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[68] Ibid.
[69] Ibid.
[70] Ibid.
[71] Ibid.
[72] Ibid.

measures at the airports themselves. However, these resources were not explained in further detail, so there is no real way of knowing which airports these new inspectors would be added to. This created a security concern because the 157 total inspectors could be placed in one airport, which would not necessarily lead to an overall increase in airport security in Canada. However, these inspectors could also be spread thinly across airports throughout Canada, which would only be a minimal change to airport security measures.

Finally, ten million two hundred and seventy thousand dollars would be distributed for additional security measures provided by the RCMP. Eight million dollars would be spent on new equipment, mainly real time identification-live scan systems. These would link to an RCMP database to transmit fingerprints, palm prints, and photographs to and from international airports for added security information on arriving passengers.[73] The RCMP would also acquire new fingerprint card technology. The purpose of this system was to update the Canadian Criminal Records System.[74] Finally, seven hundred and seventy thousand dollars would be added to the budget of the RCMP Emergency Response Team to enable them to increase their "tactical response capabilities."[75]

On October 11th, 2001, then Solicitor General of Canada, Lawrence Macaulay, placed special emphasis on the upgrading of the RCMP capabilities. To him, these investments "[demonstrated] that the Government of Canada [was] serious about the safety and security of Canadians."[76] These, according to the government of Canada, were the top priority of the government and would be arranged first.

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[73] Ibid.
[74] Ibid.
[75] Ibid.
[76] Solicitor General of Canada, "New Airport Security Initiatives," *Department of the Solicitor General of Canada*, April 10, 2002, <http://www.sgc.gc.ca/publications/Speeches/20011011-e.asp> (November 23, 2003).

All of these measures were described in detail in different news releases and policy

initiatives. The government portrayed an active role in the creation and establishment of new

security initiatives. However, five years after the tragedy there remained minimal information on

the implementation of these new security measures. The most current information available was

found on the Canadian Air Transport Security Authority (CATSA) website. The difference between

Transport Canada and CATSA is that "Transport Canada remains the regulator and policymaker

regarding aviation security, while CATSA is responsible for implementing a number of key aviation

security services."[77] It "was the centrepiece of the Government of Canada's plan to enhance the

country's air transport security system following [9/11]."[78] The government had created a new

department to implement and enforce the new security measures. However, the tasks described

on the website do not begin to cover all of the security initiatives portrayed by the government as

mandatory measures that would commence in the near future; a time-period was never given. The

government could implement the policies that they deemed to be the simplest and perhaps least

expensive to execute without harsh judgments against their efforts because they offered no

maximum timeframe or specific programs to be created. CATSA provided the only official progress

and enactment of the security initiatives announced by Transport Canada in 2003. These include:

> "devoting one hundred and twenty-eight million dollars to pre-board

  screening [...] have been used to hire extra screening officers, provide

  enhanced training, as well as wage increases[;]

> implement[ing] a training program for new screening officers across

  the country. [They] have received special upgrade training, designed

  to teach them how to use some of the new equipment as well as

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[77] Canadian Air Transport Security Authority, "Frequently Asked Questions/Homepage," *Government of Canada*, December 12, 2005, <http://www.catsa-acsta.gc.ca/english/help_aide/faq.htm> (March 5, 2006).
[78] Ibid.

ensure a consistent and professional level of service across the

country[;]

> produc[ing] a standard uniform for pre-board screening officers[;]

> committing one billion dollars for the purchase and deployment of

[Explosives Detection Systems] at airports covering ninety-nine per

cent of all passengers in Canada."[79]

These initiatives were consistent with some of the ideas put forth by the Transport Canada security

measures in 2003, but did not include a complete set of policies to comply with the entire list of

security measures that were described in the Transport Canada report. The emphasis on standard

uniforms was a significant concern for CATSA. In reality, it was an initiative that was a visual

action to show government changes in airport security. However, uniforms on their own could not

increase the security in an airport. The remaining three central duties of CATSA were more

integrated with Transport Canada's 2003 policy transformations, but they were vague in their

descriptions and offered no concrete programs or technologies that have been introduced into

airports lately. This was a positive step for the government of Canada because it provided a basic

overview of the government's actions since its initiatives were announced in 2003. However, the

problem remains that there were only a limited number of security measures created to match the

long list of vague initiatives described by the government. Therefore, this concise list of initiatives

showed that the government was not completely committed to wholly increasing airport security in

Canada by implementing their full list of new policies. This may be because these new policies

were too expensive for the government to afford in their entirety. Another reason for this shortened

list of implemented measures may be that the government was only willing to enact certain policies

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[79] Ibid.

that would appear to be an obvious improvement from previous security techniques, but were not capable of increasing security to the standards the government initially set out to attain. These policies would increase security at airports, but they would not begin to fulfill the standards set by Transport Canada in 2003. These initiatives appear to have been enacted to appease the public with a handful of security measures that were esthetically pleasing. This could have been done to deter any in-depth discussion or analysis of these initiatives against the preliminary recommended security measures.

New American Initiatives and Costs

The U.S. also created new airport security initiatives as a direct result of 9/11. This was not a surprise because the attacks occurred over American airspace using American airliners as weapons against American targets. The comparison between Canadian and American airport security initiatives demonstrates the importance of this subject to both governments. It also shows the seriousness of the situation in relation to the government's response.

The U.S., who released their *Aviation Security Act* on November 19, 2001, applied new airport initiatives in a different manner than Canada. The unique American initiative was the creation of a new organization, the Transportation Security Administration. Other new policies included improved flight deck integrity measures, the deployment of federal air marshals, improved airport perimeter access security, additional crew training, a security screening opt-out program, additional screening techniques, in-depth passenger manifests, additional aviation security funding, and possible weaponry for flight deck crews.[80]

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[80] Senate and House of Representatives in the United States of America in Congress, "Aviation and Transportation Security Act," *Government of the United States of America*, November 19, 2001, <http://usgovinfo.about.com/gi/dynamic/offsite.htm?site=http://thomas.loc.gov/cgi%2Dbin/bdquery/z%3Fd107: s.01447:> (October 8, 2003).

The government of the United States created a new organization, the Transportation

Security Administration (TSA), which is part of the Department of Homeland Security. The TSA

was created in November 2001 and was a direct consequence of the 9/11 tragedies.[81] The TSA

"protects the nation's transportation systems to ensure freedom of movement for people and

commerce."[82] This organization is focused on the security of transportation systems in the U.S.,

while the Federal Aviation Administration, within the Department of Transportation, is responsible

for the "safety of civil aviation[, which] includes the issuance and enforcement of regulations and

standards related to the manufacture, operation, certification and maintenance of aircraft."[83] The

head of the TSA Administration is the Administrator, and the term of the position is five years.[84]

The Administrator is responsible for, among other things, all matters relating to civil aviation

security. Some of these matters included the handling of all intelligence information related to

transportation security, assessment of threats to transportation, developing responses to threats to

transportation, proper maintenance of test security facilities, and supervising security measures at

airports, among other responsibilities.[85] Most importantly, in the event of an emergency,

> if the [Administrator] determines that a regulation or security directive must be
> issued immediately in order to protect transportation security, the [Administrator]
> shall issue the regulation or security directive without providing notice[.][86]

Thus the Administrator has significant power and control over the American airline industry. The

Administrator is capable of handling the intelligence, threat assessment, responses, test security

facilities, and overall operation of security measures at airports. It is a comprehensive position that

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[81] Transportation Security Administration, "What Is TSA?" *Government of the United States of America*, <http://www.tsa.gov/who_we_are_what_is_tsa.shtm> (April 29, 2008).

[82] Department of Homeland Security, "Department Subcomponents and Agencies," *Government of the United States of America*, November 1, 2007, <http:www.dhs.gov/xabout/structure/> (April 29, 2008).

[83] Department of Transportation, "DOT Organizations," *Government of the United States of America*, <http://www.dot.gov/summary.htm> (April 29, 2008).

[84] Ibid, 115 stat 597.

[85] Ibid, 115 stat 598.

[86] Ibid, 115 stat 600.

is tasked with a great deal of responsibility. It also has the ability to act unilaterally if a potential threat arises without consulting other relevant departments in the U.S. government. This position and this organization were created to maintain the integrity of American airport security. The position is currently held by Kip Hawley, who was a key part of creating the Transportation Security Administration post-9/11.[87] He was nominated to this position by President George W. Bush on May 6, 2005 and was sworn in on July 27, 2005.[88] There are sixteen departments that answer to this office in a variety of areas.[89] The responsibility of this position is significant because it must maintain the smooth interrelations between the sixteen departments and integrate the information and analysis conducted by each department into a comprehensive policy. The budget for 2006 was approximately 5.3 billion USD.[90]

Improved flight deck integrity measures involved the safety and protection of the flight deck. This included

> prohibiting access to the flight deck[,] [...]requiring the strengthening of the flight deck door and locks[,] [...] flight deck doors remain locked while any aircraft is in flight except when necessary [...] [and] prohibiting the possession of a key to any flight deck door[.][91]

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[87] Transportation Security Administration, "Kip Hawley: TSA Administrator," *Government of the United States of America*, <http://www.tsa.gov/who_we_are/people/bios/kip_hawley_bio.shtm> (April 29, 2008).
[88] Transportation Security Administration, "About TSA, TSA Leadership: TSA Organization Chart," *Government of the United States of America*, October 4, 2005, <http://www.tsa.gov/public/interapp/editorial/editorial_multi_image_with_table_0102.xml> (March 6, 2006). Also Transportation Security Administration, "Kip Hawley: TSA Administrator," *Government of the United States of America*, <http://www.tsa.gov/who_we_are/people/bios/kip_hawley_bio.shtm> (April 29, 2008).
[89] Ibid.
[90] Transportation Security Administration, "About TSA, TSA Budget: Fiscal Year 2006 Budget Briefing," *Government of the United States of America*, 2006, <http://www.tsa.gov/public/display?theme=39> (March 6, 2006).
[91] Senate and House of Representatives in the United States of America in Congress, "Aviation and Transportation Security Act," *Government of the United States of America*, November 19, 2001, <http://usgovinfo.about.com/gi/dynamic/offsite.htm?site=http://thomas.loc.gov/cgi%2Dbin/bdquery/z%3Fd107:s.01447:> (October 8, 2003). 115 stat 606.

The only people allowed access to the flight deck were authorized crewmembers and only when conditions required. This policy ensured that the flight deck had the highest security measures possible to prevent any terrorist attacks on the cockpit.

As an added precautionary measure, the Transport Security Administration had the ability to carry Federal air marshals "on every passenger flight of air carriers in air transportation[.]"[92] The air marshals were placed on flights that the Under Secretary deemed to be a high security risk. These air marshals were armed and provided extra security in the event of a terrorist incident. Their fundamental duties were "to safeguard flights against aircraft hijacking ("skyjacking") and all other forms of crimes in or around commercial aircraft."[93]

In the area of improved airport perimeter access security, the Under Secretary was responsible for the "screening or inspection of all individuals, goods, property, vehicles, and other equipment before entry into a secured area of an airport in the United States[.]"[94] This included the inspection of all catering services and other services performed on a passenger aircraft. In this manner the American government was making it easier to detect any tampering of aircraft parts and services, which heightened security for all passengers and crewmembers.

Once the *Aviation Security Act* was enacted, the training programs for crewmembers were to be enhanced with added security knowledge. These added training exercises included crewmember defensive manoeuvers, live situational training exercises involving numerous threats, defensive aircraft manoeuvers, and analyzing the common behavior of hijackers and terrorists.[95]

[92]Ibid, 115 stat 607.
[93] Wikipedia, "Federal Air Marshal Service," *Wikipedia.com, a registered trademark of Wikimedia Foundation, Inc.*, March 4, 2006, <http://en.wikipedia.org/wiki/Federal_Air_Marshal_Service> (March 6, 2006).
[94] Senate and House of Representatives in the United States of America in Congress, "Aviation and Transportation Security Act," *Government of the United States of America*, November 19, 2001, <http://usgovinfo.about.com/gi/dynamic/offsite.htm?site=http:/ /thomas.loc.gov/cgi%2Dbin/bdquery/z%3Fd107:s.01447:> (October 8, 2003). 115 stat 608.
[95]Ibid, 115 stat 610.

Having aircraft personnel that were more effectively trained in matters of airplane security ensured an increased security environment on the aircraft.

Both Canada and the United States employed federal employees to perform security screenings. The United States required all screening personnel at airports to be federal employees for a minimum of three years. These federal authorities would be trained through federal training programs in new security measures, many of these coming from security firms already employed by airport security companies.[96] Once the three year restriction period was concluded, "airports [would] have the option of returning security screening functions to private control" with government approval.[97] To receive government approval, a private screening company must be capable of attaining a level "equal to or greater than the level that would be provided at the airport by Federal government personnel[.]"[98] Background checks of all employees were mandatory in this program and any individual who presented a "national security risk" was discharged.[99] Lastly, there would be annual proficiency reviews to ensure "that the individual continues to meet all qualifications and standards required to perform a screening function[.]"[100] The review ensured that all personnel were capable of performing security-screening duties at the most effective level. This established an increased effectiveness of security to ensure that terrorist attacks in airports were minimized. It heightened the requirements necessary to follow the minimum federal security policies, which were reinforced by the yearly screening of personnel to ensure that they meet federal security requirements. This promoted the idea that the security measures in place were being followed by

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[96] Robert Longley, "New Airport Security Measures: What does the new Airport Security Act mean to travelers?" *US Gov Info/Resources,* November 18, 2001, <http://usgovinfo.about.com/library/weekly/aa111801a.htm> (October 8, 2003).
[97] Ibid.
[98] Senate and House of Representatives in the United States of America in Congress, "Aviation and Transportation Security Act," *Government of the United States of America,* November 19, 2001, <http://usgovinfo.about.com/gi/dynamic/offsite.htm?site=http://thomas.loc.gov/cgi%2Dbin/bdquery/z%3Fd107:s.01447:> (October 8, 2003). 115 stat 613.
[99] Ibid, 115 stat 617.
[100] Ibid, 115 stat 618.

highly trained individuals. In theory, this should deter terrorists from attacking airports because the security measures were being strongly enforced.

The screening of all luggage and personnel by Federal security authorities was emphasized by the Act in order to detect any dangerous weapons or suspicious individuals. This measure was to be implemented no later than sixty days after the American government ratified the Act. In terms of Explosive Detection Systems, all United States airports had to "have sufficient explosive detection systems to screen all checked baggage no later than December 31, 2002 and [...] all checked baggage at the airport [was to be] screened by those systems[.]"[101] Until this policy was in full effect all checked luggage was placed aboard an aircraft only if the passenger was aboard the aircraft. Manual searches and searches by canine explosive detection units were also used to screen checked luggage. As of November 18, 2002, "[t]he Boeing Co. and Siemens had completed installing explosive detection equipment at 200 American airports."[102] The article continued to detail the role of Boeing and Siemens in relation to the explosive detection systems.

> The U.S. Transportation Security Administration [was] responsible for staffing and operating the equipment, which [would] eventually be in place at 429 U.S. airports, Boeing said. Boeing and Siemens [were] responsible for designing, installing and maintaining the systems at the airports.[103]

Clearly, the majority of the initial costs were being absorbed by these two companies so that the security systems could be installed quickly and efficiently. The long-term costs of personnel, training, and continuous operations of the equipment would be the responsibilities of the airports that utilize these machines.

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[101] Ibid, 115 stat 615.
[102] St. Louis Business Journal, "Boeing installs explosive detection systems at airports," *St. Louis Business Journal*, November 18, 2002, <http://www.bizjournals.com/stlouis/stories/2002/11/18/daily12.html> (March 8, 2006).
[103] Ibid.

As in Canada, the Transportation Security Administration had ordered that all foreign aircraft were to provide electronic transmission of their passenger and crew manifests. The information would include the full name of each person, date of birth, citizenship, sex, passport number, country of issuance for the passport, a valid United States visa number or resident alien card number, and "other information as the Under Secretary, in consultation with the Commissioner of Customs, [determined was] reasonably necessary to ensure aviation safety."[104] This policy was to provide customs officials with all relevant information to acquire the most effective judgments on possible security risks.

American aviation security funding was much higher than the ninety million dollars allotted to Canadian airport security by the government of Canada. For the year 2002 alone the Secretary of Transportation was credited with an additional five hundred million dollars to

> "fortify cockpit doors to deny access from the cabin to the pilots in the cockpit;

> provide for the use of video monitors or other devices to alert the cockpit crew to activity in the passenger cabin;

> ensure continuous operation of the airport transponder in the event the crew faces an emergency; and

> provide for the use of other innovative technologies to enhance aircraft security."[105]

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[104] Senate and House of Representatives in the United States of America in Congress, "Aviation and Transportation Security Act," *Government of the United States of America*, November 19, 2001, <http://usgovinfo.about.com/gi/dynamic/offsite.htm?site=http:/ /thomas.loc.gov/cgi%2Dbin/bdquery/z%3Fd107:s.01447:> (October 8, 2003). 115 stat 623.
[105] Ibid, 115 stat 628.

These measures were supplementary to the aforementioned extensive luggage and personnel screening policies and were enacted within sixty days of the ratification of the *Aviation Security Act* to enhance airport security.

While the American government placed a rigid timeframe on the implementation of its *Aviation Security Act*, there was minimal information available on what initiatives were implemented successfully and which ones remained words on a page. The U.S. government was adamant that these new security measures were mandatory to maintain the security of its citizens in relation to the safety of the airline system. The strict measures may be observed if traveling within the U.S., but their successes were not divulged to the public. This suggested that the American government wanted to ensure the safety of their air travel systems by minimizing the public exposure of their comprehensive security initiatives. This would also minimize any vulnerabilities of the new security initiatives that were implemented so that terrorists were unable to take advantage of the new Security Act.

The Effectiveness of Canada's Latest Initiatives

Evaluating the effectiveness of Canada's initiatives is essential to gain a realistic and comprehensive understanding of the enhanced security initiatives. The Canadian government's actions can be better analyzed with the successful implementation of the new suggested measures. This also provides a genuine representation of the government's commitment to airport security. It shows the government's support of this issue, and more generally it demonstrates how serious a concern this is for the government and its willingness to act to protect the safety of its citizens.

In February 2002 the Standing Senate Committee on National Security and Defense conducted a review of airport security techniques to gauge the effectiveness of the initiatives that

Transport Canada introduced in October of 2001.[106] The three areas under reexamination were the pass system, passenger and baggage screening, and the use of private security companies.

According to the Committee, the advanced screening techniques of airport personnel were not changed. Identification cards still ranged from simple photo identification cards to electronic cards programmed for use in only certain areas. This was a large discrepancy that called into question the integrity of airport personnel. While the Committee recognized that employing a system based on the electronic card system would significantly eliminate security threats in high-risk areas, this was not the reality. In fact, "[of] the tens of thousands of passes that [were] currently in circulation, the committee was advised that thousands [could not] be accounted for[.]"[107] Many of these cards had been lost, stolen, or kept by employees who did not work for the airport any longer. This continued to pose a great security risk because these passes were still in circulation and could still be used to gain access to restricted areas of an airport.

In relation to passenger and baggage screening practices, the Committee discovered that there were no extensive screening procedures for explosives. In fact, checked luggage "[received] significantly less screening than baggage carried."[108] There had been an increased amount of vigilance to ensure that all luggage on a flight was matched with a corresponding passenger on the same flight. However, since terrorists are prepared to sacrifice a great deal for their cause, greater screening of all luggage, checked as well as carry-on, must be done to ensure the safety of

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[106] Standing Senate Committee on National Security and Defense, "The Myth of Security at Canada's Airports," *Government of Canada*, January 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05jan03-e/htm> (September 20, 2003).

[107] Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02-e.htm> (September 20, 2003).

[108] Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02part1-e.htm#_ftn4> (September 20, 2003). Please note: The timeframe provided by this report was July 18-19, 2001 for a period of seven months, which would be mid-February 2002. Taken from: Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, < http://www.parl.gc.ca/37/1/parlbus/ commbus/senate/com-e/defe-e/rep-e/rep05feb02-e.htm> (March 8, 2006).

everyone aboard an aircraft. These measures would further deter terrorists that attempt to smuggle an explosive onboard an aircraft, which led to the events of the Air India bombing.

An alarming trend that the Committee noticed while inspecting different airports was that "inspection standards [varied] from airport to airport."[109] A contributor to the fluctuating inspection standards was the high turnover of security company employees. The security wages for airports were incredibly low for the amount of responsibility this occupation entailed. This made it difficult to hire and maintain qualified and experienced individuals. The other disturbing occurrence was that security positions "[were] routinely sub-contracted to the lowest bidder."[110] This demonstrated the lack of efficiency in airport security because the least expensive contracted workers would not maintain the high security expectations of the airport authorities.

In a report presented in January 2003, the Standing Committee on National Security and Defense addressed some concerns about the level of security at Canada's airports. Of particular concern to the Committee were the increased measures of security in airports, the training of aircraft personnel, and the security of cockpit doors. These concerns stemmed from a lack of progress in security measures that were vital to maintaining the safety of passengers at Canadian airports.

The Committee observed that "the federal government and Canada's air industry have focused on introducing measures to toughen security that are highly visible to the traveling public."[111] These measures included heightened attention to baggage screening and more

[109] Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02part1-e.htm#_ftn4> (September 20, 2003).
[110] Standing Senate Committee on National Security and Defense, "Canadian Security and Military Preparedness," *Government of Canada*, February 2002, <http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05feb02-e.htm> (September 20, 2003).
[111] Standing Senate Committee on National Security and Defense, "The Myth of Security at Canada's Airports," *Government of Canada*, January 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05jan03-e/htm> (September 20, 2003).

extensive questioning of passengers regarding the contents of their luggage. However, many security measures that occurred "behind the scenes" have seen little or no progress. Some of the security measures that had not drastically improved included:

> "A lack of scanning of potentially dangerous cargo on passenger flights, such as baggage, packages and mail;

> Inadequate background security checks of airport workers accessing aircraft;

> Inadequate searches of airport or outside workers accessing aircraft;

> Outmoded and insecure pass systems for workers entering restricted areas at airports;

> Haphazard examination of passes when workers enter secure areas;

> A lack of almost any kind of security requirements for private aircraft and their passengers;

> A lack of security background checks on workers in buildings abutting to airports with access to vulnerable areas at airports;

> Inadequate security boundaries between airport tarmacs and buildings adjacent to airport property;

> A lack of any plan to train maintenance workers in the recognition of potentially dangerous persons, objects or substances

> Inadequate briefing of flight crew personnel when armed aircraft protection officers are aboard flights[.]"[112]

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[112] Standing Senate Committee on National Security and Defense, "The Myth of Security at Canada's Airports," *Government of Canada*, January 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate/com-e/defe-e/rep-e/rep05jan03-e/htm> (September 20, 2003).

This list of problems at Canadian airports was vital to evaluating the government's commitment to airport security. The luggage and packages of airline passengers were not being screened properly, in accordance with the new screening initiatives described by Transport Canada. Security checks on employees' backgrounds were not meeting the standards that the Canadian government claimed would be the new goals. The searches conducted in the airport of workers who had access to aircraft, as well as the airports themselves, were not as strenuous as the government stated they would become. The pass system that many had held in high regard was not as secure a system as the government intended it to be for restricted areas, and some systems were not the up-to-date electronic systems that the government had pledged to implement.

The security checks of employees entering restricted areas or who had access to vulnerable areas at airports were not as rigorous as they were advocated to become. There were minimal security measures applied to private aircraft. This suggested that if an individual chartered a private plane, they would be capable of passing the security systems in the airport. This had the potential to create a problem because these passengers could bring illegal items onto the tarmac and pass the items to airport workers. These workers could then place these items aboard an aircraft to be utilized by an individual to induce terror on a flight, or hold a flight for ransom. The potential for a successful terrorist activity in this case is considerable, and it demonstrates that the airport screening systems were of limited effectiveness if passengers of private aircraft were allowed to bypass security systems. There was also a lack of secure boundaries surrounding airport tarmacs and adjacent buildings and areas. This created a potential to enter an airport without the requirements of security and screening checkpoints. It was a way to enter the airport area undetected to fulfill an objective. According to the Standing Senate Committee on National Security and Defense, plans to train maintenance workers in recognition of suspicious people, situations, or objects and to be able to identify and report the behavior to security had not been

implemented at Canadian airports. This is unacceptable because this training program would create a greater security force that was able to monitor greater areas of the airport and report any suspicious circumstances. Finally, the infrequent briefings of aircraft personnel to the presence of aircraft protection officers created a dangerous situation because in the event of an attack on an aircraft, the flight crew must know which passengers would be able to assist them. If the flight crew was not aware of these special officers, they may have treated the officers as potential terrorists as well and would not cooperate with their actions. All of these problems were principal security concerns because, if not corrected, they posed an enormous risk to airport security in Canada. Taken together, it appeared that the Canadian government had not come close to implementing many of their security initiatives announced by Transport Canada, leaving the airports vulnerable to potential terrorists to exploit as they needed.

A startling revelation in the Committee report was that "[more] than a full year after the September 11 attacks [...] Air Canada's flight crew security training [had] not changed in ten years[.]"[113] In light of the hijackings of September 11th, cabin security training should have been a primary concern. However, Transport Canada was part of this problem because they had not regulated any new training requirements for airline personnel. "The airlines [...] [were] unwilling to go ahead with new training on their own lest their new training not measure up to any new Transport Canada requirements in the works."[114] Richard Balnis, the Senior Research Officer for the CUPE, remarked that the procedures that were still in use by all crewmembers were "based on the hijacking scenarios of the 1970s."[115] Although flight attendants had gained the responsibility of checking for suspicious items, they were not trained to deal with dangerous items or substances.

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[113] Ibid.
[114] Ibid.
[115] Ibid.

The training programs had not been upgraded since the September 11th attacks, leaving all passengers and crewmembers vulnerable in the event of a terrorist attack in an aircraft.

The security of cockpit doors was a final concern of this Committee, who noted that this would be a necessary measure to hinder another attack similar to September 11th. The Committee reported an estimate "that cockpit doors are typically opened eight times on an average flight."[116] The vulnerability of the cockpit when the cockpit doors were open needed to be addressed. The suggested modifications of cockpit doors included reinforced doors and double cockpit doors, and refortified lockable cockpit doors.[117] Transport Canada had set a deadline of April 9, 2003 to implement modifications on all cockpit doors, however, this had not occurred by the deadline.[118] This leaves the cockpit in a vulnerable position to any terrorist attacks similar to the events that unfolded on 9/11.

An Update on Canadian Airport Security

On February 27, 2006, CATSA announced that it was "negotiating terms of a possible pilot project with the [RCMP] and the airport authority of a major Canadian city[.]"[119] This pilot project planned to "test the use of bomb-sniffing German shepherds" because '[n]o matter what the technology is, there's always a way to fool the machines.'"[120] Anna-Karina Tabunar, spokeswoman for CATSA, believed that the use of these dogs would compensate for the explosive detection system's failure to capture individuals that deceived the machines. This was a measure employed by international airports prior to 1988 and was described in Taylor's aforementioned book. Although it is only a pilot program, the problem with this renewed security measure still remains in

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[116] Ibid.
[117] Ibid.
[118] Jim Bronskill, "New air security screeners would have nose for job," *Released by the Canadian Press*, Section A, Top News, Calgary: Calgary Herald, February 27, 2006, A8.
[119] Ibid.
[120] Ibid.

addition to other concerns. The original problem was that these animals could not be trained to detect every variety of drugs or weapons through security screening procedures. Secondary problems may also include inconveniences for passengers, allergies, wait times in customs and immigration areas, and the possibility that the animals may attack people or luggage that are not involved with illegal activities. In addition, these dogs would only be "focussed on travelers entering the country, not those boarding flights."[121] Therefore, their main responsibility would not be to protect individuals who are boarding the flights at the airport, but to screen those who had already cleared security screenings in other airports and are arriving at their destination or transfer. This virtually defeats the purpose of the dogs because they do not offer any added protection for the flights departing from the airport they are based in. They are only screening passengers who have already reached another destination, having cleared security screenings from the departure location. These dogs would offer additional security enforcement but could not be expected to be a comprehensive alternative to the explosive detection systems, as the spokeswoman from CATSA asserted.

Overall, many of the changes in security measures have not been carried out to realistically change the general security at Canadian airports. There are many programs and security measures that are just beginning to be enforced in airports. However, more extensive programs with additional security measures must follow these initial programs to genuinely change the security environment at Canadian airports. The Canadian government's initiatives are far from their ideal effectiveness, and remain far from the government's new security policies. The problems appear to out-number the solutions created by the government.

A Canadian Broadcasting Corporation in-depth review done on October 27, 2003 revealed that many initiatives planned to occur closely following the release of the Transport Canada report

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[121] Ibid.

still had not been implemented. Measures such as pre-board screening, additional armed

undercover police officers, and state-of-the-art detection systems had been successfully

implemented into Canadian airports.[122] However, the issues concerning the security of cockpit

doors, new customs and security inspectors, additional training of airline and airport security

workers, heightened screening of passengers, and more extensive luggage searches had not been

updated.[123] There was no evidence to suggest that new programs were being developed to correct

the deficiencies that remained even after the Transport Canada report of new security initiatives,

nor was there evidence to the contrary. However, it is clear that the U.S. considers airport security

to be a critical issue. In order to maintain the openness between these two countries, Canada

must demonstrate to the U.S. that this is a serious issue and that they are willing to repair and

revise their airport security policies to minimize the existing vulnerabilities. Otherwise, the U.S. will

implement the security measures they feel are necessary to protect their population, with or without

Canada's assistance. They have made this statement in relation to other matters of homeland

security, such as maritime security. However, there is minimal evidence to suggest any other

security initiatives had been successfully implemented as per Transport Canada's security

initiatives since this 2003 CBC review.

The Success of the American Initiatives

In contrast, the United States has closely followed its *Aviation and Transportation Security*

Act since its implementation on November 19, 2001. However, the Transportation Security

Administration announced in August 2003 that it would reduce two security measures.[124] The first

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. [122] Canadian Broadcasting Corporation News, "Security measures at Canadian airports," *CBC News In-depth: Airport Security*, October 27, 2003, <http://www.cbc.ca/news/background/airportsecurity/> (November 23, 2003).
[123] Ibid.
[124] Robert Longley, "At Issue, Already Reducing Airport Security?" *U.S. Gov Info/Resources*, August 26, 2002, <http://usgovinfo.about.com/library/weekly/aa082602a.htm> (October 8, 2003).

decreased security measure was the admission of carry-on drinks through airport security. This was only accepted if the drink was in a paper or foam polystyrene cup because the "metal detectors [could] detect objects inside paper or foam cups."[125] Beverages in plastic, glass, metal, or ceramic containers must still pass through the x-ray machine. "TSA officials [were] also considering eliminating [...] two well-known questions."[126] The two questions concerned ask whether an individual was carrying any foreign objects handed to them by unknown individuals and whether an individual's luggage had been left unattended at any time. TSA Chief Admiral James M. Loy declared that there was no concrete evidence to suggest that these questions prevented an attempted or actual hijacking or bombing; the validity of these questions was being re-examined. While these efforts appeared harmless to implement, critics argued that "they could lead to the easing of more critical security measures in the name of customer service."[127] This argument was based upon a slippery slope idea. If one security screening measure was stopped because its effectiveness was uncertain, then another security measure that did not provide concrete evidence that it could identify a terrorist could be terminated as well. This slippery slope would continue until it plunged the airline industry into its pre-9/11 system of lax security measures for the sake of convenience and efficiency of air travel, which would only leave the U.S. in a vulnerable position again. Additional security measures can create problems for other reasons, such as an inconvenience to the passengers or an inclination to relax these measures because there is the absence of another attack, but they should not be discounted. This would only lead the American airline industry down the slippery slope. Thankfully, however, no other security measures are being reduced at this time within the American airport security program.

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[125] Ibid.
[126] Ibid.
[127] Ibid.

Continuing Challenges and Conclusions

"The fundamental nature and character of terrorism changed with 9/11 and moreover has continued to change and evolve since then."[128] Bruce Hoffman recognized that our security policies must continue to evolve so that they could successfully protect citizens from terrorist actions. The terrorist attacks on September 11th brought the vulnerability of North America to the attention of all Canadians and Americans. As a result of this new threat to North American security, both Canada and the United States implemented new airport security initiatives to upgrade the status of security at their respective airports.

The government of Canada produced a list of initiatives that Transport Canada would implement in order to create a more effective security environment in Canadian airports. Approximately two years later, many of these new initiatives had not been successfully executed. Canada ascribed to the concept that "[better] technology [could] minimize risks to equality, privacy, and liberty while providing better security" but had not implemented the security policies necessary to turn this concept into a reality.[129] The government of Canada has adopted an attitude that the Special Senate Committee on Security and Intelligence adhered to in its 1999 report. This attitude applied the rationale that "in the absence of examples of the system breaking down, [the government of Canada] is prepared to accept that [these initiatives] will work."[130] Using this argument, the initiatives that had been implemented appear to be sufficient in protecting against terrorist actions against Canadian airplanes and airports.

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[128] Bruce Hoffman, "Al-Qaeda, Trends in Terrorism and Future Potentialities: An Assessment," (Santa Monica: RAND, 2003), 17.
[129] Kent Roach, *September 11: Consequences for Canada,* (Montreal and Kingston: McGill-Queen's University Press, 2003), 179.
[130] Special Senate Committee on Transportation Safety and Security, "Air Safety and Security," *Government of Canada,* January 1999, <http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/saf2-e/rep-e/repintjan99part4-e.html> (September 20, 2003).

The United States had adopted a more hard-nosed approach to airport security. Following the argument that "the metric of success in the war on terrorism is defined as the ability of intelligence agencies and law enforcement officials to prevent, pre-empt and deter attacks[,]" the government of the Untied States had enacted the *Aviation and Transportation Security Act*.[131] This Act created many new policies in order to ensure the increased protection of American travelers from terrorist attacks. These policies were explicit in their instructions and were heavily enforced at airports across the United States. Terrorists exploited the vulnerabilities in American aviation security and the United States government was determined not to allow this type of tragedy to occur again. "For [the Americans] to succeed against terrorism, [their] efforts must be as tireless, innovative, and dynamic as [their] opponents."[132] This is why the *Aviation and Transportation Security Act* was as adamant as it was. American airports produced and sustained a much higher level of airport security in the aftermath of September 11th.

The government of Canada, on the other hand, had held back on many of its original initiatives aimed at increasing security at Canadian airports. This continues to leave Canadian travelers in a vulnerable position because the initiatives that have been implemented are not sufficient to successfully deter a terrorist attack in an airplane or in an airport. It appears that unless the government is given proof that their new security initiatives are not effective, the security at Canadian airports will not change from its current state. This would be an ideal situation if terrorists are not looking to exploit the Canadian airline industry. However, if there is an attack, then Canadians have been left unprepared and in a vulnerable position because the Canadian government is unwilling to be as stringent as the American government.

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[131] Bruce Hoffman, "Al-Qaeda, Trends in Terrorism and Future Potentialities: An Assessment," (Santa Monica: RAND, 2003), 16.
[132] Ibid.

Maritime Security: Shield or Sieve?

This chapter will discuss maritime security in Canada and the United States (U.S.) and will evaluate the changes in policies and initiatives as a result of 9/11 and its repercussions. It will compare and contrast the changing nature of maritime security in both states. The topics being explored include an introduction to Canada's maritime area of responsibility, the importance of maritime security to Canada, Canada's maritime significance and its position in the international system, the responsibilities of the Canadian Coast Guard and the Canadian Navy, the complementary nature of the U.S. Coast Guard and the U.S. Navy, the relationship between maritime security and terrorism, the challenges Canada is facing, the challenges facing the U.S. Coast Guard, a comparison of the maritime legislation of Canada and the U.S., a potential solution involving the Bi-National Planning Group, and recommendations for Canada. The examination of these areas is necessary to compare the importance and reaction in response to maritime security concerns. This will also enable a realistic representation of the current maritime security situation in Canada and the U.S. It will identify a practical result of the successes and failures of the new maritime security policies created and allow for an overall analysis of the security of transportation systems in these two countries as a result of 9/11.

Introduction

North America, particularly Canada and the United States, was dealt a tremendous blow with the disastrous events that unfolded on September 11, 2001. Since that time, North American airlines have struggled to create and implement more effective security policies in order to prevent another destructive attack. While the airline industry is transitioning into a more secure environment, other areas of security are being neglected. Al-Qaeda has proven itself to be

imaginative in the manner in which it spreads terror. There has been an increasing emphasis on airport security while considerably less attention has been paid to our maritime security. This is an area of great concern to both Canada and the United States. Canada has the longest coastline in the world at 243,042 kilometres and has an area of responsibility of over eleven million square kilometres, which only further exacerbates the issue of maritime security to Canada.[133] Both countries are surrounded by water on three sides and they are vulnerable to any threats that enter North American waters. The Honourable Colin Kenny, Chair of the Senate Committee on National Security and Defence, stated in an October 2003 report that "Canada's coasts are virtually undefended."[134] Since 2001, what reforms have occurred in maritime security in Canada and the U.S. and what have been the effects of these adaptations in their waters?

The Importance of Maritime Security

Because of Canada's vast coastline and immense Exclusive Economic Zone (EEZ), Canadian port and maritime security policies are essential to maintaining Canada's security.[135] Captain Peter Avis states that "[o]n a typical day, there are some 1700 ships in [Canada's] area of responsibility[.]"[136] This figure only represents the ships that report their purpose and destination while traveling through our maritime waters. One can only assume the number of vessels that

[133] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005),3.

[134] The Honourable Colin Kenny, Chair, Senate Committee on National Security and Defence, "Who's Guarding our Coasts? Here's a hint: It isn't the Navy But we *could* develop an effective Canadian Coast Guard," Excerpts from the 17th Report of the Senate Committee on National Security and Defence, *Canadian American Strategic Review*, July 2004, <http://www.sfu.ca/casr/ft-senate2.htm> (April 14, 2005).

[135] There is a difference between port security and maritime security. Port security involves the security and defence of a city or town on a waterway with facilities for loading and unloading ships or allows a ship or boat protection from bad weather conditions. Dictionary .com, "Port Security," <http://dictionary.reference.com/search?q=port%20> (April 16, 2005). Maritime security involves the security and defence of ship navigation or commerce across navigable waters. Dictionary.com, "Maritime Security," <http://dictionary.reference.com/search?q=maritime> (April 16, 2005).

[136] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005),3.

travel unannounced through Canadian waters. Because terrorists rely on asymmetrical warfare in order to inflict terror against a population, it would take only one unreported vessel in Canada's water to wreak havoc upon its coastline, a major port, or further inland through the St. Lawrence Seaway. For instance, if an unreported vessel was outfitted with an explosive device and docked at a port, the potential consequences would be dramatic. Canada's major ports are part of important cities, such as Vancouver, Halifax, or Montreal. Because these ports are a smaller piece of the larger city, an explosion from an unreported vessel would cause serious damage to the city and its surrounding territory. There could also be other consequences and repercussions in other areas such as the economy. It could also disrupt Canada's trading relationship with its allies to a degree, or cause great harm to the environment. This would upset many other sectors in the aftermath of an attack, some of which may not be anticipated.

Canada's economy is also highly dependent upon maritime trade, which adds further complexity to Canadian maritime defence challenges. In 2001 alone:

> [T]he total tonnage in maritime trade was 310 million tonnes;

> The total value to the Canadian economy was 110 billion dollars;

> [T]he total container unloadings was 1.3 million.[137,138]

"Every year, over one million containers enter Canada and the US unchecked through the ports of Vancouver, Montreal and Halifax."[139] Clearly, Canada's maritime trade is a crucial element of its economic well-being. The 110 billion dollars from maritime trade added to the Canadian economy in 2001 is a significant portion of its economy. Therefore, Canada must undertake measures so

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[137] Please note: a port container is "a large reusable receptacle that can accommodate smaller cartons or cases in a single shipment, designed for efficient handling of cargo." Taken from American Heritage Dictionary of the English Language, "Container," *Taken from The American Heritage Dictionary of the English Language*, Houghton Mifflin Company, 2000, dictionary.com, <http://dictionary.reference.com/search?q=container> (March 16, 2006).
[138] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005), 3.
[139] Ibid.

that its trading will not be easily interrupted. To ensure the stability of the Canadian standard of living, maritime security must play a key role in safeguarding our maritime trade.

Canada's Maritime Significance and its Position in the International System

"[Canada] has benefited enormously from an open economy; [it is] the world's eighth largest economy and the fifth largest trader."[140] Canada is in an enviable economic position because it is a member of the G-8 community. Canada's geographic position is influential in that it is the northern neighbour of the world's only current superpower and its other three borders are coasts that extend to include a 200-mile EEZ. Canada has a significant dependence upon maritime trade and sea resources; the sea sustains the economy and standard of living in the Maritime Provinces and provides many with jobs and careers. Its maritime trade and G-8 membership indicate that Canada relies significantly on maritime trade and sea resources to remain prosperous. The Canadian government relies heavily upon maritime trade and sea resources in order to create policies and legislation that will further Canada's economic and political objectives.

The impacts of globalization have placed Canada and the U.S. at the forefront of concerns for maritime security because of the inherent struggle with globalization for economic and political power through access to resources and products. The fragility of the international trading systems, especially in North America, validates the importance of maritime forces in this context. Sam J. Tangredi asserts that "[a] global navy allows a nation committed to global trade to guarantee the free use of trade routes that underlies today's globalization."[141] It is crucial that Canada maintain

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[140] The Right Honourable Paul Martin, "Canada's International Policy Statement: A Role of Pride and Influence in the World Overview – Foreword," *Government of Canada*, 2005, <http://www.dfait-maeci.gc.ca/cip-pic/IPS/IPS-Overview.pdf> (March 19, 2006), v.

[141] Sam J. Tangredi, "Sea Power: Theory and Practice," *Strategy in the Contemporary World: An Introduction to Strategic Studies*, (Oxford: Oxford University Press, 2002), 132.

its economic prosperity in the international setting. This would include paying particular attention to Canadian Sea Lines of Communication (or Commerce) because they are often located at choke points. These choke points are relatively narrow passages through straights or archipelagos that are vulnerable to terrorist attacks.[142] With a successful attack against a SLOC in Canada's waters, its economic prosperity and standard of living, as well as the security of its population, would be disrupted with considerable repercussions. To maintain the close relationship that Canada and the U.S. share, North American waters must be kept adequately defended and secure. Canada must also play a significant role in the defence of its maritime waters, which would appease American concerns of threats entering American waters via Canadian waterways. Tangredi readily agrees with this analysis because he asserts that "by creating a climate of assured security, it can help bind nations together in co-operative military relationships that spread outward to the political and economic areas."[143] Clearly, a concise, organized, and effective maritime security and defence strategy would not only be beneficial to Canadian security, but would also spill over into other aspects of Canada's alliance with the U.S.

The Responsibilities of the Canadian Coast Guard versus the Canadian Navy

Both countries maintain a coast guard force and a naval force. However, there are significant divisions in areas of responsibility between the coast guard and navy. These differences also extend to the varying duties performed by the U.S. maritime forces compared to the Canadian maritime forces. It is valuable to analyze these differences and to compare the capabilities of these two countries because they are similar in many aspects of their political, economic, moral, and social values. This type of analysis is also useful because in many areas of

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[142] Ibid, 123.
[143] Ibid, 132.

security policies the U.S. is more advanced than Canada and they are a useful model to compare

to given their elevated security and defence policies post-9/11.

The Canadian Coast Guard is responsible for five fundamental roles:

> maritime safety;

> protection of the marine and freshwater environment;

> facilitation of maritime trade and commerce and maritime accessibility;

> support to marine science; and

> support to Canada's federal maritime priorities.[144]

Clearly, its responsibilities are very vague and therefore can be interpreted in a number of ways.

This presents a problem because with such a general and diverse definition of responsibilities, the

CCG can be used for almost any threat to Canadian maritime security, whether or not it has the

capabilities, simply because it falls into one of their five roles. The CCG was confident, even in

November 2004, that their vessels are capable of multitasking with professionally trained mariners

on board that are capable of fulfilling their fundamental Coast Guard roles in areas of prevention

and response.[145] This CCG document also claims that "[t]he men and women of the Coast Guard

are trained and conditioned to be ready, willing and able to respond to the task at hand, whatever it

may be."[146] If this were the case, then the Coast Guard would not require the upgrades that they

are attempting in order to be closely integrated with the more advanced USCG system.

Technology is a continuing concern for the Canadian forces, which is why the Canadian Coast

Guard (CCG) is working closely with the U.S. Coast Guard (USCG) to integrate their capabilities.

This integration is vital to the increase in the CCG's technological capabilities. The USCG uses

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[144] Canadian Coast Guard, "Roles and Responsibilities," *The Canadian Coast Guard – Overview*, November 22, 2004, <http://www.ccg-gcc.gc.ca/overview-aperce/roles.htm> (April 14, 2005).
[145] Ibid.
[146] Ibid.

increasingly more advanced technology and, therefore, if Canada is able to integrate its forces, its technological capabilities will increase. However, there is little mention of its increasing role in maritime security post-9/11 except that the role of the CCG "as a source of platform and personnel support to the Canadian security community is now being emphasized."[147] This again is an ambiguous statement leading one to conclude that the CCG does not have the resources or manpower capable of undertaking a broad security initiative to prevent or respond to a potential terrorist threat.

The Canadian Navy has many responsibilities, including constabulary duties as well as being an enforcer of government policy. This is emphasized in a speech delivered February 27, 2004. The CN defined its two roles to be to do what they "must do to remain relevant to Canadians" and to "provide government with the greatest range of policy options available."[148] In an article written by LCdr George F.C. Kearney, he noted that in Canada's *National Security Policy* (NSP), a six point Maritime Security Plan had been created and allotted almost half of the NSP's total budget.[149] This was a considerable amount of money that the Canadian government was willing to apply to maritime security policies. This money is designated to these new policies on the condition that the CN will increase its roles to include:

> Clarifying responsibilities and strengthening co-ordination;

> Establishing marine security operation centres;

> Increasing CF, RCMP, and Canadian Coast Guard on-water presence, as well as Department of Fisheries and Oceans (DFO) aerial surveillance;

[147] Ibid.

[148] G. R. Maddison, "The Canadian Navy: In the vanguard of Canadian Foreign and Defence Policy," *CMS Speech to Conference of Defence Associations*, December 12, 2004, <http://www.navy.forces.gc.ca/mspa_news/news_issues_e.asp?category =2$title=29> (April 14, 2005).

[149] LCdr George F. C. Kearney, "Navy to play major role in National Security Policy," *Canadian Navy*, June 7, 2004, <http://www.navy.forces.gc.ca/mspa_news/news_e.asp?x=1&id=58> (April 14, 2005).

> Securing fleet communications; [and]

> Pursuing greater marine security co-operations with the U.S.[150]

Even with this broader mandate for the CN, it still maintains that in the event of an emergency or perceived threat

> the Navy would assume control only when the response demanded is above or beyond the capacity of any other agency to respond, with control handed off to the appropriate organization as soon as it is reasonable to do so.[151]

Clearly, the Navy still accepts its role in maintaining security in Canadian waters, but is placing more emphasis on its position as an instrument of Canadian national policy to be deployed in other theatres of operations. This is exemplified by the official Canadian strategic doctrine entitled *Leadmark: The Navy's Strategy for 2020*. In this extensive document prepared before 9/11, the CN's responsibilities predominantly revolve around military and diplomatic overseas missions with a moderate emphasis of its constabulary role.[152] While Maddison asserted that he was revising this document to add its additional roles per the NSP, the CN still conveyed the mindset that their forces are for overseas use to provide the government with the means necessary to achieve its political objectives while the CCG stays home and defends the homeland.

There are obvious differences in the roles and responsibilities of the CN and the CCG. The CCG is mandated with a more constabulary role in Canada's coastal waters, with an emphasis on estate management.[153] The CN, on the other hand, is tasked with defending Canada's objectives abroad with lesser interest in maritime security measures. However, even with a lack of interest, the CN has been allotted further maritime responsibilities to better defend our waters. The

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[150] Ibid.
[151] Ibid.
[152] G. R. Maddison, "Appendix A, B, and C," *Leadmark: The Navy's Strategy for 2020*, June 18, 2001, <http://www.navy.dnd.ca /leadmark/pdf/ENG_LEADMARK_FULL_72DPI.PDF> (February 8, 2005).
[153] Estate Management is defined by Sam Tangredi as the "enforcement of fishing or pollution regulations, prevention of illegal maritime entry, or rescue at sea." Sam J. Tangredi, "Sea Power: Theory and Practice," *Strategy in the Contemporary World: An Introduction to Strategic Studies*, (Oxford: Oxford University Press, 2002), 124.

responsibilities of the CN and the CCG are merging together to provide a comprehensive approach to maritime security and homeland defence. Because the CN does not wish to engage in homeland security unless it is absolutely necessary, the CCG must take charge of an expanded set of responsibilities in addition to its mandated roles to enhance maritime security and meet the requirements of the original maritime security measures as well as the new security policies. Therefore, there must be a distinct and organized co-operative effort between these two forces in order to achieve the NSP's new maritime security initiatives.

The Complimentary Nature of the U.S Coast Guard and the U.S. Navy

The USCG is similar to the CCG because it works in harmony with the United States Navy (USN). In addition, it operates with other foreign naval and maritime forces through training and joint operations[154]. Its mandate is to

> [continue] to play an integral role in maintaining the operations of our ports and waterways by providing a secure environment in which mariners and the American people can safely go about the business of living and working freely.[155]

The homeland security role of the USCG is to:

> ➤ Protect ports, the flow of commerce, and the marine transportation
>
> system from terrorism[;]
>
> ➤ Maintain maritime border security against illegal drugs, illegal aliens,
>
> firearms, and weapons of mass destruction[;]
>
> ➤ Ensure that [they] can rapidly deploy and resupply [their] military
>
> assets, both by keeping Coast Guard units at a high state of

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[154] United States Coast Guard, "National Security," *United States Coast Guard*, <http://www.uscg.mil/hq/g-cp/comrel/factfile/ Factcards/NationalSecurity.htm> (February 8, 2005).
[155] United States Coast Guard, "Homeland Security," *United States Coast Guard*, <http://www.uscg.mil/hq/g-cp/comrel/factfile/ Factcards/Homeland.htm> (February 8, 2005).

readiness, and by keeping marine transportation open for the transit [of] assets and personnel from other branches of the armed forces[;]

> Protect against illegal fishing and indiscriminate destruction of living marine resources, prevention and response to oil and hazardous material spills—both accidental and intentional[;] and

> Co-ordinate efforts and intelligence with federal, state, and local agencies.[156]

It is clear that the USCG is in direct support of the USN operations abroad, as well as domestic maritime security issues. Also, their roles and responsibilities are more specific and definitive than the CCG's roles and responsibilities. This allows for a greater co-ordination in response to a potential terrorist attack or emergency. The close integration with the USN also implies that the USCG has adequate resources and manpower in order to satisfy their varying roles and responsibilities. The technology available to the USCG is superior to the technology available to the CCG, which allows it the freedom to pursue a wider range of operations and roles. In general, they appear more organized, effective, and clearly defined than the CCG. This implies that they are more efficient in their maritime security and defence than the CCG is. The USN, like the CN, is a Bluewater fleet that is capable of operating in international theatres. Their objectives are similar to the CN in that they provide diplomatic and military strength to U.S. political objectives.

Maritime security is specifically the responsibility of the Coast Guard in both Canada and the U.S. with aid to the CCG from the CN if it is necessary. Prior to 9/11, the dominant maritime security tasks for the U.S. and Canada involved estate management at sea. Both countries recognized the importance of estate management and devoted their coastal forces to these duties. Maritime security and defence policies changed once again in the post-9/11 world.

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[156] Ibid.

How Does Terrorism Fit In?

Terrorism has become a mainstream concern for both Canada and the U.S. because the understated vulnerabilities present in their security and defence policies are now unacceptable liabilities and risks that must be addressed. Terrorism is unpredictable and requires a new security emphasis in North America of "defending against what was once the unthinkable."[157] Both Canada and the U.S. identified maritime security to be a dangerous vulnerability that required an evaluation of its efficacy. According to the Senate Committee, Canada's seaboard is vast and vulnerable with the added offence that it is often neglected.[158] Terrorism obviously remains a concern to both countries as they now scramble to minimize significant vulnerabilities in a vast number of areas, one of which is maritime security. Canada continues to be a target for terrorism because of its close relationship with the U.S. and its geographic position. This alone should force Canada to re-examine its maritime security policies and implement changes where necessary. However, considerable problems still remain in both Canadian and American maritime security policies.

Challenges Facing Canada

There are inherent problems in both the CCG and the CN. Charles Gadula, Director General, Fleet Directorate, Marine Services, CCG had estimated that the CCG would require 350 million dollars in order to replace the vessels that were currently in use.[159] In fact, the Senate Committee on National Security and Defence stated that "[a]lthough the CCG possessed 107 [at the time of their report], the majority of them [were] reaching the end of their useful lives and the federal government [needed to] make a decision soon as to whether to replace many of these

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[157] The Standing Senate Committee on National Security and Defence, "Canada's Coastlines: The Longest Under-Defended Borders in the World," *Government of* Canada, Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus /senate/com-e/defe-e/rep-e/rep17Vol1-e.htm> (October 21, 2004).
[158] Ibid.
[159] Ibid.

vessels or reduce their tasks."[160] This shows that the CCG was having difficulty performing their current roles and responsibilities because of their lack of proper resources. The RCMP and the CN had allocated surveillance duties in addition to their already overextended list of roles and responsibilities.[161] The addition of surveillance duties places further strain on a service that has inadequate resources and an overly vague set of responsibilities that include taking most of the responsibility for maritime security.

The CN has its share of funding and surveillance problems as well. Even with the emphasis on an enhanced naval presence in Canadian maritime security in the NSP, it is unable to do so. The current naval vessels are too slow to adequately perform maritime surveillance duties, not to mention that the costs of these operations would far out-weigh the benefits. The Senate Committee on National Security and Defence recommends that the CN would require cutters similar to the cutters that the USCG relies on for its coastal surveillance.[162] The CN was not enthusiastic to accept its new maritime security responsibilities and continues to place a greater emphasis on overseas capabilities and operations for its vessels.[163] However, there were other resources that the CN possessed that could be useful for maritime security. These included:

> Infrequent Aurora aircraft coastal patrols that are in desperate need of modernization,

> A High Frequency Surface Wave Radar (HFSWR) pilot program,

> Dismal satellite surveillance capabilities, usually provided by the DFO and very expensive to maintain,

> Sparse Arctic surveillance,

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[160] Ibid.
[161] Ibid.
[162] Ibid.
[163] Please note: Please refer to the Canadian Coast Guard versus Canadian Navy section for a discussion about the CN's objectives and responsibilities, as well as their reactions to increased homeland security responsibilities.

> ➢ Maritime Coastal Defence Vessels used to train naval reserves,

> ➢ And extraordinarily expensive Unmanned Aerial Vehicles.[164]

This list of resources is slightly disheartening because the programs appeared to be a good contribution to maritime surveillance and security, but they do not function as well in reality. A report released by the Standing Senate Committee on National Security and Defence in October 2003 provided further insight into the shortcomings of these six surveillance resources.

The security concerns with the Aurora aircraft stemmed from two parts. They were in need of modernization. With the current funding, only sixteen of the eighteen aircraft could be improved.[165] Also, some of these Aurora aircraft were deployed in the Persian Gulf for up to eighteen months until July 2003.[166] Limiting their patrols to only once a week, there was a great void in the coastal patrols of the East and West coasts.[167] There was no possible way that this patrol could detect even a remote percentage of the security threats to Canada. The use of outdated technology in order to perform occasional patrols is not, by any means, acceptable to enhancing the security of Canadians.

The High Frequency Surface Wave Radar (HFSWR) is a Canadian innovation that had the potential to survey more coastal area in an efficient manner. It could detect "low flying aircraft and surface targets beyond the horizon [and] operate out to approximately two hundred nautical miles virtually unaffected by weather conditions[.]"[168] This was a great advantage to Canada's surveillance capabilities because it gave the CN a 'real-time' picture of our waters. It allowed Canada to discern who was in its waters and continuously track them instead of merely making

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[164] The Standing Senate Committee on National Security and Defence, "Canada's Coastlines: The Longest Under-Defended Borders in the World," Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/ senate/com-e/defe-e/rep-e/rep17vol1part1e.htm#CHAPTER%20ONE:> (October 21, 2004).
[165] Ibid.
[166] Ibid.
[167] Ibid.
[168] Ibid.

projections as to the path of the vessels. The HFSWR was only a pilot program. It was cancelled "in fall 2006 after determining it could interfere with high-frequency civilian communications."[169]

As of 2003, this Standing Senate Committee believed that "Canada [had] no dedicated satellite surveillance capability, and rarely [made] use of satellite images from private companies other than [the] Department of Fisheries and Oceans contract[ed] to track oil slicks from ships."[170] The Canadian government also had use of RADARSAT-1, but its main purpose was to "monitor environmental changes and the planet's natural resources."[171] The threats to Canada's coasts were not a high priority for the government of Canada or else they would have been interested in more than simply oil slick satellite images. Without regular naval or aerial patrols, satellite imagery would be an adequate alternative for coastal surveillance. What makes this option unrealistic for the government is the cost. To acquire the desired satellite surveillance of our coasts, the cost would be $51 million a year.[172] This amount exceeded the sum of $34.5 million a year that the government had put towards increasing its maritime security. The advantage of satellite surveillance is the ability to survey extensive areas using different levels of resolution.[173] The disadvantage of this type of surveillance is that the satellite only orbits over an area once every twenty-four hours, which leaves a large window of opportunity for a threat to approach the coasts without approaching many, if any, security checkpoints.[174] Recently, the Canadian government announced the launch of the RADARSAT-2 satellite as part of the new surveillance and support

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[169] David Pugliese, "Will Canada Reconsider Canceled Radar Program?" *DefenseNews.com*, January 28, 2008, <http://www. defensenews.com/story.php?F=3326633&C=navwar> (February 5, 2008).
[170] The Standing Senate Committee on National Security and Defense, "Canada's Coastlines: The Longest Under-Defended Borders in the World," Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate /com-e/defe-e/rep-e/rep17vol1part1e.htm#CHAPTER%20ONE:> (October 21, 2004).
[171] Canadian Space Agency, "RADARSAT-1," *Government of* Canada, November 4, 2005, <http://www.space.gc.ca/asc/eng/ satellites/radarsat1/default.asp> (January 31, 2008).
[172] The Standing Senate Committee on National Security and Defense, "Canada's Coastlines: The Longest Under-Defended Borders in the World," Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate /com-e/defe-e/rep-e/rep17vol1part1e.htm#CHAPTER%20ONE:> (October 21, 2004).
[173] Ibid.
[174] Ibid.

initiative entitled Project Polar Epsilon.[175] Its main tasks would include ship detection,

environmental sensing and ocean intelligence, satellite data reception and processing, as well as

guarding maritime security.[176] It would also help ensure the security of transportation systems in

the Arctic by monitoring the northern waters and borders. Even though it would only be capable of

passing over the arctic fourteen times daily, it is a significantly better monitoring system than

contracting out Canada's surveillance capabilities.[177] This is a considerably better surveillance

system than the Aurora patrols that occur on a weekly basis. However, to the Canadian

government, there remain concerns or problems regarding the launch of this satellite system

because it has been delayed at least once in the past, not to mention that it is an expensive

venture.[178,179]

Arctic surveillance, according to the Senate report, was very sparse. The "surveillance" of

the Arctic occurs for a period of 90 days (or approximately 3 months during the year), executed by

[175] Government of Canada, "Project Polar Epsilon Will Enhance Canada's Surveillance and Security Capability," *Department of National Defence, Government of Canada*, July 2, 2005, <http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid =151199&keyword=artic&keyword=arctic&> (July 6, 2005).
[176] Government of Canada, "Project Polar Epsilon Will Enhance Canada's Surveillance and Security Capability," *Department of National Defence, Government of Canada*, July 2, 2005, <http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid=151199& keyword=artic& keyword=arctic&> (July 6, 2005). As well as Sharon Hobson and Joris Janssen Lok, "Surveying increased threats," *Jane's International Defence Review, Jane's Information Group*, March 18, 2002, <http://www8.janes.com.ezproxy.lib. ucalgary.ca/Search/document View.do?docId=/content1/janesdata/mags/idr/history/idr2002/idr00222.htm@current&pa.eSelected=allJanes&keyword =arctic%20security&backPath=http://search.janes.com/Search&Prod_Name=IDR&> (January 22, 2006).
[177] Stephen Thorpe, "New satellite to keep watch over Canadian Arctic," ArcticNet, *Globe and Mail*, August 29, 2005, <http:www.arcticnet-ulaval.ca/index.php?fa=News.showNews&home=4&menu=55&sub=1&id=81> (January 14, 2006).
[178] Sharon Hobson and Joris Janssen Lok, "Surveying increased threats," *Jane's International Defence Review, Jane's Information Group*, March 18, 2002, <http://www8.janes.com.ezproxy.lib.ucalgary.ca/Search/documentView.do? docId=/ content1/janesdata/mags/idr/history/idr2002/idr00222.htm@current&pageSelected=allJanes&keyword= arctic%20security&backPath=http://search.janes.com/Search&Prod_Name=IDR&> (January 22, 2006).
[179] Please note: RADARSAT-II was launched on December 14, 2007 from the Cosmodrome in Baikonur, Kazakhstan. Taken from: MacDonald, Dettwiler and Associates Ltd., "RADARSAT-2 Status," *radarsat2.info*, 1995-2008, <http://www.radarsat2.info/about/construction/index.asp> (March 25, 2008). However, the government of Canada is trying to sell MacDonald, Dettwiler, and Associates Ltd., which is Canada's top space company, to an American company. Alliant Techsystems has offered 1.3 billion dollars to purchase MDA, as well as the technology that the company has created, which includes the Canadarm and RADARSAT-2. The proposed purchase has been ordered to undergo another 30-day review but many Canadians are against the sale. Taken from: Robert Fife, "Feds delay ruling on sale of Canada's top space firm," *CTV Ottawa Bureau Chief, CTVglobemedia*, March 20, 2008, <http://www.ctv.ca/servlet/ArticleNews/print/CTVNews/20080320/mda_sale_080320/20080320?hub=Politics> (March 25, 2008).

a total of six ships.[180] This cannot even begin to provide adequate surveillance for Canadian Arctic waters because the Standing Senate Committee believed that "it is simply a matter of time before there will be commercial trans Arctic shipping."[181] If commercial traffic begins to make use of the Arctic sea route, so will illegal merchants and vessels as there are no security surveillance measures in place. This could be considered a very simple way to penetrate Canada's coastline and travel inland, however not even the Senate report regards the Arctic as a likely terrorist threat. It is taken for granted that nothing has happened in the northern waters. This has created an attitude of complacency, but this does not mean that the Arctic coastline is not a prime terrorist target. In fact, because terrorists rely on asymmetrical warfare, they seek out targets that remain relatively undefended and are therefore more easily penetrated. This should create a small amount of concern to the government of Canada, who constantly maintains that Canada is concentrating on increasing its security.

The CN also commissioned twelve ships that are called Coastal Defence Vessels between 1996 and 1999.[182] These vessels are "multi-role ships that are used in a variety of missions including minesweeping, seabed mapping, search and rescue, resource protection, pollution control."[183]

> In addition, [they] provide support to other government departments, including Fisheries and Oceans, Environment Canada and Transport Canada in areas such as conducting fisheries, surveillance and sovereignty patrols, reporting significant events, dead sea life, large concentrations of birds or mammals, or incidents of pollution to the appropriate agency.[184]

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[180] The Standing Senate Committee on National Security and Defense, "Canada's Coastlines: The Longest Under-Defended Borders in the World," Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate /com-e/defe-e/rep-e/rep17vol1part1e.htm#CHAPTER%20ONE:> (October 21, 2004).
[181] Ibid.
[182] Naval-technology.com, "Kingston Class Maritime Coastal Defence Vessels, Canada," *SPG Media Group PLC*, 2007, <http://www.naval-technology.com/projects/kingston/> (February 6, 2008).
[183] Department Of National Defence, "Coastal Defence Vessels to Visit Montreal," *Government of Canada*, September 3, 2003, <http://www.navy.forces.gc.ca/marlant/news/marlant_news_e.asp?section=9&category=36&id=3774> (February 6, 2008).
[184] Ibid.

These Coastal Defence Vessels are charged with many different responsibilities. While surveillance and sovereignty patrols are part of their roles, it is not their sole task. It is questionable how the government of Canada is in such dire straits for funding to improve its security, armed forces, and their equipment, but they acquired twelve of these ships that have so many different roles that they cannot begin to adequately accomplish what Canada is aiming to improve in its vulnerabilities. This is a misuse of resources that could be better used for objectives dealing with security liabilities.

Unmanned Aerial Vehicles (UAVs) would be another answer to how Canada could better patrol its coastline. They are capable of long surveillance missions for up to twenty-four hours and can survey up to forty thousand square kilometres at a time.[185] This would be very beneficial to Canada's coastal security by taking the majority of surveillance duties away from the CN and CCG. This in turn would leave them to perform more specific responsibilities more accurately. Again, the reason that the Canadian government has not implemented this as a new security initiative is the cost. UAVs are priced at approximately 20 million USD per vehicle, which does not include the maintenance or staff to support it and therefore cannot possibly fit into the current government's proposed security plans.[186]

It is clear that alternative CN surveillance resources are either too expensive for the current budgets, are in need of upgrades, have been cancelled, or are not readily available because they are simply pilot programs at present. Overall it appears that the CN is not capable of accepting its new maritime security roles, even if they were willing to accept them. Their resources

[185] The Standing Senate Committee on National Security and Defense, "Canada's Coastlines: The Longest Under-Defended Borders in the World," Volume I, October 2003, <http://www.parl.gc.ca/37/2/parlbus/commbus/senate /com-e/defe-e/rep-e/rep17vol1part1e.htm#CHAPTER%20ONE:> (October 21, 2004).
[186] Ibid.

are not adequate to patrol Canada's vast maritime waters and must be upgraded or new resources must be acquired for the CN to have any positive effect on maritime security.

Captain Avis states that "[w]e simply lack sufficient capability to cope with the asymmetric threats that now seem so obvious in the wake of 11 September."[187] He is the Director Maritime Policy, Operations and Readiness for the Chief of the Maritime Staff in the National Defence Headquarters in Ottawa and has considerable knowledge of Canadian domestic maritime security policies.[188] To Captain Avis, maritime surveillance continues to be Canada's most significant vulnerability and must be remedied. This is a dominant concern for both the CCG and the CN maritime responsibilities as well. He agrees with the Senate Committee on National Security and Defence that "the physical assets needed to conduct effective surveillance (the ships, aircraft, radar stations and other collection assets) are limited, and this has resulted in a number of gaps in capability."[189] A solution to this problem would be to increase intelligence gathering capabilities, which would increase our knowledge of maritime activities and allow us to better prepare for or respond to an emergency. The terrorist threat is a considerable one, in Avis' mind, and must not be underestimated. The proper restructuring in intelligence gathering and surveillance is critical if Canada is to avoid a potential terrorist threat in its maritime waters. If Canada is not able to co-ordinate its maritime security policies and enforcement, it cannot hope to achieve its goal, according to Avis, "to know what is happening and where in the maritime approaches so we can

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[187] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005), 3-4.
[188] Captain (N) Peter Avis, "About the Speakers: Captain (N) Peter Avis," *New Horizons: Canadian & International Maritime Security Graduate Symposium*, Rosza Centre, University of Calgary, April 2, 2004, <http://www.stratnet.ucalgary.ca/events /past/conference/maritime/avis.htm> (April 14, 2005).
[189] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005), 4.

deal with a potential asymmetric threat before having to react to the consequences of a disaster."[190]

Canada created the Interdepartmental Marine Security Working Groups (IMSWG) in 2001 to "improve security at Canadian ports, in waterways and in territorial waters."[191] This institution is responsible for assessing Canada's maritime domain awareness, responsiveness, safeguarding capabilities, and interdepartmental collaboration.[192] In January 2004 IMSWG created a report for Transport Canada entitled "Canada's Marine Transportation System."[193] The IMSWG believed that maritime security was critical to Canada because it would "maintain the free flow of trade and people, which in turn maintains the competitiveness of Canada's marine sector and our economic vitality."[194] They also agreed that certain areas in maritime security required further security measures in order to diminish the possibility of a terrorist attack. Their report stated that Canada's coastal waters were in need of improvement in all activity areas, which included domain awareness, responsiveness, safeguarding, and collaboration.[195] Canada's EEZ was not much more prepared to face potential threats because it only received an acceptable rating in its safeguarding of the area of responsibility while the other three areas were labeled substandard.[196] This is of great concern because Canada's maritime security is considerably vulnerable to many potential terrorist threats in our waters.

The Canadian government announced an increase in marine security projects in January 2003. The 172.5 million dollars was to be spent over five years, which averaged 34.5 million a

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[190] Ibid, 3.

[191] The Secretariat of the Treasury Board of Canada, "Marine Security," *Government of Canada*, November 3, 2004, <http://www.tbs-sct.gc.ca/rma/eppi-ibdrp/hrdb-rhbd/ms-sm/description_e.asp> (April 11, 2006).

[192] Ibid.

[193] Interdepartmental Marine Security Working Group, "Canada's Marine Transportation System," *Transport Canada*, May 14, 2004, <http://www.tc.gc.ca/vigilance/sep/marine_security/enhancing/system.htm> (March 14, 2005).

[194] Ibid.

[195] Ibid.

[196] Ibid.

year.[197] Then Transport Minister David Collenette announced in this news release that "Canada has one of the safest and most secure transportation systems in the world[.]"[198] If this was the case, then the government would not have felt the need to devote significant funding for additional or enhanced maritime security initiatives. However, this demonstrated that they were aware of the liabilities in the current system and had to make changes to "[protect] our marine infrastructure, surveillance of Canadian waters and improv[e] our emergency response capabilities."[199] In addition to the marine security initiatives involving a 96 hour advanced notice rule, new boarding protocols, and partnering with the U.S. and other countries, this funding would fund projects such as:

> Increasing surveillance and tracking of marine traffic, including 'near real time' identification and tracking of vessels in Canadian waters;

> Screening of passengers and crew onboard vessels;

> Installing new detection equipment in ports to screen containers for radiation;

> New funding for the enhancement of the RCMP Emergency Response Teams and the establishment of permanent investigator positions at major ports;

> Enhancing collaboration and co-ordination among government departments and agencies;

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[197] Transport Canada, "Government of Canada Announces up to $172.5 Million in New Marine Security Projects," *Government of Canada*. January 22, 2003, <http://www.tc.gc.ca.mediaroom/releases/nat/2003/03-gc001.htm> (October 19, 2004).
[198] Ibid.
[199] Ibid.

> ➢ Making further improvements to port security by establishing restricted areas and requiring people working within these areas to undergo thorough background checks; and

> ➢ Developing and implementing new security requirements in line with recent recommendations of the International Maritime Organization.[200]

While these initiatives are self-explanatory, they appear vague and the news release does not provide a comprehensive explanation of the details these programs would entail. However, this allocation of resources clearly outlined the vulnerabilities stated in the IMSWG report that was published a year after this announcement. The liabilities in Canada's maritime security had not changed significantly in a year's time. This raises concerns that the new funding provided by the NSP to maritime security may be a waste of money and resources as well. The problem is that the new funding being budgeted towards maritime security initiatives does not begin to address the much-needed improvements in existing policies and programs, let alone to fund new programs and initiatives.

Limited Success for the U.S. Coast Guard

The USCG is the branch of the American forces that is directly responsible for U.S. maritime security. Therefore, an analysis of their successes and failures will ascertain whether they are more effective in their policies and programs than the CCG. The United States General Accounting Office (GAO) released three reports between September 2003 and January 2005, which analyzed the efficacy of the USCG in its maritime security roles.

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[200] Ibid.

The first report released September 9, 2003, asserted that the USCG had made progress in meeting their new requirements set out in the *Maritime Transportation Security Act* of 2002. Out of 46 new maritime action programs, 42 had been initiated.[201] While this was a sign of clear progress and advancement in refining American maritime security, there were five significant concerns that the GAO listed, which included:

> ➢ Only a limited number of ports [are] covered by vessel identification system,
>
> ➢ Questions about the scope and quality of port security assessments,
>
> ➢ Concerns related to approving security plans for foreign vessels,
>
> ➢ Potential duplication of maritime intelligence efforts, and
>
> ➢ Inconsistency with Port Security Grant Program requirements.[202]

The majority of these concerns dealt specifically with port security programs, which indicated that the maritime security programs were well-organized and effective at this time. There was one glaring comparison from this report that could be made to the Canadian maritime security problems. While a dominant issue in Canada was the absence of adequate surveillance and intelligence gathering of maritime information, there was a concern in the U.S. that there was too much intelligence gathering. This leads to an overlap of information and intelligence and results in a waste of resources and time that could be applied in other areas.

The July 2004 GAO report concentrated on the implementation of the Automatic Identification System. This system was to be instituted nation-wide and allowed the USCG to

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[201] The United States General Accounting Office Testimony Before the Committee on Commerce, Science, and Transportation, United States Senate, "Maritime Security: Progress Made in Implementing Maritime Transportation Security Act, but Concerns Remain," September 9, 2003, <http://gao.gov/new.items/d031155t.pdf> (February 8, 2005), summary.
[202] Ibid.

monitor and track vessels traveling to and through U.S. waters.[203] The AIS program was only in its

pilot phase and therefore the GAO was not able to make a concise evaluation of it. However, it

was still able to identify initial costs of the project and foresee a significant problem. There was a

dispute between the federal agencies involved in this new program and MariTEL "over issues

including who should have access to the internationally designated AIS frequencies and for what

uses."[204] Funding for this project was also in contention, but the GAO noted that some port

facilities were willing to accept the costs of the construction of this new program if they were

allowed to use AIS data in sync with the USCG to further enhance port security.[205] This was an

innovative new program that would effectively extinguish concerns about the capabilities of the

USCG to have adequate domain awareness and collaboration. This program solved many of the

CCG concerns in these same areas, therefore the USCG should actively pursue the complete

implementation of this program to secure the viability of this initiative and greatly diminish potential

terrorist attacks.

The report released in January 2005 defined the challenges that the USCG was facing in

the post-9/11 environment. A significant concern was that Coast Guard stations "have been

unable to meet current Coast Guard standards and goals in the areas of staffing and boats, an

indication that stations are still significantly short of desired readiness levels in these areas."[206]

This allowed for a better comparison between the USCG and the CCG. Initially it appeared that

the CCG was under-staffed and lacking adequate resources to satisfy their responsibilities. The

initial impression of the USCG from their reported roles and responsibilities was that this was not

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[203] The United States General Accounting Office Report to the Committee on Commerce, Science, and Transportation U.S. Senate, "Maritime Security: Partnering Could Reduce Federal Costs and Facilitate Implementation of Automatic Vessel Identification System," July 2004, <http://www.gao.gov/new.items /d04868.pdf> (February 8, 2005), summary.
[204] Ibid.
[205] Ibid.
[206] The United States General Accounting Office Report to the Senate and House Committees on Appropriations, "Coast Guard: Station Readiness Improving, but Resource Challenges and Management Concerns Remain," January 2005, <http://www.gao.gov/new.items/d05161.pdf> (February 8, 2005), summary.

as big a concern, and that the USCG had more than adequate resources and manpower to meet their new roles and responsibilities while sufficiently completing their original maritime security roles as well. This report went on to prove that this was not the case. The USCG's strategic plans for the stations in the vicinity of ports had not been updated to include increased security responsibilities, it lacked "specific planned actions and milestones[,]" and it "[had] yet to develop measurable annual goals that would allow the agency and others to track stations' progress."[207] This would have drastically affected the USCG's ability to respond to a potential threat in a timely manner, which was also cited as a problem with the CCG. The USCG was not considerably more organized than the CCG, it simply appeared to be the case because its objectives and its roles were clearly stated in public documents. However, these remain somewhat unattainable because of the disorder of the agency at the implementation level. Clearly, the USCG has many problems and issues similar to the CCG that must be corrected if they are to have a positive impact on their respective maritime security programs and policies.

Canadian Maritime Legislation versus American Maritime Legislation

Both Canada and the U.S. have created marine transportation security acts within the last thirteen years. The *Marine Transportation Security Act of Canada* was established in 1994.[208] This document has been recently updated, but does not contain many significant improvements to the 1994 version. The Marine Transportation System Report released by the IMSWG in 2004 is not a modification, amendment, or update of the 1994 Act, nor does it complement the revised 2005 version. The American legislation was introduced as the *Maritime Transportation Security Act* in November 2002. Unlike the Canadian Act, this Act was a direct consequence of the 9/11

[207] Ibid.
[208] Transport Canada, "Marine Transportation Security Act," *Government of Canada*, 1994, <http://www.tc.gc.ca/ acts-regulations/GENERAL/M/mtsa/act/mtsa.htm> (October 21, 2004).

attack and emphasized a concentration on homeland security and defence measures. These policies are vastly different in nature and objectives.

Sections of the *Marine Transportation Security Act* of 1994 were updated in 2005.[209] This Act was a re-evaluation of the 1994 act, while maintaining the same title. It has been significantly modified from the original (the altered sections are listed at the end of the document), however many underlying concerns have carried over to the updated version. The original Act did not mention terrorism or asymmetrical threats because they were not significant concerns when the document was created. However, the new Act does not discuss the threat or offer any concrete analysis of any perceived threat in any part of the legislation. Overall, it is not much better in its mandate, perceived threats, or reaction to threats than the original. It does not resemble the 1994 version in almost any way. This could be considered an improvement on the original document, however, it is so vague and general about what marine transportation entails that this document could be applied to any situation. The 2005 version is a superfluous document because of its generality and vague wording. The updated version administers the sweeping powers outlined in this document to the Minister in charge of marine transportation security. This is risky because many problems can occur if there is not a position to balance the Minister's power. Some of these problems consist of the ability to more easily corrupt the position, difficulty for one individual to maintain, easier to penetrate the higher levels of the department by threatening individuals, or a host of other potential issues and security risks. In addition to these potential security risks, there is no information on the departments responsible for the enforcement of this Act, costs of the new legislation, or funding for different departments. This Act is written with the assumption that it will replace the 1994 version as the active *Marine Transportation Security Act* without any

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[209] Transport Canada, "Marine Transportation Security Act," *Government of Canada*, Revised 2005, November 16, 2007, <http://www.tc.gc.ca/acts-regulations/includes/printable_version.asp?lang=en> (March 11, 2008).

consideration as to how to implement its procedures and rules. The penalties dictated by the Act

vary slightly, depending upon the infraction. However, the consequences of the violations detailed

in this Act are minimal and would hardly deter a terrorist from seeking to achieve its objectives,

assuming that the potential terrorist is caught in the first place. This creates immediate concerns

because the maritime security dynamic has drastically changed and the updated legislation has not

caught up. There was no mention of terrorism or asymmetrical threats in the 1994 legislation

because they were not significant concerns when this document was created. However, the new

document does not mention these threats either. They simply allow the Minister to take action

against these types of threats, if necessary, because the Act is much more vague so that it can

pertain to any threat. The primary concern of Canada's maritime security and defence policies was

organized crime in the 1994 *Marine Transportation Security Act*.[210] However, the 2005 version

does not even provide a hint of perceived threats, nor does it offer strict penalties to deter illegal

actions. This combination of factors is hazardous to Canada's national security because it shows

terrorists that there are no concrete procedures for marine transportation security and that the

consequences of violating this Act are minimal. The consequences of the criminal actions detailed

in this Act are negligible and would hardly deter a terrorist from seeking to achieve their objectives.

A simple evaluation of the vulnerabilities in Canadian maritime security combined with the lack of

surveillance of Canadian waters and the blatant disregard of any recognized threats not clearly

defined would be incentive for terrorists to carry out their objectives. Overall, this Act is

unsubstantial. It has little to offer to the new maritime security programs and initiatives and must

be revised again if it is to be of any use in furthering Canadian maritime security goals.

 The American legislation is not a great deal better than the *Canadian Marine*

Transportation Security Act. Although the *Maritime Transportation Security Act* was established in

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[210] Ibid. .

November 2002, its title is not entirely accurate. In the introduction of the Act there is considerable attention to the importance of maritime security in the United States.[211] The first section entitled "Maritime Transportation Security" forms the basis of the new port security initiatives.[212] While the American government makes a clearer distinction between port security and maritime security than Canada does in its legislation, there are still distinct flaws in the legislation. A main concern is that the new security policies in this Act apply to "all ships in U.S. waters greater than one hundred Gross Registered Tons."[213] This only pertains to larger vessels traveling in American waters. A potential terrorist attack could just as easily emerge from a small vessel or personal watercraft navigated through U.S. waters. Another concern is that this legislation deals almost solely with foreign vessels in U.S. waters.[214] This is a dangerous assumption because a terrorist threat might not necessarily emanate from international waters. The 9/11 hijackers were able to gain control of four airplanes that originated from American soil. The delegation of authority solely to the USCG is an unwise law because they are unable to sustain their new responsibilities in addition to their traditional maritime security roles. This document is vague and ambiguous with its new maritime security policies but clear and concise in its new port security framework. While there is more relevant direction and legislation in this Act than the *Canadian Marine Transportation Security Act*, this does not imply that it is revolutionary or awe-inspiring. It was written post-9/11 and yet has no clear direction in its maritime security policies. They are vague and the legislation is to be enforced solely by the USCG without any consideration of whether it is capable of attaining these goals or not. There is an obvious emphasis on the importance of complying with this new legislation.

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[211] Senate and House of Representatives in the United States of America in Congress, "Maritime Transportation Security Act," November 25, 2002, <http://www.uscg.mil.hq/g-m/mp/pdf/MTSA.pdf> (October 19, 2004), 116 STAT. 2066.
[212] Ibid, 116 STAT. 2068-2093.
[213] Peter Kavanagh, "The U.S. Maritime Transportation Security Act, The United States Coast Guard Interim Regulations And What This Means For The Canadian Maritime Community," *COPE Solutions Inc.*, July 17, 2003, <http://www.cmla.org/papers/ Interim%20regs.pdf> (February 8, 2005), 1.
[214] Ibid.

However, the details are left to be determined by the USCG, which is still experiencing problems in enforcing its new roles and the new legislation.

One Potential Solution with the Bi-National Planning Group?

The U.S. and Canadian governments are aware that there are significant vulnerabilities and gaps in their efforts to develop cooperation in maritime security defences and policies. To compensate for this, they formed the Bi-National Planning Group (BPG) in December 2002.[215] The terrorist attacks of 9/11 proved that

> [t]he overall threat to the North American continent from the air, land, and sea has greatly increased, including the potential for the use of weapons of mass destruction delivered by unconventional means, by terrorists or others.[216]

The threat was real to both countries and the BPG was an answer for some of their maritime security problems. This organization was created to help decrease the gaps and liabilities in maritime security that the CCG and USCG were not able to effectively correct or maintain. The BPG's activities included:

> ➤ Preparing contingency plans to ensure a co-operative, well-co-ordinated response to national requests for military assistance in the event of a threat, attack, or civil emergency in Canada or the U.S.;
>
> ➤ Co-ordinating maritime surveillance and intelligence sharing to enhance overall awareness of potential maritime threats;

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[215] Donna Miles, "Planning Group Weighs Value of 'Maritime NORAD," *American Forces Information Service, Department of Defense,* November 3, 2004, <http://www.defenselink.mil/news/Nov2004 n11032001_ 2004110304.html> (February 8, 2005).
[216] The Honourable Colin L. Powell, "Text of the Canada-US Security Cooperation Agreement," *Seccretary of State of the United States of America,* September 23, 2004, <http://www.dfait.maeci.gc.ca/can-am/menuen.asp?act=v&mid=1&cat= 1026&did= 1966> (February 8, 2005).

> Assessing maritime threats, incidents, and emergencies and advising the two governments;

> Establishing appropriate planning and liaison mechanisms with civilian authorities involved in crisis response, such as police, fire fighters and other first responders;

> Designing and participating in exercises;

> Conducting joint training programs; and

> Validating the practicality and effectiveness of plans prior to approval.[217]

These measures were designed to create a comprehensive, cohesive security and defence organization that was responsible for the continuous protection of Canada and the U.S. in various areas, with emphasis on maritime security. This program has also been considered a creation of a 'maritime NORAD' because the maritime security capabilities of these two countries were not adequate on their own. Air Force General Ed Eberhart, Commander of NORAD and U.S. Northern Command, believed that this was a necessary step because "the [U.S.]'s situational awareness of the sea [was] 'not as mature, not as sophisticated, or as elegant as (its) awareness of air space.'"[218] Canada and the U.S. are similar in many problem areas and defence responsibilities, therefore Canada can be considered in the same mindset as the U.S. when discussing maritime security. General Eberhart's comment that the U.S. still has "a long way to go" to improve its

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[217] Captain David Morrell, "Bi-National Planning Group: Supports North American Security," *Director General Strategic Change, Department of National Defence*, October 6, 2004, <http://www.vcds.forces.gc.ca/dgsc/pubs/ bravo/winter03/BiNational_e.asp> (February 8, 2005).
[218] Merrie Schilter-Lowe, "Lack of Security Leaves U.S. Ports Open to Attack," *American Forces Information Service, Department of Defense*, September 10, 2004, <http://www.defenselink.mil/news/Sep2004/ n09102004_2004091001.html> (February 8, 2005).

maritime security can be applied to Canadian maritime security as well.[219] Phillipe Legasse

considered the BPG to be "'a win-win opportunity,' noting that the United States' providing Canada

with access to U.S. satellite and radar data [increased] continental maritime security while saving

Canada the cost of building its own comparable capabilities."[220] This organization appeared to be

in the best interest of both countries concerned because it lessened a portion of their maritime

security deficiencies and added further dimension to their existing capabilities. The organization

was temporarily created for a two-year period to test its validity. On November 29, 2004, both the

U.S. and Canada agreed to extend the BPG mandate until May 2006.[221] Clearly this agreement

was considered valuable to both Canada and the U.S. to renew for another two-year term. It

accomplished its goals and objectives; however, the BPG mandate was not renewed in May

2006.[222] Instead, The North American Aerospace Defence Command (NORAD) Agreement

between Canada and the U.S. was revised in May 2006 to

> [expand] NORAD's mission to include maritime warning. The Agreement
> makes clear that NORAD will have a comprehensive maritime warning
> role, but will not exercise operational control over maritime assets. While
> NORAD will warn of potential maritime threats, respective national
> authorities [...] will be responsible for assigning forces to respond.[223]

Clearly, both governments agreed that a bi-national defence agreement was in their interests. The

BPG was a trial program that "had a significant impact on Canada-U.S. defence and security

[219] Donna Miles, "Planning Group Weighs Value of 'Maritime NORAD," *American Forces Information Service, Department of Defense,* November 3, 2004, <http://www.defenselink.mil/news/Nov2004 n11032001_ 2004110304.html> (February 8, 2005).
[220] Ibid.
[221] Media Liaison Office, "Canada and the United States Commit to Renewed Defence Co-operation," *Department of National Defence,* November 29, 2004, <http://www.newswire.ca/fgov/en/releases/archive/November2004 /29/c8912.html> (April 17, 2005).
[222] Department of National Defence, "Enhanced Canada-U.S. Defence Cooperation and the Bi-National Planning Group," *Government of Canada,* April 1, 2006, <http://www.mdn.ca/site/Newsroom/view_news_e.asp?id=1528> (February 21, 2008).
[223] Department of National Defence, "Backgrounder: NORAD," *Government of Canada,* May 12, 2006, <http://www.forces.gc.ca/ site/Newsroom/view_news_e.asp?id=1922> (February 21, 2008).

cooperation."[224] By handing over the maritime warning role to NORAD to maintain, both countries continue to have a desire to share defence and security responsibilities.

Recommendations for Canada

Many experts emphasize the importance of adequate, reliable, and effective maritime security defences for North America. Captain Avis stated that "[i]t has become apparent to everyone that the vulnerable North American ports and seaways could be prime targets for a future terrorist attack."[225] Maddison of the CN agreed that "maritime issues are at the heart of our economic and defence considerations."[226] These two argue that Canada's economic prosperity, social stability and military defence are potential targets for terrorists who rely on asymmetrical warfare techniques. In Captain Avis' opinion "the only way to move forward is together with combined military and civilian departmental confreres inside each country."[227] The creation and maintenance of the BPG played a key role in the integration of civilian and military organizations within and between both countries. This leads to an overall increase in their maritime security capabilities and a decrease in their vulnerabilities because they are receiving assistance in areas where they are lacking efficient organization and implementation of defence policies. Canada cannot afford to approach its maritime security and defence solely through the use of the CCG, as

[224] Department of National Defence, "Enhanced Canada-U.S. Defence Cooperation and the Bi-National Planning Group," *Government of Canada*, April 1, 2006, <http://www.mdn.ca/site/Newsroom/view_news_e.asp?id=1528> (February 21, 2008).
[225] Captain (N) Peter Avis, "Surveillance and Canadian Maritime Domestic Security," *Department of National Defence, Government of* Canada, January 12, 2004, <http://www.navy.forces.gc.ca/mpsa_news/news_issues_ e.asp?category =4&title=14> (February 7, 2005). This can also be found in a slight modification for his conference paper presentation cited as: Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005), 10.
[226] G. R. Maddison, "The Canadian Navy: In the vanguard of Canadian Foreign and Defence Policy," *CMS Speech to Conference of Defence* Associations, December 12, 2004, <http://www.navy.forces.gc.ca/mspa_news/ news_issues_e.asp?category =2$title=29> (April 14, 2005).
[227] Captain Peter Avis, "The Terrorist Changed the Battlespace-Surveillance and Canadian Maritime Domestic Security," *The Conference of Defence Associations Annual Graduate Student Symposia*, Royal Military College of Canada, October 24-25, 2003, <http://www.cda-cdai.ca/symposia /2003/avis.htm> (April 14, 2005), 10.

the Senate Committee on National Security and Defence argued it should. Its recommendations advised the federal government to:

> ➢ Transform the Canadian Coast Guard into an independently funded agency with its own carefully crafted mandate.

> ➢ Make the Canadian Coast Guard responsible directly to Parliament. The CCG will carry out its current duties – search-and-rescue (SAR), fisheries enforcement, environmental protection, navigational aids, marine safety, and the like – plus new duties under maritime security.

> ➢ Co-ordinate all appropriate resources – Canadian Navy, Canadian Coast Guard, Air Force, Army, Citizenship and Immigration Canada, Canada Customs and Revenue Agency, police forces and agencies responsible for intelligence and satellite surveillance – to improve the maritime security of Canadian coastlines.[228]

When combined, these recommendations would co-ordinate the CCG and provide a detailed framework to become an autonomous organization responsible for its duties. However, if the CCG is unable to fulfill its duties as an extension of the military, it is unlikely that the first recommendation would encourage much change. While making the CCG responsible to Parliament appears to be a sound suggestion, it would not be a credible solution because Parliament requires certain timeframes in order to execute decisions. In the event of a crisis, it would be difficult for the CCG to act with the same expediency under Parliament as it would under the military because Parliament does not often act unilaterally. The third recommendation is a

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[228] The Honourable Colin Kenny, Chair, Senate Committee on National Security and Defence, "Who's Guarding our Coasts? Here's a hint: It isn't the Navy But we *could* develop an effective Canadian Coast Guard," Excerpts from the 17th Report of the Senate Committee on National Security and Defence, *Canadian American Strategic Review*, July 2004, <http://www.sfu.ca/casr/ft-senate2.htm> (April 14, 2005).

common recommendation for many departments in Canada and the U.S. post-9/11, in this case

concentrating on maritime security. There are problems that arise when co-ordinating several

departments to accomplish a specific goal, one of which is the reluctance or inability of

departments to interact and co-operate for a greater goal while successfully accomplishing their

mandated responsibilities. It does not appear that the Senate is offering realistic recommendations

based on performance and existing problems. In addition, the Senate is recommending a

transformation of the CCG into a duplicate of the USCG system. However, the USCG is not in a

much superior position to the CCG. They face many of the same obstacles, inadequate policies

and legislation, and defence liabilities. Also, their final recommendation to co-ordinate all

resources resembles a Canadian version of the BPG. However, since Canada was already

involved in the BPG, a separate Canadian organization would over-extend Canada's already

sparse resources and personnel, not to mention that the legislation to implement these measures

would entail numerous drafts, considerable funding, the impossible co-ordination expected of all

the forces, and the always-evasive patience of the Canadian public. This is not a feasible option.

However, the importance of Canadian maritime security cannot be under-estimated. It is not only

for the protection of Canadians and their quality of life. It remains an issue for Canada's neighbour

to the south. While the U.S. has not publicly announced that it would violate Canadian sovereignty

in the event that they felt threatened by a potential terrorist attack, General Eberhart has used

strong diplomatic language to imply as much. "[T]he issue is not something the United States

'could or wants to force on our neighbours.' But, to not consider such an agreement 'and not

address it would be a mistake[.]"[229] Canadian experts in maritime security recognize this as well.

Joel Sokolsky emphasizes the implications of U.S. Homeland Security Maritime Policies for

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[229] Merrie Schilter-Lowe, "Lack of Security Leaves U.S. Ports Open to Attack," *American Forces Information Service, Department of Defense,* September 10, 2004, <http://www.defenselink.mil/news/Sep2004/ n09102004_2004091001.html> (February 8, 2005).

Canada in his paper time and again. He states that "[i]n efforts to enhance the maritime security of the United States, there are no boundaries."[230] Canadians must keep pace with the Americans in maritime security in order to avoid an intrusion upon our sovereignty, as well as deter many potential terrorist threats.

Conclusions

In the final analysis, it is clear that maritime security plays a vital role to Canada and the U.S. Both depend upon maritime security to secure economic prosperity and trade in addition to the defence of their citizens and territory. This heavy reliance upon maritime security places considerable pressure on the policies and the agencies responsible for implementing these policies and maintaining the defences. To this end, Canadian and American maritime security policies and deficiencies are quite similar in many respects. Both rely on their Coast Guard forces to provide the security and defence for their maritime waters. Neither the CCG nor the USCG has the necessary resources or manpower to fulfill either their traditional responsibilities or their new roles in the post-9/11 environment. Even if these problems could be remedied, the legislation in place to guide these organizations is vague, outdated, and over-estimates their capabilities. In addition to these obstacles, once the legislation has been created, the governments are not willing to hold themselves responsible for any subsequent vulnerabilities or mistakes incurred because they have passed on the responsibilities to their Coast Guard organizations.

The importance of maritime security to Canada cannot be over-stated. With the possibility of a terrorist attack in Canadian maritime waters elevated by our geographic position, Canada must

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[230] Dr. Joel Sokolosky, "The Ghostships of White Papers Past: The Maritime Dimensions of United States Homeland Security Policies and the Implications for Canada," Presented at the Conference on "The Future of Canada's Maritime Capabilities: The Issues, Challenges and Solutions in a New Security Environment" at the Centre for Foreign Policy Studies, Dalhousie University, *Professor of Political Science, Dean of Arts, Royal Military College of Canada*, June 18-20, 2004.

continue to not only reform its policies to suit the changing environment, but it must also take the initiative and change its political rhetoric into observable action. Canada has undertaken a series of what appear to be considerable reforms of its programs and policies in order to create a more uniform, capable maritime defence position. This shows that the Canadian government recognizes the threat to its maritime security and holds it in higher regard than its airport security policies. Even with these new policies implemented by the NSP, Transport Canada, and the IMSWG, Canadian maritime security still contains large vulnerabilities.

The most significant of these vulnerabilities is the lack of adequate surveillance and intelligence-gathering capabilities, Captain Avis asserts. Without proper funding, however, these vulnerabilities will continue to plague our maritime security and defence policies. There are also problems with the current legislation simply because it is not applicable to the current security environment. The *Marine Transportation Security Act* must either be revised or rewritten for it to have any effect on maritime security. Canadian participation in the BPG demonstrated a commitment to a unified and efficient Canadian maritime security policy. It was a wise decision to renew the mandate until 2006 because this organization assisted Canada by keeping its security costs down while increasing its surveillance, intelligence, and capabilities. This relationship was of the utmost importance to Canada because without it, the significant gaps and vulnerabilities present in its maritime security defences and policies would be an easy target to terrorists in the future. The Canadian government has implemented positive changes to increase Canadian maritime security capabilities. One of these is NORAD's revisions and new maritime warning role, which is a continued commitment to maintaining maritime security capabilities. However, this is only a first step in an ongoing process that will continue to challenge Canadians for years to come.

The U.S. is not as advanced in its maritime security defences and policies as many believe them to be. Their Coast Guard organization is similar to the CCG in many of their problems and

deficiencies. The *Maritime Transportation Security Act* is not concise in the roles of the USCG. Instead, it places the full responsibility of maritime security and defence in their hands, leaving them to make decisions that can have drastic effects upon the nation's citizenry and economy. In this manner, if the USCG fails, the government can claim that it is was not liable for any of the incorrect actions taken. This is not the co-operative environment that both governments advocate is essential to enhanced maritime security. The U.S. was also a member of the BPG. The participation in this organization decreased its vulnerabilities to terrorist attacks similar to the benefits it attached to Canadian maritime security and defence. Many U.S. agencies, organizations, and its government take American maritime security very seriously. After the expiration of the BPG mandate in May 2006, the U.S. was instrumental in the 2006 NORAD Agreement revisions to include a maritime warning role. Even with the inherent problems and liabilities, there is no under-estimating the importance of maritime security to the U.S. and its continued promise to protect itself from any potential terrorist threat with little consideration given to cost or repercussions of its actions.

There remains one consistent dilemma that must be addressed if Canadian security is to become more efficient overall. This dilemma is the attitude of the Canadian public in dealing with potential threats to their society and security. This complacent attitude prevalent in Canadian society creates problems when dealing with security matters because with such a complacent attitude, security policies and threat assessments cannot be accurate. This is an enormous hurdle that the Canadian government must overcome in order to create enhanced security and defence policies for our coasts and maritime waters.

Canadian Arctic Transportation Security: Is it Melting Away?

This chapter will discuss Arctic security in Canada and the United States (U.S.). In particular, it will evaluate the current policies and legislation in place post-9/11. It will compare and contrast the importance of the North American Arctic to both states. The topics that will be examined include an introduction to the role of the Arctic, non-traditional security issues in Canada's north, Canada's current Arctic position, concerns of some Canadian Arctic specialists, the Arctic from the American perspective, Canadian Arctic legislation and initiatives, American Arctic legislation, an enduring issue, the Canadian government's determination to show their utilization of the Arctic, and a final analysis. The research and exploration of these areas is essential to gauge the importance of the Arctic to Canada and the U.S. It will provide a framework of the significance of the Arctic and new legislation and initiatives recently implemented and provide an overall analysis of the security of transportation systems in the north post-9/11.

The Role of the Arctic

The Canadian Arctic was often treated as the neglected northern territory of Canada as late as World War II.[231] However, the dawn of the Cold War significantly transformed the role of the north. "In the post-war period, the Arctic became a strategic 'theatre' of the Cold War, and

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[231] Please note: the definition of the Canadian Arctic will be quoted from the Defence R&D Report. Some characteristics include: any area generally above sixty degrees north latitude; parts of or all of the Yukon, Northwest Territories, Nunavut, northern Quebec, and Labrador; the maritime dimensions of the Arctic Ocean and adjacent seas; comprises about forty percent or approximately 4,000,000 km^2 of Canada's total land area of almost 10,000,000 km^2; encompasses sixty-four percent or 129,058 km of Canada's total coastline of 202,080 km. Taken from Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada,* February 2005, <https://webmail.shaw.ca /attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX&uid=1169& number=2&filename= Christensen%20- %20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), 5, 10-11.

policymakers' attention tended to wax or wane in accordance with national security calculations."[232]

This new strategic importance converted the Canadian Arctic into an essential part of Canadian

identity during this era.

> During the Cold War, the Arctic was considered an important geostrategic area [because] [m]ilitary planners and strategic analysts assessed it as the area where Soviet ballistic missiles – and later cruise missiles – would transit in the event of an attack and/or where Soviet bombers and submarines would launch their nuclear payloads from.[233]

The abrupt increase in Arctic military security for the main purpose of detecting and/or preventing a

nuclear strike from the Soviet Union meant that our security systems were advanced in the most

traditional meaning of security. However, the unexpected dissolution of the Soviet Union and the

subsequent end of the Cold War altered the importance of Canada's Arctic region once again.

After a great deal of scholarly and legislative analysis, with modest public discourse, the role of

Canada's Arctic had mutated into a new and substantive duty with many distinct responsibilities.

Dr. Oran Young, in a paper presented at the Second Conference of Parliamentarians of the Arctic

Region in 1996, noted that "[t]he Arctic has emerged [at the end of the Twentieth Century] as a

prominent region in international society with a distinctive political agenda and a constituency of its

own."[234] Defence R&D Canada agrees by stating that "[m]any of the [n]orth's natural

characteristics such as isolation, vastness, and lack of infrastructure pose unique challenges, while

natural resource development and climate change present both challenges as well as

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[232] Standing Committee on Foreign Affairs and International Trade, "The Seventh Report to the House: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century," *House of Commons*, April 15-17, 1997, Chapter 1, <http://www. parl.gc.ca/committees352/fore/reports/07_1997-04/chap1e.html> (July 6, 2005).
[233] Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada*, February 2005, <https://webmail.shaw.ca/attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX &uid=1169&number=2&filename= Christensen%20-%20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), 1.
[234] Standing Committee on Foreign Affairs and International Trade, "The Seventh Report to the House: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century," *House of Commons*, April 15-17, 1997, Chapter 1, <http://www. parl.gc.ca/committees352/fore/reports/07_1997-04/chap1e.html> (July 6, 2005).

opportunities."[235] In their 7th Report to the House of Commons, The Standing Committee on Foreign Affairs and International Trade summarized the new role of the Arctic as "[it] has become a crucial arena, in which multiple interests may converge or conflict, for confronting the challenges of 'sustainable development' and human and environmental 'security.'"[236] Clearly, the traditional security[237] duties of the north were considerably modified to embrace the new challenges affecting the Arctic region.

Canada has moved from a traditional security initiative in its Arctic to an intense program to satisfy non-traditional security concerns. These changes in Canadian Arctic security arose from concerns about a number of external factors. Many are due in part to the dramatic global climate changes that the Arctic region has been experiencing recently, as well as the end of the Cold War, the collapse of the Soviet Union, and a surge of human security interests around the globe. It appears that traditional security measures have been placed on the backburner and replaced with new security policies and initiatives that include environmental, ecological, and sovereignty disputes. Even though these are significant issues that required immediate attention post-Cold War, the lack of emphasis on more traditional security measures is disconcerting. While these new

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[235] Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada*, February 2005, <https://webmail.shaw.ca/attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX &uid=1169&number=2&filename= Christensen%20-%20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), iii.
[236] Standing Committee on Foreign Affairs and International Trade, "The Seventh Report to the House: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century," *House of Commons*, April 15-17, 1997, Chapter 1, <http://www. parl.gc.ca/committees352/fore/reports/07_1997-04/chap1e.html> (July 6, 2005).
[237] Please note: For this paper, traditional military security measures would include realist ideologies, including the necessity for military readiness, weapons availability, an armed nation able to enter into a conflict or even war, security initiatives and defence programs and systems aimed at counter-attacks against an enemy, and any other beliefs that follow this line of thinking. This also included the concepts of nuclear deterrence, MAD, pre-emptive versus second strike capabilities, monitoring, and intervention measures. This was the dominant ideology adopted by the superpowers during the Cold War. This is significant because the strategic importance of the Arctic became clear in the Cold War. Because of this, heavy defences were created, many stationed in the Arctic regions, as a means of deterrence and defence. The military presence was significantly increased in this region. These ideas are extrapolated from Rob Huebert, "Arctic Security: Different Threats and Different Responses, A Discussion Paper," A position paper presented for the 3rd NRF Open Meeting in Yellowknife and Rae Edzo, Canada, *Department of Political Science; Centre for Military and Strategic Studies, University of Calgary*, September 15-18, 2004, <http://www.nrf.is/open_meetings_files/ Yellowknife_2004/Huebert.pdf> (July 25, 2006).

initiatives were well supported in the post-Cold War and pre-9/11 international environment, they cannot monopolize the majority of our attention in Arctic security matters. In this post-9/11 world of asymmetrical warfare, guerrilla tactics, and an upsurge of terrorism, Canada cannot afford to leave its security measures stagnant until a vulnerability is exploited. The Defence R&D report asserts that "the events of September 11, 2001 have required countries to reassess not only their involvement in security issues abroad, but also their domestic security concerns at home."[238] Although the emphasis is currently on non-traditional security initiatives, this does not necessarily mean that traditional security approaches are now non-existent. But has the Canadian government taken the necessary steps to decrease potential security vulnerabilities in its Arctic waters?

Non-Traditional Security Issues in Canada's North

To better evaluate the current situation of Canada's northern security, non-traditional security issues must be examined. The issues that have been prevalent in Canadian Arctic security concerns include environment, human ecology, and questions of Canadian Arctic sovereignty. To understand the crux of the issue, the current security measures and their reasons for primary consideration must be considered.

One of the larger non-traditional security issues is the environmental security's origins and their impact on Canada's north. Dr. Rob Huebert, an associate professor of Political Science and Associate Director of the Centre for Military and Strategic Studies at the University of Calgary, has listed four main reasons that environmental security issues began to supercede those of more traditional concerns. These include:

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[238] Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada*, February 2005, <https://webmail.shaw.ca/attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX&uid=1169&number=2&filename= Christensen%20-%20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), 3.

> "[The] protection of the Arctic environment was seen as a 'good' cause: unlike traditional security concerns, few interest groups opposed the actions undertaken by governments to protect the environment[;]

> When most of the circumpolar states found that they had common ground regarding Arctic environmental protection, it was relatively easy to reach agreement[;]

> Glasnost allowed scientists in the USSR/Russia to share their research, which quickly led to the discovery that the Soviet Union had taken few environmental safeguards to protect its Arctic regions, especially when it came to oil pollution and radioactive wastes [(at the same time, research in other states, in particular Canada, began to uncover the existence of large amounts of transboundary pollution)][;]

> The limited knowledge of Arctic pollutants meant that any initial examination of the problem could be undertaken at moderate cost [(although research in the Arctic regions is expensive and difficult to undertake, determining the nature of the problem is always considerably cheaper than the remedial action)]."[239]

The end of the Cold War brought different anxieties about the ex-Soviets/Russians. Not only were Western democracies, particularly Canada and the United States, worried about the future state of the Russian nuclear program and its navy, but there was also the issue of environmental protection

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[239] Rob Huebert, "Canadian Arctic Security Issues: Transformation in the post-cold war era," *International Journal*, Volume 54, Issue 2, 1998-1999, <http://heinonline.org.ezproxy.lib.ucalgary.ca/HOL/PDF?handle=hein.journals/int; 54&id=213&print=section&section=23&ext=.pdf> (January 22, 2006), 207.

which was partly due to Cold War and post-Cold War antics. This attention to the environment appeased many Canadians, as well as international citizens, who were anxious over the welfare of the Arctic. However, as Huebert noted above, the funding required for this research project would be far less than making the necessary improvements to the shortcomings found by the research. Historically, the government of Canada has demonstrated an unwillingness to fully fund projects in instances where an inferior, less evasive plan of action will place a bandage on the issue instead of healing it completely. In this way it has literally allowed its weaknesses to increase significantly during a time that did not challenge these vulnerabilities. However, the events of 9/11 prove that these liabilities must be addressed and solutions implemented to minimize potential terrorist activity in the Arctic. The Canadian north is not any more secure to an asymmetrical threat by merely concentrating on the environmental impacts on the Arctic. This strategy alone cannot deter a potential entry point to North America or a potential attack in the Arctic.

The study of human ecology has become a primary concern for the Canadian government as well as other non-governmental Arctic organizations.[240] The relationships between the human Arctic populations and their environment have accumulated substantial attention; years of study have culminated in the *Arctic Climate Impact Assessment* report, which was created by several key scholars on the security of the world's Arctic community. A significant portion of the study addresses concerns for the populations in the Arctic, their relationships with the environment, and the impact the erosion of the environment has on the populations. While maintaining a harmonious balance between the human populations and their surrounding environments is a necessary study in itself for reasons such as the harmful activities of Cold War and post-Cold War operations, this

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[240] Human ecology can be simply defined as the "branch of sociology that is concerned with studying the relationships between human groups and their physical and social environments." American Heritage Dictionary of the English Language, "Ecology," *Taken from The American Heritage Dictionary of the English Language,* Houghton Mifflin Company, 2000, <http://www.bartleby. com/61/10/E0031000.html> (January 28, 2006).

by no means limits the importance of Arctic security in a more traditional role. The security of

Canada's north rightly concentrates on the human ecological impacts, but the security of the Arctic

must contain elements of traditional security to better monitor our northern vulnerabilities. 9/11 has

proven to both Canada and the United States that if a potential terrorist action could occur, even in

an unlikely venue, there is the chance that the vulnerabilities can be exploited. Human ecology

cannot solve, or even begin to minimize, potential terrorist activities in the north. The very nature

of this study creates significant security concerns for all of Canada.

The last, and arguably the most controversial, security issue for Canadians is the claim of

Canadian sovereignty over the Northwest Passage. This issue is the most similar to traditional

security topics. A summary of the controversy is that Canada believes the waters are internal

waters, following international legal arguments, and therefore it has the responsibility to control and

grant access to the Passage as it sees fit.[241] Many states disagree with this position. The

strongest opponent of the Canadian position is the United States. Their argument is that the

Northwest Passage meets the international legal requirements of an international strait. Because

this is, in their contention, an international strait, "the vessels of all states enjoy the right of innocent

passage through it."[242] Arctic sovereignty is an important issue to Canadian interests and remains

a highly disputed topic. Prominent Canadian scholars recognize the significance of this topic and

have written various articles with diverse opinions and ideas. The issue is that sovereignty is

considered a threat to Canadian security in a more non-traditional role. It is debated that the

potential loss over the sovereignty of the north would deal a blow to Canadians' perceptions of

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[241] Rob Huebert, "Canadian Arctic Security Issues: Transformation in the post-cold war era," *International Journal,* Volume 54, Issue 2, 1998-1999, <http://heinonline.org.ezproxy.lib.ucalgary.ca/HOL/PDF?handle=hein.journals/int;54&id=213&print=section &section=23&ext=.pdf> (January 22, 2006), 219.
[242] Ibid.

being a 'northern' people.[243] In essence, our self-image and identity would be severely altered, which is unacceptable. The traditional security concerns are only a small part of the problem when considering the repercussions of losing control over Canada's north. Even though Arctic security concerns encompass distinct traditional roles such as sovereignty patrols and underwater sonar, these elements are not emphasized with a more direct plan to maintain surveillance and intelligence in the north. Canada's government remains minimally concerned over the possible breach of our northern borders by potential terrorists to either gain entry and/or execute a plausible attack.

Canada's Current Arctic Position

The preliminary problem with Canada's current Arctic security position is that it leaves our north virtually defenceless against a diverse variety of potential terrorist activities. The concentration of Canadians, the government, and legislation on non-traditional security elements has expanded the necessary environmental and ecological effects as well as sovereignty discussions about the north. In the post-9/11 world, these actions in themselves do not solve the greater issue of homeland security. This is not to say that the north is the most attractive option to potential terrorists; there are significant vulnerabilities that could be attacked and/or used against Canada in an effort to fulfil an objective. An example of this would be the airport security breaches that occurred on 9/11. Huebert notes that "[w]hile this is not seen as the most likely route that would be taken, there are concerns that as security arrangements governing entry into the southern parts of the continent are strengthened, the north may become an entry point for

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[243] Please note: The importance of Canada's north to its overall self-identity is strong. This is discussed briefly by Huebert in his article entitled "Northern Interests and Canadian Foreign Policy" on pages 3 and 7. It is also discussed on pages 7 and 18 of a paper entitled "The Northwest Passage Shipping Channel: Is Canada's Sovereignty Really Floating Away?" written by Andrea Charron.

terrorists."[244] To minimize these vulnerabilities, Canada must adopt a more traditional definition of security to complement the Arctic policies in place. The potential for a terrorist activity on North American soil seemed almost impossible to many Americans and Canadians alike, yet the events of 9/11 remain prevalent in the memories of citizens in the U.S. and Canada. The attitude of complacency cannot become commonplace again amidst the uncertainty that the post-9/11 world contains.

A further problem exists within this larger framework. This thesis is concerned with the security of transportation systems in Canada and the U.S. post-9/11. However, the main concerns of Canada discussed earlier have little bearing on transportation systems in the Arctic. Any transportation infrastructure in the north has been overlooked for other issues that are considered more pressing by influential individuals in Canada and internationally. The concern over Canada's sovereignty and its Northwest Passage is the only mention of transportation systems, without much discussion on the security of the territory. Even in the Northwest Passage discussions, little attention is allocated to shipping or any other transportation methods in the north, let alone their security vulnerabilities. This lack of concern and research over a vast amount of territory that Canada asserts to be internal waters is a significant problem. If the government of Canada is not considering the security of any transportation systems in its Arctic, while maintaining that it should have control over the transportation in its waters, then it cannot possibly begin to comprehend the challenges it faces. Therefore, how can the Canadian government remain adamant about its claim to the Arctic and the internal waters when there is nearly a complete lack of attention or consideration given to this subject?

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[244] Rob Huebert, "Arctic Security: Different Threats and Different Responses, A Discussion Paper," A position paper presented for the 3rd NRF Open Meeting in Yellowknife and Rae Edzo, Canada, *Department of Political Science; Centre for Military and Strategic Studies, University of Calgary,* September 15-18, 2004, <http://www.nrf.is/open_meetings_files/Yellowknife_2004 /Huebert.pdf> (July 25, 2006).

The importance of Canadian Arctic transportation security must be brought to the attention of all Canadians; our northern security has been, and may continue to be, violated. A few Arctic specialists, including Huebert, have alluded to non-Canadian ships traversing Canadian Arctic waters, often without Canada's approval or knowledge. A well-known example of this occurred in 1999 when a Chinese research vessel arrived in Tuktoyaktuk.[245] The Chinese government had informed the Canadian embassy, but somehow the message never reached its ultimate destination.[246] This example does not simply demonstrate a lack of communication between the Canadian government and the necessary authorities in its Arctic region; it suggests that the available Arctic institutions and even legislation that allocates responsibilities and duties is not acceptable to meet the current requirements. The ease with which the Chinese vessel was able to enter Canadian Arctic waters with no advance warning from any surveillance, patrol, or relayed information is worrisome because of the potential of numerous other vessels to pass through Canadian waters with little or no knowledge of their presence. In fact, Jane George lists an incident where a cruise ship arrived in Resolute, Nunavut during the summer of 2000.[247] This vessel was able to enter and sail through Canadian waters undetected until it approached the community. George also reports in her article that "[s]maller craft, such as sailboats from abroad have also sailed in unannounced to Nunavut communities."[248] Clearly, transportation security is a problem without Canadian participation in its north. However, unreported Arctic voyages are not restricted to non-military vessels. Although it is difficult to find specific governmental documentation available to the public concerning knowledge of foreign military vessels in Canadian

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[245] Rob Huebert, "Security in the Canadian North: Changing Concerns and Options," *Fraser Forum*, Deputy Director of the Centre for Military and Strategic Studies and Associate Professor in the Department of Political Science, University of Calgary, May 2004, <http://www.fraserinsititute.ca/admin/books/chapterfiles/May04ffHuebert.pdf> (July 6, 2005), 12.
[246] Ibid.
[247] Jane George, "Arctic borders need tighter control, former commander says," *Nunatsiaq News*, February 1, 2001, <http://nunatsiaq.com/archives/nunavut020201/news/nunavut/20201_4.html> (January 14, 2006).
[248] Ibid.

Arctic waters, there are reports of these occurrences nonetheless. However, some Canadian

scholars, like Huebert, and Arctic security specialists contend that non-Canadian submarine

surveillance missions continue in the northern waters, most times unbeknownst to Canada. In the

Boston Globe in March 2000, Colin Nickerson reported on non-Canadian submarine sightings by

Nunavut communities.[249] It is clear that the possibility remains that there are unreported

submarines patrolling and conducting surveillance operations in the·north, many times without the

knowledge of the Canadian government or their armed forces. This is a concern because Canada

does not have the capabilities to control the voyages in or under the waters of the Canadian Arctic.

However, unreported entries into Canadian territory are not limited to marine voyages. In an article

in the *Nunatsiaq News* in February 2001, George reports concerns over the security of Canada's

northern skies due to an incident that occurred in 1993. While interviewing Col. Pierre LeBlanc,

Commander of the Northern Forces (ret.), LeBlanc explained these concerns. "In 1993, an aircraft

purchased by the terrorist group Al-Qaeda made a stopover in Iqaluit en route to the Middle

East."[250] This information became available to the public only after 9/11, approximately eight years

later.[251] The concern over Canada's Arctic can only increase given the security issues raised by

George, Huebert, LeBlanc, and Nickerson. This demonstrates the lack of concern over the

security of transportation systems in Canada's Arctic. Perhaps even clearer is that these events

prove that Canadian Arctic transportation security, and Canadian Arctic security in general, are not

considered significant enough for many policy makers and government officials to act on.

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[249] Colin Nickerson, "Girding For a Sea Change: With Ice Thinning, Canada Claims a Northwest Passage," *Boston Globe.* March 21, 2000, <http://www.commondreams.org/headlines/032100-01.htm> (January 14, 2006).
[250] Jane George, "Arctic borders need tighter control, former commander says," *Nunatsiaq New,* February 1, 2001, <http://nunatsiaq.com/archives/nunavut020201/news/nunavut/20201_4.html> (January 14, 2006).
[251] Ibid.

Concerns of Canadian Arctic Specialists

An analysis of Canada's interest in its Arctic is filled with varied opinions and concerns by a select few. Huebert is one of the more vocal Arctic specialists; he continues to publish articles and is a committee member of the Canadian Arctic Resources Committee (CARC).[252] His work centres around the Arctic security situations, definitions of security and how they apply to the Arctic, concerns over Canadian northern security, and providing a comprehensive analysis of the current issues to be read by policy makers, government officials, and the public at large. Although no two pieces are the same, Huebert's primary idea expressed in each of his articles is that traditional Arctic security measures are vital to Canada's overall security and should not continue to be overlooked in favour of other security concerns in the north. This is not to say that more non-traditional security issues are less important than environmental security. On the contrary, concerns over the ecological balance between environment and populations that rely on the Arctic resources, as well as important pollution concerns, are vital to maintaining a healthy and sustainable northern environment for northern Canadian citizens as well as Canada as a whole. The problem lies in what is considered to be a security issue in the north. According to Huebert, "[t]he challenge before anyone who wishes to consider the different threats to security in the Arctic is to determine what is the nature of the threat; who is being threatened?; and what are the best means of responding to this threat?"[253] However, this is not necessarily the best way to assess potential threats. As mentioned earlier, there is meagre attention paid to more traditional security measures compared to the surge in non-traditional security issues. The majority of concern over

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[252] CARC is a "citizens' organization dedicated to the long-term environmental and social well being of northern Canada and its peoples." Taken from the homepage of Canadian Arctic Resources Committee, "Welcome to the new CARC Website" and "The Committee," *Canadian Arctic Resources Committee*, <http://www.carc.org/index.php> (September 18, 2007).

[253] Rob Huebert, "Arctic Security: Different Threats and Different Responses, A Discussion Paper," A position paper presented for the 3rd NRF Open Meeting in Yellowknife and Rae Edzo, Canada, *Department of Political Science; Centre for Military and Strategic Studies, University of Calgary,* September 15-18, 2004, <http://www.nrf.is/open_meetings_files/Yellowknife_2004/ Huebert.pdf> (July 25, 2006), 7.

the security in Canada's north rests on issues of human ecology, environment, and human security. In these areas there exists much information on the perilous and fragile situations among these areas in Canada's north. Because the potential threat of terrorist attacks or other military-based attacks remains minimal at best, there is considerably less attention allocated to these areas of Arctic security. This creates an even larger hurdle for individuals expressing specific concerns about the security of the Arctic transportation systems. There is historical impetus placed upon submarine activities in the northern waters (due to Cold War actions and events) and the debate over the sovereignty concerns of the north. However, there remains no direct information concerning transportation systems in the north. There is hardly any information on these systems even in a non-security framework. Following Huebert's format, this would support the claim that because there is little information to support any type of threat or vulnerability analysis, there should therefore be no reaction if there is no imminent threat.

The government of Canada seems to agree with this type of analysis because there is little to no information on Arctic security in general, let alone any identifying Arctic transportation security vulnerabilities. This is a dangerous mindset because it would leave Canada's north only as protected as a threat level posed to it. With little to no imminent threat assessment available, the Arctic faces exploitable vulnerabilities similar to those the North American airline industry faced on 9/11. This is not to say that the next potential terrorist attack will occur in the Arctic simply because it maintains minimal security measures. However, by ignoring safety concerns such as Arctic transportation security, Canada does leave itself more vulnerable by not having any security measures in place in the Arctic. The additional concern stems from the recent concentration of Al-Qaeda on transportation systems. More specifically, this terrorist organization has targeted the vulnerabilities present in Western democratic transportation systems. To draw similarities in order to distinguish a potential pattern, the landing of an Al-Qaeda aircraft in Iqaluit can be roughly

compared to the first attempt on the World Trade Center in 1993. The ability to penetrate with relative ease into the target and gather information while assessing the success of the operation can be likened to a "trial run" by Al-Qaeda to ascertain their ability to enter the Canadian north and what level of difficulty or resistance they would face. The landing of the small aircraft should be taken as a basis for comparison to determine weaknesses in Canadian security and reduce them so that the probability of a potential attack or entry into the north is minimized. This landing should be considered a threat to Canadian Arctic security, more specifically to transportation security, and have the appropriate measures applied in order to diminish the possibility of another occurrence. This event was peaceful, but there is no guarantee that the next entry into Canada's north by air or sea will be. Therefore, if the government requires the identification of a threat in order to respond with enhanced security measures, legislation defining security concerns in its Arctic and concern over its transportation systems, then the initial requirements suggested by Huebert have been met.

Another individual concerned about the condition of Canadian Arctic security is Pierre LeBlanc, former Commander Northern Area (ret.). His arguments for greater Arctic security stem from his personal experiences in Canada's north. He witnessed the vulnerabilities first-hand and the responses from the government. In a research paper entitled "Canada and the North - Insufficient Security Resources," he states that "[t]he issue with the Arctic security is that since the end of the Cold War, the level of human activity has increased significantly while at the same time security resources have been reduced."[254] His paper was released after 9/11, slightly over nine months after George's article was printed in the *Nunatsiaq News*, and it was considered a severe problem to LeBlanc at the time. Since then, there has been minimal, if any, change to Arctic

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[254] Pierre LeBlanc, "Canada and the North-Insufficient Security Resources," Council for Canadian Security in the 21st Century, Prepared for *To Secure a Nation: The Case for a New Defence White Paper*, Commander Northern Area (ret.), November 9, 2001, <http://www.ccs21.org/ccspapers/papers/leblanc-canada_north .htm> (July 6, 2005).

security vulnerabilities. LeBlanc attributes the sudden increase in Arctic significance to a number of factors. These are:

> "Global warming is making the Arctic more accessible and vulnerable;

> Valuable commodities such as oil and gas are becoming increasingly accessible and valuable;

> The value of water is increasing and will raise the likelihood of illegal export or theft;

> Drugs have already made their way into the Arctic. Given the level of security present today, the Arctic may be perceived as the open backdoor to Canada [because] drug entry into North America tends to follow the easiest way in;

> Illegal immigration continues to be a problem for Canadians. Again, the Arctic could be perceived as the open backdoor to Canada; and

> Long-range wide-bodied aircraft have started to fly directly over the Arctic now that they can stay airborne for extended periods of time."[255]

All of these extenuating circumstances only increase the vulnerabilities of the Canadian north and there is not enough surveillance to monitor these situations. LeBlanc's unease relates to the security of Arctic transportation systems, even in a general manner. Clearly, the condition of these systems worries him. This only strengthens the argument that Arctic transportation security is not allotted the attention it deserves. In fact, he asserts that "[a]lthough the Canadian [g]overnment claims sovereignty over all the landmass of the Arctic [a]rchilpelago and the waters of the archipelago using the straight baseline method, it does not appear to be willing to enforce it." The security measures in place are not adequate to even fulfil the government's claims over the north.

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[255] Ibid.

Therefore, if they are not able to satisfy the necessary security requirements for the areas they consider to be problematic, other areas that are overlooked are even more unprepared for potential threats. And while LeBlanc continues by advocating a shared Canadian security initiative in the north because "[i]t would be impossible for Canada to appropriately defend the second largest country in the world on its own[,]" Canada cannot rely solely on its alliances with its allies, the U.S. in particular, if they do not agree on the nature of the situation or the threat itself.[256] Realistically, Canada's claim over its northern waters and landmasses creates more difficulties with its allies than it solves. If Canada is unable to safely defend its north, let alone its transportation systems in its north, then it faces a bigger dilemma than simply human ecological harmony. The existing vulnerabilities become more attractive to those willing to exploit them. LeBlanc lists many recommendations at the end of his paper that he believes would alleviate the current security dilemmas in the north. These include more extensive roles for the Canadian forces, reliance on the U.S., and increased surveillance and monitoring measures.[257] Huebert and LeBlanc both agree with the necessity of better surveillance, electronic monitoring, and intelligence gathering. These measures would be significant first steps in a larger security framework for an Arctic security policy. Another result of the enhanced surveillance and monitoring strategies would be a potential dramatic increase in transportation security in the north. Even if this is not a direct planned effect of the final product, security measures relevant to transportation systems would improve considerably. It would have the possibility to cement Canada's sovereignty claims to its north with the added presence and monitoring measures. Arctic security issues, LeBlanc argues, should be allocated to the Canadian Coast Guard. The problem with this is that the CCG has been tasked with an overabundance of duties in Canada's maritime security measures already. They lack the

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[256] Ibid.
[257] Ibid.

resources, manpower, and funding for all of their tasks. Additional duties in the north would strain

their already over-extended forces. LeBlanc argues the need for the CCG in the north because

"[t]he red and white ships with the huge maple leaf are the most visible signs of Canadian

sovereignty in the Arctic."[258] While an increased presence is mandatory in order to gain more

control over the events and people in the north, it is impossible to distribute these assignments

without a great deal of funding and support from the government. Legislation is another hurdle that

must be overcome if the Arctic is to continue remaining such a significant section of our defence

and transportation initiatives. To fulfill LeBlanc's list of concerns and meet even a few of his

recommendations would require large amounts of funding, people, training, legislation, and

resources.

Andrea Charron, a PhD. Candidate at the Royal Military College of Canada, has

completed an interesting research paper on Canada's Arctic. This paper centres around what is, in

her opinion, one of the more important aspects of Canada's north - Canadian Arctic sovereignty.

She argues that "[t]he need to settle Canada's sovereignty claim has become more pressing since

the findings of a group of international scientists studying the effects of global warming were

released."[259] The crux of the issue is the international jurisdiction of the Northwest Passage. She

explains that

> Canada maintains it falls within historic, internal waters which gives Canada the
> exclusive right to decide which ships may and may not enter the Passage [while]
> the United States maintains the Passage is an international strait and therefore
> free access must be automatically and necessarily granted to all vessels entering
> the Passage.[260]

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[258] Ibid.
[259] Andrea Charron, "The Northwest Passage Shipping Channel: Is Canada's Sovereignty Really Floating Away?" Research paper presented at the Conference of Defence Associates Institute 7th Annual Graduate Symposia, *Royal Military College*, Kingston Ontario, October 29-30, 2004, <http://www.cdfai.org/PDF/Charron,%20Andrea-Paper.pdf> (January 21, 2006), 1.
[260] Ibid, 3.

Charron agrees with Franklyn Griffiths that southern Canadians concerned with Arctic security issues are alarmist in nature and can be found mainly in the Canadian Privy Council Office. Although she states that the majority of people referred to are 'southern alarmists' in the Privy Council Office, she also argues against the ideas presented by Arctic specialists such as Huebert. "Griffiths contends that the alarmists have made the ultimate slippery slope argument equating thinning ice to loss of sovereignty."[261] She continues with her argument by stating that "Griffiths has calculated that given the average thickness of the ice and even assuming the fastest rate of melting, the likelihood of the Passage becom[ing] ice-free, especially ice-free all year round is remote."[262] The melting rate of ice in the Passage is difficult to predict, but Griffiths' observations about the remote possibility of an ice-free Passage are not an accurate assessment of the changing nature of the Arctic climate.[263] There is a new project underway by the Technical University of Denmark to collect information on the effects of climate change on Arctic ice.[264] This study is called DAMOCLES, which stands for the "Developing Arctic Modelling and Observing

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[261] Ibid, 8.

[262] Ibid.

[263] Please note: While this thesis is only concerned with analyzing the first five years following 9/11, it is important to include recent information on the melting of Arctic ice. Griffiths' calculations concerning the melting rate of Arctic ice are not accurate. In September 2007, the University of Colorado at Boulder's National Snow and Ice Data Center said that Arctic sea ice has shrunk to its lowest levels since record keeping began - over one million square kilometers less than the previous low. Mark Serreze, the senior scientist at the University of Colorado at Boulder, said that "[t]he amount of ice loss this year absolutely stunned [them], because it didn't just beat all previous records, it completely shattered them." Many scientists are attributing the record melting to global warming, saying that the Arctic is of particular concern because it is believed that the effects of climate change will be more evident in the Arctic with more drastic results. One of the effects of the dramatic and dangerous changes in sea ice melting is that the "European Space Agency reported that Arctic sea ice coverage had shrunk enough to open the most direct route through the Northwest Passage." Charron and Griffiths' criticisms that Arctic specialists are merely being alarmist about the availability of the Northwest Passage to vessels are no longer valid. Clearly, the concern about an ice-free portion of the Northwest Passage has become a reality, if only during a specific time of year. Therefore, the suggestion of others taking advantage of a vulnerable north has become a more significant and acute problem. Taken from: Canadian Broadcasting Corporation News, "Melting of Arctic sea ice shatters record," *CBC News*, September 21, 2007, <http://www.cbc.ca/technology/story/2007/09/21/science-arctic-ice.html> (March 25, 2008).

[264] Jamais Cascio, "Damocles," *WORLDCHANGING.com*, January 23, 2006, <http://worldchanging.com/archives/004027.html> (June 18, 2007).

Capabilities for Longterm Environmental Studies."[265] The mission statement of DAMOCLES is

clear and concise. It states that

> DAMOCLES is an integrated ice-atmosphere-ocean monitoring and forecasting
> system designed for observing, understanding and quantifying climate changes in
> the Arctic. An advanced observing system will be developed and deployed,
> providing for the first time, synoptic, continuous and long-term monitoring of the
> lower atmosphere, sea-ice and upper ocean. It is designed to evaluate and
> improve global and regional climate forecasting models based on validation,
> assimilation and integration of observed data. The ultimate goal will be to
> lengthen the lead-time of extreme climate changes predicted to occur in the Arctic
> within this century according to the Arctic Climate Impact Assessment (ACIA) and
> thus to improve the ability of society to mitigate for its impacts.[266]

 In essence, this project "seeks to reduce the uncertainties regarding the effect of global warming-

induced climate disruption on the polar regions, with a current focus on the north pole."[267] This

initiative was created because Climate scientists were recognizing that global warming affects the

poles more than the equatorial and temperate regions.[268] While DAMOCLES will focus on both

poles, the current increase in temperatures in the north pole have "led to the disappearance of vast

stretches of ice pack, eliminating areas once used by Inuit communities and threatening wildlife."[269]

This study does not show that the Northwest Passage will be entirely ice-free in the near future, but

it shows that Griffiths' calculations do not coincide with the new evidence of the effects of global

warming on the Arctic ice. However, if the Passage is ice-free or virtually ice-free, even if it is only

for a small part of the year, the weaknesses present will only become more pronounced during

these times if people wish to target the vulnerabilities in Canadian security measures.

Charron is correct in stating that the reliance of a shipping company on an ice-free Arctic

route is not going to occur in the short-term time period. But, other users of the Passage who have

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[265] Ibid.
[266] Ibid.
[267] Ibid.
[268] Ibid.
[269] Ibid.

varied interests, including exploiting the vulnerabilities, would view the inconsistent ice melting of

the Passage as an additional opportunity for easier access to the north. The bigger security

concerns are not stemming from shipping vessels with the intent of innocent passage. The

potential threats arise with smaller vessels unwilling or unable to report their entry or movement in

the Arctic waters, unidentified non-Canadian submarines performing surveillance missions, small

unidentified aircraft, and other vessels that do not report their pathway throughout the northern

waters.

The *Arctic Climate Impact Assessment* report asserts that "Arctic average temperatures

[have] risen at almost twice the rate as the rest of the world in the past few decades."[270] Although

this report does not give specific numbers for the rate of melting of the ice in the Arctic, it shows

that the warming effects on the Arctic climate are approximately double the warming trends in the

rest of the globe. It does not speculate that the ice-free Arctic situation will occur in the next

decade or two. The accelerated melting of the ice in the Arctic only creates further emphasis on

the present vulnerabilities, as well as potential new and innovative potential threats. Although it

may be an exaggeration to suggest that the Canadian north will be ice-free within the next decade

and a half, it is not alarmist, as Griffiths and Charron believe, to emphasize the vulnerabilities that

could be easily exploited (and already have been) by potential terrorists. In reality, small watercraft

and aircraft have already penetrated the north. Kyle Christensen states in a report that "[o]verall,

there has been a 30-40 percent decrease in Arctic ice volume since the 1970s."[271] Clearly, this

decrease in ice volume is significant and does not support Charron and Griffiths' opinion that some

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[270] Susan Joy Hassol et al, "Impacts of a Warming Arctic: Arctic Climate Impact Assessment," The Press Syndicate of the University of Cambridge: Cambridge, 2004, <http://amap.no/acia/> (July 6, 2005), 8.
[271] Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada*, February 2005, <https://webmail.shaw.ca/attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX &uid=1169&number=2&filename= Christensen%20-%20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), 12.

Arctic specialists are reacting like alarmists. Other areas of Charron's paper may not put enough emphasis on security initiatives in relation to Canadian Arctic sovereignty. While she concedes to only analyzing above water shipping for the sake of space and time, there is no mention of any of the security breaches, let alone their effects on Canada's sovereignty claim. Charron argues that the concerns and important issues that are drawing a significant amount of the interest in the Arctic are a call by many to immediate action. In her opinion, the process of domestic policy and legislation should be an intensive, well thought-out, time-consuming process to come to the best policy for Canada's sovereign claim on its north.[272] It is a valuable recommendation to encourage a well-thought piece of legislation, but if an investigation and discussion into Canada's position is too lengthy, then the vulnerabilities only further entice people looking to exploit them. Another recommendation by Charron is for the U.S. to drop its claim that the Northwest Passage is an international strait in order to obtain a more secure northern perimeter for North America. She states that Canada could control its internal waters by employing the *Arctic Waters Pollution Prevention Act*. "Conveniently, if all vessels are subject to search for pollution control verification purposes, would-be terrorists, smugglers and criminals might consider an alternate route."[273] The suggestion that potential terrorists, smugglers, and other criminals looking to exploit the north would be deterred because of a pollution control check upon their vessel is not realistic. It may deter those plans that are not very organized, however, the majority of successful terrorist attacks and criminal acts are well planned, well organized, and well executed.

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[272] Andrea Charron, "The Northwest Passage Shipping Channel: Is Canada's Sovereignty Really Floating Away?" Research paper presented at the Conference of Defence Associates Institute 7th Annual Graduate Symposia, *Royal Military College*, Kingston Ontario, October 29-30, 2004, <http://www.cdfai.org/PDF/Charron,%20Andrea-Paper.pdf> (January 21, 2006), 1.
[273] Please note this was a paraphrasing of Griffiths. Andrea Charron, "The Northwest Passage Shipping Channel: Is Canada's Sovereignty Really Floating Away?" Research paper presented at the Conference of Defence Associates Institute 7th Annual Graduate Symposia, *Royal Military College*, Kingston Ontario, October 29-30, 2004, <http://www.cdfai.org/PDF/Charron,%20 Andrea-Paper.pdf> (January 21, 2006), 12.

Charron is relying heavily upon the assumption that all vessels that enter Canadian internal waters will report their voyages and willingly subject themselves to a pollution verification procedure. It would be close to impossible to verify the purposes of every vessel that enters Canadian waters, let alone to check every vessel that enters the north. Even with help from the U.S., this is an unrealistic recommendation. It is true that support from the U.S. may help with the enforcement of Canadian Arctic security measures. However, without Canada taking an active role in its own Arctic security, there remain many vulnerabilities to be exploited. Canada cannot simply ask the U.S. to accept its claim for overall security and sovereignty, as Charron suggests, because the U.S. is aware that Canada does not have the resources, people, or legislation to enforce Canadian, let alone American, concerns in the north without help.[274] It is difficult to agree with Charron's argument about Canada's sovereignty position for two reasons. The first is that, with the circumstances surrounding our Arctic waters (internal waters versus international strait), the current resources, people, and legislation in place, Canada is leaving itself exposed to potential security threats. The second reason is that Canada cannot make a valid claim on the sovereignty of its Arctic region without maintaining a stable, effective, and significant security initiative to sustain secure northern waters. Without a more pronounced Arctic security policy, Canada's sovereignty claim in its north cannot be seriously considered by the international system.

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[274] Andrea Charron, "The Northwest Passage Shipping Channel: Is Canada's Sovereignty Really Floating Away?" Research paper presented at the Conference of Defence Associates Institute 7th Annual Graduate Symposia, *Royal Military College*, Kingston Ontario, October 29-30, 2004, <http://www.cdfai.org/PDF/Charron,%20Andrea-Paper.pdf> (January 21, 2006), 18.

The Arctic from America's Perspective

The American position on its Arctic territory and Canada's Arctic position are not as publicly disputed in the U.S. Although Huebert is a Canadian Arctic specialist, he readily identifies the American concerns in the Arctic. These include:

> ➤ The status of the Northwest Passage;
>
> ➤ The maritime boundary between Alaska and Yukon;
>
> ➤ The submarine activity in the Canadian Arctic; and
>
> ➤ The continental shelf.[275]

The status of the Northwest Passage and the submarine activity have been discussed previously, therefore this section will briefly examine the relevance of these concerns to Arctic transportation security. The boundary dispute between Alaska and the Yukon involves potential oil and gas resources in a wedge of disputed territory.[276] Huebert states that "[d]uring the 1970s there was considerable speculation that the reserves in this region could be extensive."[277] The volatility of the oil markets lately and the technological advances in the oil industry combined with the climate changes in the Arctic are making these resources a significantly more realistic endeavour. The American concern over the boundary dispute has little to do with Arctic transportation security. It is more of an energy security dispute. This does not remotely adhere to the strong homeland defence strategies which have become a cornerstone of U.S. defence policies. The last issue concerning the continental shelf[278] dispute is also predicated on energy security and resources.

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[275] Rob Huebert, "Northern Interests and Canadian Foreign Policy," *Canadian Defence & Foreign Affairs Institute*, Associate Director Centre for Military and Strategic Studies, University of Calgary, 2003, <http://www.cdfai.org/PDF/NORTHERN%20 INTERESTS%20AND%20CANADIAN%20FOREIGN%20POLICY.pdf> (January 14, 2006), 2-11.
[276] Ibid, 7.
[277] Ibid.
[278] "Virtually all continents are surrounded by a gently sloping submerged plain called the continental shelf, which is an underwater extension of the coastal plain. The continental shelves are the regions of the oceans best known and the most exploited commercially. It is this region where virtually all of the petroleum, commercial sand and gravel deposits,

The crux of the issue is the central features that uphold a state's rightful claim of its continental shelf. Huebert explains that

> [i]f a coastal state has a continental shelf it can claim rights over the sea-bed and subsoil of the shelf to a distance of 350 nautical miles from its coast. This gives such a state the right to the resources found on the sea-bed and subsoil, including all oil and gas deposits.[279]

The problem here is that the Canadian continental shelf claim may conflict with the Russian and American claims. The dramatic climate changes are making the region more accessible, which may cause tensions between the three states. Again, this does not have close associations with American Arctic transportation security issues. The two issues more directly related to Arctic transportation security involve submarine activity and the Northwest Passage controversy. The submarine activities of the U.S. are not being discontinued in the near future.[280] To further compound the issue, locating submarines in Canada's northern waters is very challenging. "The challenge of locating a foreign submarine in Canadian waters that does not want to be found is so high that short of a grounding or other type of accident it is unlikely that one would be located."[281] This is a security measure that offers some surveillance and monitoring of the Canadian Arctic waters. However, another concern is that if the missions of the submarines are not transmitted to the Canadian government or security agency, then the submarines cannot play a significant role in actively defending the waters from potential threats. At least this initiative is related to Arctic transportation, if not the domestic security issues specifically. Finally, the debate over the Passage

and fishery resources are found. It is also the locus of waste dumping. Changes in sea level have alternatingly exposed and inundated portions of the continental shelf. Continental shelves vary in width from almost zero up to the 1,500-km-wide (930-mi) Siberian shelf in the Arctic Ocean. They average 78 km (48 mi) in width. The edge of the shelf occurs at a depth that ranges from 20 to 550 m (66 to 1,800 ft), averaging 130 m (430 ft)." Taken from Reference.com, "Ocean," *Columbia Electronic Encyclopedia*, Columbia University Press, <http://www.reference.com/browse/columbia/ocean> (September 19, 2007).

[279] Rob Huebert, "Northern Interests and Canadian Foreign Policy," *Canadian Defence & Foreign Affairs Institute*, Associate Director Centre for Military and Strategic Studies, University of Calgary, 2003, <http://www.cdfai.org/PDF/NORTHERN%20INTERESTS%20AND%20CANADIAN%20FOREIGN%20POLICY.pdf> (January 14, 2006), 11.

[280] Ibid, 9.

[281] Ibid, 10.

has repercussions relating to Arctic transportation security, but they are not the primary concern in this dispute. It can be said that unless the transportation security concerns can be satisfied, the sovereignty debate cannot be taken seriously because Canada does not have the resources, people, or legislation to defend this territory effectively. And while the U.S. does have the necessary resources and people, the legislation does not support this type of concern. Therefore, while it is close to impossible to find American opinions and ideas concerning Arctic transportation security, or Arctic matters in general, Canadian Arctic specialists like Huebert discuss the significant American concerns.

The only official documentation that is easily accessible to the public is the *Arctic Climate Impact Assessment* (ACIA) Report. American participation in the creation of this report is significant; they account for twelve of the twenty-six top contributors in the assessment integration team and the lead authors of the full science report. Therefore, it can be concluded that some American opinions and viewpoints on the Arctic are represented by this report. There are ten key findings examined in this report. These include:

➤ The Arctic climate is now warming rapidly and much larger changes are projected[;]

➤ Arctic warming and its consequences have worldwide implications[;]

➤ Arctic vegetation zones are very likely to shift, causing wide-ranging impacts[;]

➤ Animal species' diversity, ranges, and distribution will change[;]

➤ Many coastal communities and facilities face increasing exposure to storms[;]

➤ Reduced sea ice is very likely to increase marine transport and access to resources[;]

➢ Thawing ground will disrupt transportation, buildings, and other

infrastructure[;]

➢ Indigenous communities are facing major economic and cultural

impacts[;]

➢ Elevated ultraviolet radiation levels will affect people, plants, and

animals[;]

➢ And multiple influences interact to cause impacts to people and

ecosystems.[282]

Clearly, eight out of the ten key findings are characteristic of the non-traditional security issues

centred on environmental and human ecological concerns. Only the sixth and the seventh findings

are related to Arctic transportation systems in general. Even if they address transportation in the

Arctic, there is no mention of security issues related to transportation systems either operating in

the Arctic or traversing the Arctic. This suggests that the security of the Arctic transportation

systems is not a significant concern to the U.S. The ACIA report, combined with the American

Arctic disputes identified by Huebert, demonstrate that American Arctic issues are inclined to

environmental or human ecological concerns.

Canadian Arctic Legislation

A comparison of government legislation is required to create a more accurate account of

their official positions regarding Arctic transportation security. The Canadian government released

a report created by the Standing Committee on Foreign Affairs and International Trade focused on

an examination of circumpolar co-operation. This report, entitled "The Seventh Report to the

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[282] Susan Joy Hassol et al., "Impacts of a Warming Arctic: Arctic Climate Impact Assessment," The Press Syndicate of the University of Cambridge: Cambridge, 2004, <http://amap.no/acia/> (July 6, 2005), 10-11.

House – Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the

Twenty-First Century," was conceived and completed in 1997.[283] This is the latest official and in-

depth government legislation concerning Canada's official position on its Arctic. It is an extensive

report that includes chapters on international Arctic co-operation, Canadian foreign policy, the

Arctic council, post-Cold War co-operation in the Arctic, preserving the environment, development

and economic opportunities for Arctic communities, public-interest roles in the Arctic, supporting

Arctic initiatives, strengthening bilateral co-operation with Arctic neighbours, an effective

multilateral approach for circumpolar international relations, and conclusions and

recommendations.[284] The only portion of the report that discusses Arctic security in general is the

chapter on post-Cold War co-operation in the Arctic. This chapter attempts to deter the traditional

security concerns from the Cold War as changing and almost non-existent while advocating a

change to other, more non-traditional security initiatives because the Russians no longer pose any

type of risk even closely associated with Cold War tensions. Huebert, considered an Arctic

specialist even in this time, attached an appendix to this chapter at the conclusion of the report.

His ideas expressed support for the new direction of Arctic security as posed by the report, but he

continues to advocate the importance of more traditional security measures in the north.[285] Even in

the changing nature of Arctic security, Huebert attempts to focus the Committee's report on the

continued importance of traditional Arctic security measures. This shows that, even with expert

[283] Standing Committee on Foreign Affairs and International Trade, "The Seventh Report to the House: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century," *House of Commons*, April 15-17, 1997, Title Page, <http://www. parl.gc.ca/committees352/fore/reports/07_1997-04/fasce.html> (July 6, 2005), title page.
[284] Standing Committee on Foreign Affairs and International Trade, "The Seventh Report to the House: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century," *House of Commons*, April 15-17, 1997, Table of Contents, <http://www. parl.gc.ca/committees352/fore/reports/07_1997-04/toce.html> (July 6, 2005).
[285] Rob Huebert, "Appendix 4: Canada and the Circumpolar World: Meeting the Challenges of Cooperation into the Twenty-First Century: A Critique of Chapter 4-'Post-Cold War Cooperation in the Arctic: From Interstate Conflict to New Agendas for Security.' Omitted Arctic Security Issues," *A Report and Recommendations for Canadian Foreign Policy in the Canadian Arctic*, Department of Political Science/Strategic Studies Program, University of Calgary, 1997, <http://www.carc.org/calgary/a4.htm> (July 6, 2005).

advice to the contrary, the Canadian government knowingly abandoned traditional Arctic security measures for a non-traditional security initiative. While these issues are equally important, the current international setting does not rely on environmental and human ecological security measures to keep their population and borders safe; 9/11 brought the importance of homeland security to the forefront. With no new Committee reports or further analyses, it is clear that the Canadian government does not feel that traditional security measures in general, or Arctic transportation security initiatives specifically, should be allotted additional attention and legislation.

Another out-of-date Canadian publication is a report released by Transport Canada in April 1997. This report, entitled "Guidelines for the Operation of Tankers and Barges in Canadian Arctic Waters," has its benefits and its drawbacks.[286] Clearly, this report is concerned about the operation of tankers and barges in Canada's north, with an emphasis on environmental protection.[287] The concern over Canadian Arctic security was concentrated on transport vessels in the north, more specifically the safety regulations required to achieve safe passage. The Canadian government is demonstrating consistency with its other significant Arctic report released later in that same year by following similar arguments to Arctic security issues. However, it does not address traditional security concerns in the north, nor does it apply to current Arctic transportation security concerns. A significant concern with this report is similar to the concern over the Committee report; they have not been updated and there is no new legislation. Therefore, security

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[286] Please note: a tanker can be defined as "a ship, plane, or truck constructed to transport liquids, such as oil, in bulk." American Heritage Dictionary of the English Language, "Tanker," *Taken from The American Heritage Dictionary of the English Language*, Houghton Mifflin Company, 2000, dictionary.com, <http://dictionary.reference.com/search?q=tanker> (February 26, 2006). And a barge can be defined as "a long, large, usually flatbottom boat for transporting freight that is generally unpowered and towed or pushed by other craft." American Heritage Dictionary of the English Language, "Barge," *Taken from The American Heritage Dictionary of the English Language*, Houghton Mifflin Company, 2000, dictionary.com, < http://dictionary.reference.com/ search?q=barge> (February 26, 2006).
[287] Transport Canada, "Guidelines for the Operation of Tankers and Barges in Canadian Arctic Waters (Interim)," *Transport Canada: Prairie & Northern Region, Marine*, April 1997, <http://www.tc.gc.ca/MarineSafety/TP/TP11663/TP11663E.pdf> (July 6, 2005).

measures for Canadian transportation systems in the Arctic are more vulnerable because there is no documentation or recognition of the problem by the Canadian government.

The only current documentation of the Canadian government that addresses new security concerns in the north is the *Canadian International Policy Statement* released in 2005, more specifically in the chapter entitled "A Role of Pride and Influence in the World: DEFENCE". It is encouraging that the government has created a new defence strategy for itself. This new defence paper concentrates on the unique international setting post 9/11, the new vision for the Canadian Forces, a new domestic security agenda, an emphasis on the Canada-U.S. defence relationship, and the new international role for the Canadian Forces.[288] It addresses homeland security concerns; however, when a problem is identified in the paper, the problem is explained in a way that suggests it is already being taken care of by some arm of the Canadian Forces in a successful manner. Therefore there is no need to make dramatic or costly changes. This attitude is prevalent throughout the paper. It is simply saying that the Canadian government recognizes the new challenges and problems and they are eager to solve them, although the current security measures are more than adequate to satisfy the security initiatives. Realistically, this paper is nothing more than academic fluff. It does not accept that some of the present security initiatives and concerns may not be the most accurate assessments of the potential threats to Canada and Canadians. The report centres on the role of the Canadian Forces, with minimal mention of new or innovative security measures to defend against multiple weaknesses in general without any mention of Arctic transportation security specifically. This cannot be regarded as an adequate assessment of the current defence requirements for the country because it does not, in any way, address the many security flaws and vulnerabilities that currently exist.

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[288] Government of Canada, "Canada's International Policy Statement – A Role of Pride and Influence on the World: Defence," *Government of Canada*, 2005, <http://merln.ndu.edu/whitepapers/Canada_Defence_2005.pdf> (January 22, 2006), Table of Contents.

From November 2004 to June 2005, the government of Canada issued three news releases relating to its north. The first news release, entitled "Canada Welcomes New Assessment of Arctic Climate Change," revolved around the release of the ACIA report in 2004. It offered glowing reviews of the study and described Canada's involvement in the research and scientific analysis of the report.[289] The context of the news release is that the government is committed "to work with its territorial partners and Aboriginal communities to develop a comprehensive Northern Strategy, which will provide a framework for the federal government to consolidate its focus and attention in the [n]orth."[290] If this new "Northern Strategy" is based upon the ACIA report, then the government is affirming its belief that non-traditional security measures are trumping more traditional security-minded issues. The problem is that this report does not detail any security concerns in the Arctic. The concentration of this news release was Canada's position on climate change and that it planned to follow the report closely in order to reassess Canada's role for its north. However, this does not begin to address the Arctic security concerns in the north. The second news release in March 2005 is more closely related to security issues than the November release. It discussed a significant sovereignty patrol to be carried out in the high Arctic; it is "an emergency response exercise simulating an air crash in a remote area."[291] The release quoted patrol leader Major Stewart Gibson asserting that "[t]his sovereignty patrol is part of regular operations conducted by Canadian Forces Northern Area [... and i]n addition to the training value, such patrols reinforce our presence in the Canadian high Arctic."[292] It is difficult to believe that a training exercise that occurs over sixteen days reinforces Canadian presence in its Arctic or its

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[289] Government of Canada, "Canada Welcomes New Assessment of Arctic Climate Change," *Environment Canada, Government of Canada*, November 8, 2004
<http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid=107629&keyword=Arctic&keyword= Arctic&> (July 6, 2005).
[290] Ibid.
[291] Government of Canada, "Arctic Sovereignty Patrol to Include Air Crash Exercise," *National Defence, Government of Canada*, March 16, 2005, <http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid
=132369&keyword=Arctic&keyword=Arctic&> (July 6, 2005).
[292] Ibid.

sovereignty claim. Although this exercise is helpful in training Canadian forces how to react in an

emergency situation, it is more likely that this exercise was an example to demonstrate to the

concerned public that the government is not neglecting its north. However, a sixteen-day exercise

cannot reassert a Canadian claim to a sovereign Arctic territory. Once again, there is no mention

of security concerns in the Arctic in general or transportation systems distinctively. As of March

2005 it appears that the Canadian government considers environmental, human ecological, and

sovereignty concerns as critical northern issues.

The final news release issued in June 2005 explains the general ideas of Project Polar

Epsilon, "a $59.9 million Joint Space-Based wide area surveillance and support capability that will

provide all-weather, day/night observation of Canada's Arctic region and its ocean approaches."[293]

This new security and surveillance initiative is scheduled to launch a new satellite, RADARSAT 2 in

2007. The archives of ArcticNet contain a news release issued on August 29, 2005 that described

the new satellite's capabilities in slightly more detail. Its predicted launch is summer 2007[294], the

program's lifespan is seven years, it is able to pass over the North Pole fourteen times daily, and it

will be capable of recording images at a rate of 3,000 km^2 per second.[295] On the surface these

news releases offer the most encouragement from the government that Arctic security is an issue

and this is a viable solution. Then-Defence Minister Bill Graham stated that "[t]he project will

advance Canada's surveillance capability and increase Canada's ability to safeguard Canadian

[293] Government of Canada, "Project Polar Epsilon Will Enhance Canada's Surveillance and Security Capability," *National Defence, Government of Canada*, July 2, 2005, <http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid =151199&keyword =artic& keyword=Arctic&> (July 6, 2005).
[294] MacDonald, Dettwiler and Associates Ltd., "About RADARSAT-2," *radarsat2.info*, <http://www.radarsat2.info/about /mission.asp> (June 18, 2007). Please note: As mentioned previously, RADARSAT-II was launched on December 14, 2007, approximately six months later than the predicted launch date.
[295] Stephen Thorpe, "New satellite to keep watch over Canadian Arctic," ArcticNet, *Globe and Mail*, August 29, 2005, <http:www.Arcticnet-ulaval.ca/index.php?fa=News.showNews&home=4&menu=55&sub=1&id=81> (January 14, 2006).

borders."[296] The June news release reports that the capabilities will include ship detection,

environmental sensing and ocean intelligence, and satellite data reception and processing.[297] It

would also help ensure the security of transportation systems in the Arctic. The Canadian

government is marketing this new initiative as "a transformational first step for Canada in using

space to support the sovereignty and security of the Arctic region, including maritime security and

continental defence together with the [U.S.] at the strategic level."[298] However, this initiative is not

as promising as it appears. In an article dated March 2002 that was printed in the April 1, 2002

Jane's International Defence Review, there was an analysis of new security threats.[299] Canadian

security issues were assessed and analyzed from a military-based perspective. Under the heading

of "Research Projects" Hobson and Lok concluded their article by mentioning that "Canada is

looking to space to help meet its surveillance challenge."[300] To meet this challenge, "MacDonald

Dettwiler's RADARSAT-2, which is a high-resolution synthetic-aperture radar satellite and which

will carry a DND ground-moving target indicator, is to be launched in 2003."[301] Simply put, this

satellite project has been delayed at least once for a period of approximately three years. This

plan does appear to address security concerns in the Arctic and transportation issues, but the

reality of the situation is that the satellite launching has been delayed at least once, which makes

this plan unreliable. Therefore, the Canadian government is not any closer to establishing a new

security initiative for the transportation systems operating in the north.

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[296] Government of Canada, "Project Polar Epsilon Will Enhance Canada's Surveillance and Security Capability," *National Defence, Government of Canada,* July 2, 2005, <http://www.news.gc.ca/cfmx/view/en/index.jsp?articleid=151199&keyword =artic& keyword=Arctic&> (July 6, 2005).
[297] Ibid.
[298] Stephen Thorpe, "New satellite to keep watch over Canadian Arctic," ArcticNet, *Globe and Mail,* August 29, 2005, <http:www.Arcticnet-ulaval.ca/index.php?fa=News.showNews&home=4&menu=55&sub=1&id=81> (January 14, 2006).
[299] Sharon Hobson and Joris Janssen Lok, "Surveying increased threats," *Jane's International Defence Review, Jane's Information Group,* March 18, 2002, <http://www8.janes.com.ezproxy.lib.ucalgary.ca/Search/documentView.do?docId= /content1/janesdata/mags/idr/history/idr2002/idr00222.htm@current&pageSelected=allJanes&keyword=Arctic%20secu rity&backPath=http://search.janes.com/Search&Prod_Name=IDR&> (January 22, 2006).
[300] Ibid.
[301] Ibid.

The final official Canadian document available that discusses Arctic security concerns is a report released by the Operational Research Division of Defence R&D Canada entitled "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges." The report provides an excellent introduction of problematic areas in Canada's Arctic territory; an accurate description of the Arctic; an analysis of climate change, natural resources, and northern sovereignty; other challenges facing the Arctic; and a detailed conclusion.[302] It concerns the research and conclusions of the Arctic from a Canadian Naval perspective, which is logical because the amount of water surrounding Canada requires the assistance of the Navy in homeland security initiatives. While the Navy correctly identifies key issues and concerns, and discusses the importance of enhanced security in Arctic transportation systems, its conclusions contradict the basis of the entire report. The report states its conclusions in its executive summary.

> In a 25-year timeframe, emerging sovereignty and security challenges could require government-wide and/or Canadian Forces (CF)-wide attention. Although most security issues in the North are of a domestic nature and do not directly involve the Navy, it will likely have to respond to monitoring economic activities and preventing environmental pollution. The long-term global affect of global warming on the Arctic environment will have a significant influence on the development of other issues in the region, but the outcome of this trend is yet to be determined. There is little benefit for the [g]overnment to invest significant resources in acquiring platforms with a second year or multi-year ice capability. As this study demonstrates, the Canadian Navy should maintain its interoperable multi-purpose combat-capabilities, and ensure it remains as expeditionary force. It is these attributes and capabilities that will serve the Navy best in addressing the challenges envisaged in the North in a 25-year timeframe.[303]

After reviewing the evidence and challenges that the Navy addresses and argues in the study, the Navy's conclusions should include some initial suggestions for a homeland security defence

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[302] Kyle D. Christensen, "Arctic Maritime Security and Defence: Canadian Northern Security Opportunities and Challenges," *Defence R&D Canada: Operational Research Division-Strategic Analysis Research Team, Directorate of Maritime Strategy, Government of Canada*, February 2005, <https://webmail.shaw.ca/attach/Christensen_-_Arctic_Report_ TR2005-01.pdf?sid=9iC9HnbJRA&mbox=INBOX &uid=1169&number=2&filename= Christensen%20-%20Arctic%20Report%20TR2005-02.pdf> (February 10, 2006), Table of Contents.
[303] Ibid, iii-iv.

initiative and their willingness to help in certain areas where possible. However, this report argues that the Navy does not determine any role that it can fulfill in the new Arctic security environment within the next quarter century. The costs of additional Arctic security initiatives on behalf of the Navy are a concern, among many other reasons listed in the lengthy conclusions.[304] At first this report had encouraged hope for transportation systems operating in the Arctic, but it has concluded in a similar fashion with other official government and forces documentation relating to this topic. Overall, the enticing portions of this report conclude in a similar manner when analyzing other Canadian positions in its north, it leaves a sense of disappointment and vulnerability in the general subject of homeland security.

American Arctic Legislation

When comparing American legislation to Canadian legislation in relation to homeland security issues, the American legislation frequently is more thorough and the government's position is more defined in each area it analyzes. However, this is not the case for Arctic transportation security policies. There is little to no official documentation available to the general public on the American perspective of Arctic security. Two main conclusions come to mind in this situation. The first is that the U.S. government is not concerned at all over the Arctic issues that are concerning Canada or should be concerning Canada. The absence of official policies available to the public could suggest that American homeland security does not find the Arctic a considerable threat to its overall security. This is an unlikely scenario because there is considerable evidence mentioned by many scholars on American Arctic concerns, like Huebert. The second, and more likely, theory is that the American government has extensive Arctic security policies that are similar to other security policies that are available to the public, but the government does not wish to publicize

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[304] Ibid, iv, 47-59.

them. The American government may consider its Arctic policies and security concerns are too secretive to divulge to the public to be accessed by anyone interested in their position. This could be considered a measure to protect its territory, claims, resources, and military endeavours from prying minds, or they may just be ignoring the Arctic for other security concerns. In any case, the lack of information in this homeland security area is curious because the U.S. has published many other documents on official legislation concerning many other security-minded matters, and several of them are even accessible online. This does not show that the U.S. government has no interest in the Arctic and northern borders of North America. Simply, it seems they do not wish to share their policies and security measures with the general public at this time. If this is the case, then clearly the security surrounding the northern part of North America is an integral part of their country for many reasons and they remain silent to keep their strategy secretive.

An Enduring Issue

The prevailing problem that has persisted throughout this analysis is the near-complete lack of attention to traditional Arctic security, let alone the security measures in place surrounding Arctic transportation systems. There remains little to no information on Canadian security initiatives in its north and there has been no government legislation created for roughly ten years. The international setting has changed dramatically, as have the threats that face the north. The north requires a re-examination of Arctic concerns similar to the re-evaluations at the end of the Cold War. Because the official position in Canada has not changed since 1997, the Canadian government, policy makers, scholars, and the majority of the public have dedicated their studies to non-traditional security initiatives. This is not to say that these issues are any less important to overall Canadian security or that these issues are not relevant any longer. These issues are receiving the attention they require. However there is no information available on traditional

security concerns in the Arctic, which suggests that traditional security concerns are considered much less important. It may be because they were never considered a concern before, or perhaps there were not enough answers to redefine the security concerns. Either way, there remains no information available on transportation systems and their security measures in the north. This is unexpected because there is an adequate amount of information from government, scholarly, and public sources to create a realistic analysis of the present situations in other transportation security areas including airports, port, maritime, and borders. This can increase the likelihood of the exploitation of one or more vulnerabilities because potential terrorists have the knowledge that the Canadian government has little to no security surveillance or monitoring in its north. The Canadian approach to its north almost invites attacks or unknown and illegal entries into North America with its lack of knowledge, legislation, and support. Therefore, it demonstrates that the re-evaluations that occurred in each of these areas post-9/11 are not being done because Canada generally does not believe that the vulnerabilities present in the Arctic are as significant as the vulnerabilities that exist in other transportation areas. Canada cannot let this attitude prevail and only react when there is a significant problem. 9/11 has proven that the world has changed considerably since the 1990s. Assuming an attitude of complacency is the worst approach to homeland security. While it is true that the Arctic is not necessarily a main target for a potential terrorist attack, the increased security initiatives implemented in southern and central North America may force terrorists to adopt an innovative plan to fulfil their objectives. This is why transportation security in the Arctic is essential to having a well-rounded homeland security and defence strategy. The complete lack of information in the U.S. in this area is not as daunting as the Canadian case because of the likelihood that the Americans have a comprehensive Arctic security policy that they do not wish to release to the public. The lack of recognition in Canada of the changing security environment leaves Canada more vulnerable than the U.S., which appears to keep its policies secretive.

In the final analysis, the future importance of the North American Arctic territory is dramatically different between Canada and the U.S. Comparisons between other transportation security sectors cannot be employed in a similar fashion in this area. Canada's position is available to the general public through government legislation, scholarly studies, Arctic specialists, and the media, however, this information is sparse and does not give a comprehensive perspective of the situation in the north. The American status is significantly different. There is no information that is accessible to the public directly from government legislation, there are no scholarly articles, and there are no media articles or concerns. This dramatic difference in Arctic strategies suggests that the Canadian and American perspectives of the Arctic may vary more seriously than they do in other transportation systems.

The Canadian Government's Renewed Interest in the Arctic?

It is clear that Arctic security creates an enormous problem for the Canadian government overall; it shows dramatically more concern for non-traditional security issues in the north. This is an unacceptable situation because Canada is one of the top Western targets for terrorists groups, especially Al-Qaeda. There is no information provided by the government to demonstrate their concern for any other measures of security in the Arctic, even though there is evidence to show that vulnerabilities exist in the Arctic that require more traditional security initiatives implemented to avoid exploitation. If there is no investigation of the changing security parameters of the north, then Canada cannot say that Arctic transportation security is not a problem. The Canadian government's legislation is too outdated to be relevant; the government cannot begin to think that the outdated legislation is going to provide a good comparison for the necessary actions and objectives because there are no markers to compare against. There is no new or existing research on this specific topic. This creates a substantial problem because Canada is essentially ignoring

these issues and increasing its vulnerabilities. Canada's lack of northern capabilities is highly

publicized by its almost complete attention to non-traditional concerns, which shows potential

terrorists that there is minimal Canadian presence in its north. The Rangers' presence is not nearly

sufficient because they are a reservist component of the Canadian Forces.

However, the Canadian government continues to demonstrate its confidence in the

Rangers and their ability to protect the north. The government under the leadership of Prime

Minister Stephen Harper announced in mid-February 2006 that Canadian troops would begin to

patrol the Arctic.[305] "Up to 52 soldiers in five patrols will snowmobile 4,500 kilometres, building

airstrips on the sea ice, cataloguing buildings they spot on the way, and laying the groundwork for

two High Arctic bases."[306] The explanation given by Colonel Norman Couturier, former

Commander of Canada's Northern Forces, is that "[t]he more military activities we have in that

region, the better it is for assertion of sovereignty."[307] Therefore, the fifty-two-member force is

responsible for fulfilling the requirements of this mission to satisfy the need to protect Canada's

sovereignty claim in its north. It is encouraging that the Canadian government combined with the

Northern Forces are taking a greater interest in the north. This article argues that this is a direct

reaction to an "increased use of northern skies and waters."[308] Realistically speaking, Operation

Nunalivut is meant more for public display than Arctic security. The Rangers are equipped with

snowmobiles and do not have the capabilities to deter an unreported landing or docking in the

Arctic. They are covering a vast amount of territory throughout their operation; however, they do

not offer any additional enforcement claims for northern sovereignty, nor do they pose a significant

force. These fifty-two Rangers will be divided into five separate groups who will follow separate

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[305] Bob Weber, "Canadian troops to patrol Arctic," *Released by the Canadian Press,* Section A, Top News, Calgary: Calgary Herald, February 10, 2006, A7.
[306] Ibid.
[307] Ibid.
[308] Ibid.

missions and only rendezvous after a short time.[309] This is merely a gesture by the Canadian

government to appear to be devoting attention to Arctic security. Realistically, the fifty-two Ranger

force is not capable of defending the sovereignty of the Arctic from air or water landings in this type

of mission. They do not have the resources nor the number of people required to enforce the

general details of the operation described in this article.

It is encouraging that the Canadian government is planning an operation to advance into

the Arctic, even if this operation is only an attempt to show the public that there are measures

being taken in the Arctic to improve northern security. There is important information relevant to

the originality of this operation on the homepage of the Canadian Rangers website; it states that

"[t]he Canadian Rangers are part-time reservists who provide a military presence in remote,

isolated and coastal communities of Canada."[310] Some of the main responsibilities of the Rangers

listed include "protecting Canada's sovereignty by reporting unusual activities or sightings,

collecting local data of significance to the Canadian Forces, and conducting surveillance or

sovereignty patrols as required."[311] Clearly, Operation Nunalivut is not a new type of mission for

the Rangers; this is their job and a significant portion of their responsibilities. The mandate states

that the "Rangers provide a military presence in those sparsely settled northern, coastal and

isolated areas of Canada that cannot conveniently or economically be provided for by other

components of the Canadian Forces."[312] They recognize that they are responsible for operations

and missions that the other divisions of the Canadian Forces are unwilling to undertake for a

number of reasons, including convenience. Therefore, this new Arctic operation is not a breaking

new development in the new government's Arctic security policies, nor is it a restructuring of how

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[309] Ibid.

[310] Canadian Rangers, "Chief of Reserves and Cadets: Canadian Rangers," *Department of National Defence, Government of Canada,* July 16, 2003, <http://www.rangers.forces.gc.ca/pubs/rangers/intro_e.asp> (February 26, 2006), Overview.

[311] Ibid.

[312] Ibid.

Arctic security and sovereignty are redefined. This proves that Operation Nunalivut is merely a political technique to assure the public that northern security is a critical issue to the new government. The Rangers do not have the capabilities to satisfy the current responsibilities assigned to them with the current concentration of non-traditional security policies. They would essentially exhaust these forces because they are over-extended with their current responsibilities and do not have the capabilities necessary to undertake a more traditional security role. However, the Rangers are not the only portion of the Canadian Forces being associated with the north. The Canadian Navy believes that their resources would be better employed in overseas operations and that these actions would be a significant role in Canada's homeland security defences. The R&D report asserts that unless there is a desperate situation in the Arctic and there is no other alternative, the Navy does not wish to play any part in securing Canada's Arctic, let alone its northern transportation systems. The report's conclusions suggest that the Canadian Coast Guard (CCG) assume virtually all responsibilities for Arctic and maritime security and defence. The CCG does not have the people, resources, or official government legislation to regulate and designate its duties and responsibilities. It appears that any task that is considered undesirable is being passed on to the CCG. It is unreasonable to believe that the CCG can uphold all of its official duties while being saddled with the extra responsibilities attributed to Canada's concentration on its homeland security and defence post-9/11. They have become over-extended, leaving Canadian vulnerabilities exposed and more susceptible to attack or entry because there is no one to perform adequate defence commitments. No institution in Canada has official command over the Arctic and its security initiatives, nor are there policies to follow regarding security issues for transportation systems. Even with the unofficial allocation of defence responsibilities, there are not enough people or resources in order to be effective. The north remains, in essence, completely vulnerable. No one is willing to take responsibility for security in Canada's north. A threat to

Canada's homeland security and defence is not solely from a potential attack against a target in the Arctic; the Arctic could be used as an entrance into North America if other passages further south implement increased security measures. This is the equivalent of Canada leaving its backdoor wide open to potential terrorists. There is no guarantee that terrorists will take advantage of northern vulnerabilities because the Arctic has a severe climate and unique terrain. However, the landing of an Al-Qaeda aircraft in 1993 shows that this terrorist group has already been successful in penetrating the Arctic. This alone is enough to implement new security initiatives to increase the degree of difficulty to enter the north or deter a potential attack and not remain stagnant at a planning stage like the RADARSAT-2 surveillance and monitoring project.

Conclusions

This chapter shows that the Arctic remains a vital part of North America in areas that include human security, environmental security, sovereignty, and homeland security and defence. An analysis of Canadian and American Arctic legislation combined with current policies and perspectives reveals that significant Arctic security concerns remain. Even though it is difficult to assess the American position because of a lack of information, there is no reassurance from the government that important security and defence matters have been addressed. In Canada, Arctic security concerns are not being resolved with relevant government legislation. Because Canadian Arctic security is changing while the government's position remains the same, this shows that Canada's north is vulnerable to terrorist threats.

The silence of American Arctic policy does not necessarily mean that there is no Arctic policy, nor does it show that the U.S. is not allocating any attention to the northern border of North America. It strongly suggests that the American government is not willing to disclose its interests and security policies in the north, perhaps to conceal their vulnerabilities in the north or because

they are simply neglecting it. Canadian Arctic security specialists and scholars describe American Arctic security concerns, but there is no information by American institutions on U.S. policies. Strategically, this is a significant move because the American government has openly published many other reports and legislation dealing with the security of other transportation systems. It insinuates that the American northern situation, policies, and concerns may not be ideal for the U.S. and therefore it does not wish to expose their vulnerabilities in a post-9/11 world where America must remain vigilant in its homeland security.

There is clearly a definable problem in Canadian Arctic transportation security, but Canada constantly leaves itself vulnerable because it has not re-evaluated its Arctic security policies. The well-documented Arctic concerns of Canada make it easier for potential terrorists to single-out the northern vulnerabilities and how to exploit them to help achieve their objectives. Even the so-called new Arctic operations are not enough to provide any changes to Arctic vulnerabilities; they simply reinforce the northern security policies already in place. It appears that Canada, the Canadian government in particular, is ignoring this problem. Scholars and the media have begun to question Canadian Arctic security in general, with little mention of transportation, but this is not enough to enforce a critical re-evaluation by policy-makers in Canada and the forces who allocate the new security measures. However, if no one is willing to even discuss this problem, then Canada places itself in a situation similar to the airport security situation prior to 9/11. The attitude of complacency, mixed with a stubborn resolve not to address new Arctic security concerns or reassess the changing northern conditions, creates a dangerous position post-9/11. In the end, Canada is leaving itself wide open to potential terrorist attacks (either in the Arctic or to gain entrance to North America) because it does not support virtually any security forces' presence in the north and it refuses to recognize this new issue. This problem will not disappear on its own. It requires adequate attention, research, analysis, and new security policies in order to minimize

northern security vulnerabilities. Without this, Canada can only hope that the unreported

entrances, landings, and sightings are perpetrated by those who only have innocent passage in

mind.

Conclusions

This thesis is centered on the changes in the security of transportation systems in Canada and the United States post-9/11. Specifically, it focuses on the changing measures to airport, maritime, and Arctic transportation security from September 2001 until September 2006. 9/11 brought transportation security to the forefront; events such as the Madrid commuter train bombing in 2004, the London transit bombing in 2005, and the foiled airplane plot at London's Heathrow Airport in 2006 ensured that transportation security remained a government priority. How far have the governments of Canada and the United States come in establishing acceptable modifications to increase security in these principal transportation systems in order to minimize their vulnerabilities to further potential terrorist attacks?

The Canadian Position

The government of Canada has had a mixed response to calls for increased transportation security post-9/11; leading up to September 2006, the government of Canada had held back on many of its original initiatives to increase security at Canadian airports. The security measures that were implemented can be considered band-aid solutions to the problem. Simply put, they are not sufficient to deter a terrorist attack. With no proof to show that these security measures are not enough to deter such an attack, the Canadian government appears content to sit back and hope that terrorists do not wish to exploit the vulnerabilities in Canadian airports. This leaves Canadian passengers unprepared in the event of a terrorist attack against the Canadian airline industry.

In comparison, Canadian maritime transportation security has had dramatic changes. One of the principal alterations was Canada's responsibilities in the BPG. This organization helped Canada to keep its security costs down while increasing its surveillance, intelligence, and

capabilities. Its new commitment to change NORAD's mandate to include maritime warnings shows that the Canadian government believes that its maritime security needed significant changes and that it was willing to cooperate with the U.S. to achieve its goals. However, significant vulnerabilities still remained by September 2006. While its surveillance and intelligence-gathering capabilities have considerably increased with Canada's involvement in the BPG, Canada still needs to implement its own capabilities. This is important because NORAD's maritime warning system only provides an alert to a potential threat in Canadian waters, if it is capable of identifying the threat before it's too late. Canada cannot simply be reliant upon this security agreement to satisfy its monitoring capabilities. In addition, legislation continues to be a problem because it does not coincide with the current security environment. The government of Canada has taken a step in the right direction in regards to maritime transportation security, but significant vulnerabilities still remain.

The analysis of Canadian Arctic transportation security revealed an alarming problem. Leading up to September 2006, the Canadian government's position remained stagnant while Arctic security was changing. The government was still relying on outdated northern security policies with few changes or additions to these policies. However, scholars and the media had begun to question the viability of these policies, which only draws more attention to the situation. This creates further problems because vulnerabilities such as unreported entrances, landings, and sightings are well-documented and are easily accessible to potential terrorists who can use this information to help them achieve their objectives. Canadian Arctic transportation security requires immediate attention; the government of Canada needs to reassess its current position and take the necessary measures to increase Arctic security. It cannot afford a complacent attitude and hope that no one takes advantage of the vulnerable north; Canada is not in a position to deter a terrorist attack in the Arctic.

These three transportation systems all contain overlapping problems in their security that should concern Canadians. These new problems include insufficient funding to pay for all of the new proposed security measures, not having enough people to be able to successfully carry out the measures, and at times it is not clear how the government will implement the new policies at all. This leaves Canadians in a precarious position because they are the ones that will suffer if these vulnerabilities are exploited.

The American Position

The American government had similar reactions to Canada in the changing security environment post-9/11. In comparison to Canada, the U.S. has created a more stringent approach to airport security. The 9/11 terrorist attacks occurred on their homeland and the government set forth to ensure that this type of disaster would not happen again. While it is virtually impossible to guarantee complete protection against a terrorist attack, the American government has created and enacted many new security policies to increase the protection of American airline passengers. All of these policies were specific in their intent and heavily enforced at airports across the country. The U.S. was able to create and maintain a higher standard of airport security post-9/11.

Maritime security is an important issue to the U.S. The American government enacted a significant piece of legislation to enhance maritime security through new policies and security measures. However, there were problems with these new policies. The most significant problem was that the new legislation placed the full responsibility of maritime security and defence with the USCG. Therefore, the government is not burdened with enforcing the new maritime security legislation and has a scapegoat if the USCG fails in its assignments. This is not the most conducive environment to enhancing maritime security. However, the American government made up for this by their involvement in the BPG. The effort, time, manpower, and organization that this

agreement involved did emphasize the importance of maritime security to the government. This commitment was extended into the 2006 NORAD mandate revisions, further showing that the American government is dedicated to keeping its waters safe.

The American Arctic security position is difficult to discern because the majority of this information is not readily available to the public. However, this lack of information does not mean that there is no Arctic policy or that the American government does not consider the security and defence of the northern North American border to be unimportant. Based on this government's response to homeland security and defence post-9/11, it is more likely that there is a comprehensive security plan that the government is unwilling to publicize regarding their interests in the north. A significant concern about the American government's silence on Arctic security measures could also include the possibility that there are significant weaknesses in its north and it does not wish to divulge these to the public. In any event, American Arctic security should be a high priority for the U.S. government.

The American government has not guaranteed the security of these three transportation systems, but it is unrealistic to believe that security can be guaranteed. There are also problems with implementing some of the new legislation, designating responsibilities to the correct authorities, and paying for the more expensive security measures. However, it has been successful in implementing enhanced security measures in airports and at sea to deter another terrorist attack on its home soil.

In the End

The first striking conclusion of this thesis was the quality and type of information available to the public which included the new legislation, government progress reports, and committee reports. It is a problem because this sensitive information is easily accessible to anyone with

access to the internet. These reports described new security concerns, outlined new security policies, and detailed existing vulnerabilities within each transportation system. The fact that this information is widely available creates security concerns for both governments. Potential terrorists have access to significant amounts of information on different transportation systems, which include the vulnerabilities and how easily they can be exploited. With this in mind, it would be sensible for both governments to increase security measures in these transportation systems to deter a potential terrorist attack. Airports have proven to be a viable target for terrorists, but other systems are just as susceptible. Canada and the U.S. are fortunate that this information has not been used against them to date.

In the final analysis, Canada has not taken the threat to its transportation systems seriously enough. Its proximity to the U.S., economic ties with the U.S., and democratic traditions make Canada a viable target for terrorists. It has to recognize these risks as being serious threats to its homeland security and take a more hard-nosed approach to its defence. The airport, maritime, and Arctic transportation systems are vulnerable to terrorist attacks. While some measures have been implemented to strengthen security at airports and at sea, many of the proposed measures have not been implemented. This leaves significant gaps in security that can be exploited by those who wish to inflict harm. In addition, Canada's Arctic is incredibly vulnerable to anyone wishing to take advantage of the numerous vulnerabilities to carry out an attack or to simply gain access into the country. As Canada has not established acceptable modifications to these systems to minimize potential attacks, the weaknesses that remain leave Canadians vulnerable to a terrorist attack. In comparison, the American government has implemented several security measures in airport and maritime security, which increases the likelihood of deterring further terrorist attacks. While no system can ever be completely secure, the U.S. has made progress in establishing acceptable modifications to increase security in these two transportation

systems. The same cannot be said for American Arctic transportation security because it is difficult to find any information on this topic for the analysis. However, it is doubtful that the U.S. has not increased security measures to protect their northern assets. From this analysis, it is clear that the American government has implemented more security measures and taken the terrorist threat more seriously than the Canadian government. The Canadian government often enacted minimum security measures that would appease critics but ultimately did not increase security to any great extent. In the end, if terrorists are committed to their cause, they will find a way to succeed. However, Canada and the U.S. can put themselves in a better position by enhancing their security measures and decreasing their vulnerabilities to be better prepared to defend against or deter a terrorist attack at home.

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