Exceptional Circumstances

Canada's Maritime Response

to the Cuban Missile Crisis

October-November 1962

By Michael Whitby

Directorate of History and Heritage

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Foreword

You are about to read what may be the least well-known story in the history of the Royal Canadian Navy (RCN). Most Canadians, and indeed much of our current RCN family, would be surprised to learn that our Navy played a significant role in the Cuban Missile Crisis.

It is a familiar enough story, though Canada's part in it is not as well known. In October 1962, the United States learned through aerial surveillance that Soviet nuclear missiles were being installed in Cuba, just 90 miles from the American mainland. In response, President John F. Kennedy ordered what was called a quarantine, in effect a blockade, of the shipping bound for Cuba. What followed was a nearly two-week long standoff between the United States and the Soviet Union, likely the closest the world has ever come to all-out nuclear war. In the end, the crisis was resolved peacefully, but that end was by no means certain to the sailors and aircrew involved in the crisis. And I'm sure it will be a surprise to many to hear that quite a few of those sailors and aircrew were serving in the RCN and Royal Canadian Air Force (RCAF).

The Cuban Missile Crisis offers some valuable lessons for today's Canadian Armed Forces. It showed that the plans to surveil and defend the oceans bordering Canada may need to be executed with little or no warning – this episode was an important reminder that such actions are, after all, the fundamental role of a Navy. This crisis response also demonstrated the value of training and readiness, which allowed our Navy to respond quickly to the events that were rapidly unfolding. It was also a showcase for the close cooperation between the RCN and the RCAF, something that continues to this day. And it displayed the high degree of coordination with our US Navy allies, a relationship that is still vital today. Close bilateral military relations allowed for smooth integration of American and Canadian anti-submarine surveillance operations.

We are all grateful that the Cuban Missile Crisis never devolved into nuclear war. No one will ever know for sure if the quarantine operations contributed substantially, slightly or not at all to that outcome. What is certain, however, is that a great many sailors and aircrew of the RCN and RCAF suddenly surged into action on a true war footing in October 1962. This book tells their story.

Angus Topshee
Vice-Admiral
Commander Royal Canadian Navy
Ottawa, October 2022

Preface

This study by Michael Whitby is a fitting marker of the 60th anniversary of the Cuban Missile Crisis. In it, Senior Naval Historian Whitby offers three important insights. First, by shedding new light on the Royal Canadian Navy's and Maritime Air Command's role during those fraught weeks in late 1962, he advances our understanding of Canada's place in postwar geopolitics. Whitby's case study demonstrates, in concrete terms, how axes of alliance were evolving in the mid-twentieth century. As global power structures recalibrated following the devastation of the Second World War, the crumbling of formal European empires, and the retrenchment of the Cold War, Canada's relationship with the Royal and US Navies, respectively, shifted in response.

Understanding where we have come from is key to understanding where we are today. Whitby's examination of Canada's maritime role during the Cuban Missile Crisis helps us to interpret current defence dynamics, at both the global and domestic levels. "Exceptional

Circumstances" focuses in on a brief period: just a few short weeks in the autumn of 1962. It nonetheless represents a chapter in the story of today's RCN and maritime air forces. Indeed, Whitby's piece is a complement to the larger, comprehensive study of Canada's postwar Navy, which is soon to be published by the Directorate of History and Heritage. This forthcoming volume is the third in the official history series of Canada's naval service, and examines the RCN from the end of the Second World War until Unification in 1968.

The official histories of Canada's Armed Forces serve a number of objectives, but primary amongst these is the documentation of decisions taken and their resulting outcomes – both the good and the bad. Such accounts are valuable to current and future military leaders, for they offer a wealth of data that can inform contemporary decision-making. This leads us to the second insight offered by Whitby: the critical (and timeless) importance of operational readiness. In October 1962, with little notice, Canada's maritime forces reacted decisively to an emergency, demonstrating their capacity to apply advanced training and professionalism in very short order. Arguably, this reminder of the importance of readiness could not be more timely. Ostensibly a commemorative study marking the anniversary of a Cold War crisis long since past, "Exceptional Circumstances" is – unfortunately – glaringly relevant to current affairs. At the time of writing, defence authorities around the world are not only grappling with the ever-present competing pressures of recruitment, retention, and force modernization, they are doing so against a backdrop of heightened global tension and a real possibility of large-scale conflict. As Whitby deftly demonstrates, historical case studies like this one are poignant 'lessons learned'. Taken together with other sources of intelligence, military history should be seen as a means to inform strategic direction and resource prioritization.

Mobilizing military history in support of operational effectiveness is impossible, however, without records. This is Mr. Whitby's final key insight. Without reliable, authentic, and (ultimately) openly available historical sources, the lessons learned by our predecessors are lost. This is currently a very real challenge in the writing of postwar military history. The last half-century has seen an immense, ever-accelerating increase in the complexity of information creation and management. This is particularly true in the world of national security. The factors are too nuanced and numerous to list here, but include: the advent of national and regional freedom of information and personal data protection regimes; asymmetrical security classification practices amongst international allies; the speed of information technology evolution; the speed and volume of data generation; the power of data aggregation; the rise of cyber-terrorism; and the continuous whittling away of administrative support across all institutions. In such a complex environment, it is much harder to create, safeguard, and make publicly available a trustworthy archive documenting military operations. But we must, if our Armed Forces are to remain accountable to both the women and men in uniform, and to the people they serve. A comprehensive archival record of military operations, open to public scrutiny, reinforces institutional integrity. To reprise Charles P. Stacey's early mission statement, by preserving and promulgating an accurate and reliable report of operations, we hold in trust for citizens an essential record of the truth.

With "Exceptional Circumstances", Michael Whitby celebrates an underappreciated chapter in Canadian naval history. In so doing, he both marks a significant anniversary and pays tribute to the competence and professionalism of our maritime forces. His work demonstrates how historical research and writing can contribute to a strong and dynamic institution through recognizing and honouring the service of members, and helping leaders reflect on the strategic and operational challenges they face.

D. Price, DPhil
Director, History and Heritage
Department of National Defence
Ottawa, Canada
October 2022

Author's Introduction

In his monthly report of proceedings for November 1962, Lieutenant-Commander Alan Lowe, captain of the frigate HMCS *La Hulloise* observed "The hidden reserves of loyalty of the Canadian sailor when he senses firm leadership and a whiff of danger, have probably been forgotten by many officers."[1] Lowe was reflecting on his sailors' response to the emergency sparked by the Cuban Missile Crisis – the "whiff of danger" – when the world seemed on the brink of a nuclear war that could be nothing short of catastrophic following the American discovery that the Soviet Union was placing missiles capable of hitting targets in the U.S. with little or no advance warning. It seemed as if the fears of the Cold War had reached a horrible culmination.

This study focusses on the activities of Canada's maritime forces in the Atlantic and Pacific during that crisis. Under what the maritime commander described as "exceptional circumstances", for a three-week period from late October through to mid-November 1962, ships of the Royal Canadian Navy (RCN) as well as aircraft from Royal Canadian Air Force's Maritime Air Command (MAC) and the naval air branch carried out vital surveillance operations over the vast ocean expanses bordering the east and west coasts of Canada. Although they made critical contributions to the defence of Canada during a period of almost unique emergency, the extent and nature of their activities, shrouded in secrecy at the time, are still not widely known or understood. Based upon ongoing research for the official history of the RCN, this study outlines the nature of Canada's maritime operations during the crisis as well as the rationale behind them. Particular focus is on command relations between naval leaders in Halifax and Ottawa, the potential threat posed by the submarines and auxiliary vessels of the Soviet Union, and the near-seamless co-operation between our maritime forces and those of the United States. This is a study of maritime operations and thus avoids other aspects of Canada's experience during the crisis, including the role of Prime Minister John Diefenbaker's government, diplomatic relations between Ottawa and Washington, deliberations over various levels of alert as well as contributory factors such as Canada's fragile economic situation, and the vital subject of civil defence. Focus is on the role Canada's maritime forces played in conducting surveillance operations in our ocean areas and their efforts to defend them, if it became necessary. Lessons emerge, some timeless, but all of which assume added relevance given the turbulence of contemporary times. Pre-eminent is the requirement to maintain surveillance activities on, above and below the surface of Canada's maritime domain, as well as preserving the capability to do so effectively – we must know what is happening in our oceans. Based upon the chilling events of the autumn of 1962, and today, this seems a perpetual, imperative, duty.

[1] *La Hulloise*, ROP, 6 December 1962, DHH, 81/520 HMCS *La Hulloise*

A word must be said about the availability of primary sources. Historians normally have access to a wide range of operational records but that is not the case with this study. First and foremost, the bulk of the Canadian naval and MAC operational records associated with the crisis were destroyed in its aftermath. For instance, Lieutenant-Commander Alec Douglas, Squadron Operations Officer for the Seventh Canadian Escort Squadron during the crisis, and later official historian of the Canadian Forces and the Department of National Defence, was ordered to destroy his squadron's operational records relating to the crisis. When one searches the message files of individual warships then attached to the Atlantic fleet there is nothing but gaps. The same applies to the operation orders and after-action reports commonly submitted by ships and squadrons after specific operations. Moreover, there are only a very few personal memoirs that touch on the crisis, presumably for the same reason. The reason behind the destruction or who ordered it remains unclear – it must have been an official near or at the top of the defence leadership chain – but it creates the regrettable situation where historians do not have a full range of sources to study an episode of utmost national importance. Vital history is compromised. Compounding the issue, security regulations in both Canada and the United States hinder access to some of the key documentation that did survive; in the case of the latter, records that were once available to researchers and which shed light on aspects of Canada's role, are now closed. So, too, are the bulk of Soviet records. Despite the limitations of primary documentation, one can nonetheless arrive at an accurate and balanced account of the role of Canadian maritime forces in the crisis as well as the decisions that prompted them – the situation reports or 'sitreps' sent to Ottawa from the maritime commander in Halifax are particularly valuable in this regard. Nonetheless, we lack the detailed post-operational reports and personal accounts that are typically the life-blood of narrative operational history.

This work has profited from the kind assistance of many. At the Directorate of History and Heritage (DHH), Drs Dara Price and Steve Harris, Director and Chief Historian respectively, reviewed the manuscript and gave welcome encouragement, support, and advice. Two members of the naval history team at DHH conducted valuable preliminary research: LT (N) Jason Delaney detailed the movements of Canadian warships, something that never before been fully established, while Dr Isabel Campbell provided context to strategic and high-level decision making. Others at DHH also contributed, including Warren Sinclair, Emilie Vandal and the archives team; Rafael Sandoval and the IT staff who produced the manuscript; translators Elizabeth LaBoeuf and Olga Tchoukarine; and Major Mathias Joost who provided details of RCAF activities. Dean Boettger and Dr Richard Mayne of the RCN and RCAF history and heritage staffs respectively responded to research queries, while Professor Sean Maloney of the Military College of Canada, shared his unparalleled insights into the Cold War. In the United States, Drs Randy Papadopoulos, Curtis Utz, and Frank Blazich facilitated research at US Naval History and Heritage Command in Washington D.C., while Norman Polmar and his coterie of naval enthusiasts clarified information about Soviet submarine activity in the North Atlantic. Dr Ben Lombardi and Capt(N) Norm Jolin, RCN (Ret'd), who when captain of the frigate

HMCS *Montréal*, graciously took members of DHH's naval history team to sea, made valuable comments on the draft manuscript. Finally, any historian working this topic must acknowledge the ground-breaking work of Peter Haydon. a true gentleman scholar, who after serving as Navigating Officer in the submarine HMS *Alderney* during the turbulent days of October-November 1962, pioneered research into Canada's role in the Cuban Missile Crisis – all those who follow owe a debt of gratitude. To these and the many other people I pestered during the preparation of this study, I extend sincere gratitude; of course, responsibility for any errors rests squarely on my shoulders.

Michael Whitby
Senior Naval Historian DHH
October 2022

"Exceptional Circumstances" Canada's Maritime Response to the Cuban Missile Crisis October-November 1962

On Wednesday 17 October 1962 a Canadair CL-28 Argus of the Royal Canadian Air Force's Maritime Air Command patrolled low over the grey seas of the Northwest Atlantic southeast of Sable Island. Depending upon one's viewpoint, the massive Argus was either majestic or ungainly – all would agree its deep thunderous drone made an enormous racket – nonetheless it was the most capable maritime patrol aircraft in Canada's arsenal, and likely amongst its western allies as well. Its *raison d'être* was anti-submarine warfare (ASW) and ocean surveillance, and its seventeen aircrew had cutting edge sensors and weaponry at their disposal for missions that typically lasted some twenty-hours due to the Argus's long endurance. Although the Cold War was well into its second decade, the Soviet Union had only recently begun deploying submarines across the Atlantic, so such patrols usually came up empty, but on this day sporadic returns from radar, acoustic, magnetic, and diesel exhaust sensors indicated a 'probable' submarine contact. The Argus aircrew succeeded in maintaining intermittent contact as it tracked the 'probable' over a period of several hours until it finally went 'cold'. Under normal circumstances, such an interception, even if unconfirmed, would have been cause for excitement at Canada's maritime headquarters at Halifax, but in the increasingly turbulent days of mid-October 1962, the excitement was attended by alarm.

Not unlike a dark cloud hanging perpetually on the horizon, in the early 1960s the spectre of nuclear war was a pervasive cause of anxiety. As just one symbol of impending catastrophe, the so-called Doomsday Clock, which designated nuclear weapons as the most dangerous threat to humanity, ticked close to midnight. Canada was not immune from this apprehension. Besides being the neighbour and close ally of the United States, it would be caught in the crossfire of any nuclear exchange between the US and the Soviet Union; in addition, several of its military bases and government centres could be considered worthwhile targets. So great was the level of concern that in November 1961 the Canadian government held a nation-wide drill to test the response of its civil defence systems against a nuclear attack. The scenario for Exercise Tocsin B was a supposed attack by some 260 Soviet nuclear bombers accompanied by two waves of ballistic missiles launched from bases in Siberia or from submarines in the North Atlantic. Such was the level of realism accorded the exercise, at 1900 hours Eastern Standard Time 13 November, more than 500 air raid sirens across Canada began to wail, and families practised taking shelter from an impending nuclear attack – seeking refuge under basement stairs was a preferred location. Assessing the probable impact from such an attack, officials assumed fourteen cities would be hit by nuclear weapons and some 2.6 million Canadians killed.[2] That such an exercise was held with the full awareness and participation of the general population speaks to the widespread trepidation of nuclear war. That

[2] For Tocsin B see James Powell, "Exercise Tocsin B-1961" at https://www.historicalsocietyottawa.ca/publications/ottawa-stories/changes-in-the-city-s-landscape/exercise-tocsin-b-1961; Sean M. Maloney, "Dr. Strangelove Visits Canada: Project Rustice, Ease and Bridge, 1958-1963", *Canadian Military History*, Vol 6. No 1, (1997), and Andrew Burch, *Give Me Shelter: The Failure of Canada's Cold War Civil Defence* (Vancouver: UBC Press, 2012), p. 177-183.

chill would soon take on realistic dimensions.

The unrivalled capability of the Canadair CL-28 Argus made it Canada's most valuable contribution to CUBEX. (DND)

On 16 October 1962, eleven months after Tocsin B and a day prior to the Argus tracking the possible submarine off Nova Scotia, United States President John F. Kennedy received irrefutable intelligence that the Soviet Union was constructing offensive nuclear ballistic missile sites on the island of Cuba, less than 150 kilometres from the continental United States. Thus began what has come to be known as the 'Cuban Missile Crisis', an event that formed the apex of the Cold War and brought the United States and the Soviet Union to the brink. Other nations became caught up in the ripples of the crisis, and due to the close bi-lateral defence relationship between Canada and the United States, Canadian maritime forces became fully involved. Under what Rear-Admiral K.L. Dyer, Commander Maritime Forces Atlantic, described as "exceptional circumstances", the Royal Canadian Navy (RCN) and Maritime Air Command embarked upon operations that extended from the Gulf of Alaska to northern California in the Pacific, and from Davis Strait to the Virginia Capes in the Atlantic. It was their greatest test of the Cold War.

Origins of the Crisis

The immediate roots of the crisis extended to January 1959 when Cuba, a *de facto* American protectorate since the Spanish-American War in the final years of the previous century, underwent a revolution that brought to power a radical government led by Fidel Castro, which established close relations with the Soviet Union and the Communist bloc. In April 1961, an invasion of the island by a group of some 1,400 Cuban expatriates, armed and trained by the US Central Intelligence Agency (CIA), ended disastrously, and the 'Bay of Pigs' incident, as it became known, ratcheted up tensions over Cuba. At their first face-to-face summit at Vienna, Austria in June 1961, Soviet Premier Nikita Khrushchev berated Kennedy for the abortive invasion, saying that it only "strengthened" the Communist affiliation of the Castro government. When Kennedy rejoined that the United States had attacked Cuba "because it was a threat to American security", Khrushchev ridiculed the American leader by asking how can "six million people really be a threat to the mighty US?"[3] The Soviet leader then raised the American deployment of JUPITER Intermediate-Range Ballistic Missiles (IRBMs) in Turkey. If the United States, pondered Khrushchev, could position missiles in NATO countries close to the Soviet Union and yet believe that it was "free to act" against Cuba, it was creating a dangerous precedent of intervention in the "internal affairs of other countries" that might lead to a "miscalculation."[4]

In the months that followed, while the United States government debated what course to take regarding Cuba, the Soviet Union began providing extensive military aid to Castro. As part of this effort, in late April 1962 Khrushchev decided to position nuclear missiles in Cuba to increase Soviet striking power, deter a potential American invasion, and counterbalance the deployment of US forces in Europe. Castro agreed to this deployment, and by the late summer of 1962, as part of Operation ANADYR, Soviet freighters were bound for the island carrying troops, armoured vehicles, MIG-21 fighters, IL-28 light bombers, surface-to-air (SAM) missiles and, most critically, medium-range ballistic missiles (MRBMs). The first such weapons – SS-4 SANDAL MRBMs with a range of 1,770 kilometers – were apparently landed on 19 September 1962.[5]

Naval forces were also meant to form a key component of the Soviets' Cuban venture. In May 1962, senior officers introduced an ambitious plan to establish a new fleet group based in Cuba, comprising two cruisers, four destroyers, four GOLF I guided missile submarines, and four FOXTROT patrol submarines, supported by an oiler and two submarine tenders – if nothing else, the

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3 Memorandum of Conversation Between President John F. Kennedy and Premier Nikita Khrushchev, 3 June 1961, in Laurence Chang and Peter Kornbluh (eds), *The Cuban Missile Crisis, 1962: A National Security Archive Documents Reader* (New York: The New Press, 1998), p. 12.

4 Memorandum of Conversation between President John F. Kennedy and Premier Nikita Khrushchev, 3 June 1961, in Chang and Kornbluh, *The Cuban Missile Crisis, 1962*, p. 12-13.

5 Chang and Kornbluh, *The Cuban Missile Crisis*, p. 362-370. See also Steven L. Reardon, *Council of War: A History of the Joint Chiefs of Staff 1942-1991* (Washington: NDU Press, 2012), p. 225-226.

plan emphasizes the new global reach of the Soviet navy.[6] By September 1962 the forces for Operation KAMA, as the naval component of ANADYR was dubbed, had been scaled back to just the submarines – it was thought, likely correctly, that the movement of surface ships would "attract the attention of the entire world"[7]—but the number of GOLFs was increased to seven. There also seems to have been consideration of using a nuclear submarine to escort the vessels transporting nuclear warheads to Cuba, but that did not occur. Ultimately, only four FOXTROTs from the 69th Submarine Brigade deployed on Operation KAMA, setting out from their base in the Kola Inlet on 1 October 1962; Soviet naval leaders decided to delay the departure of the GOLF missile boats until the FOXTROTs arrived at their destination.[8]

The Soviet build-up in Cuba had not gone unnoticed, in fact a CIA intelligence bulletin from 22 August 1962 described it as "The most extensive campaign to bolster a non-bloc country ever undertaken by the USSR."[9] One consequence was an upsurge in Soviet shipping across the Atlantic: June 1962 featured a fifty per cent increase in the number of Soviet merchantmen putting into Cuban ports from the previous month, and arrivals rose even higher in the two months that followed. According to the history of the Cuban Crisis written by the staff of the US Atlantic Fleet, "September was the peak month, with 66 Soviet ship arrivals recorded. This three-month total of 151 ships exactly equaled the total Soviet ship arrivals for the first six months of 1962."[10]

At least some of the rationale for this increase became readily apparent. In August, American

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[6] Historians Norman Polmar and K.J. Moore, who had access to Russian participants and records, maintain that four HOTEL class ballistic missile submarines were also to be based on Cuba. See, Norman Polmar and K.J. Moore, *Cold War Submarines: The Design and Construction of US and Soviet Submarines* (Washington: Brassey's Inc, 2004), p. 204. For a chronology of Soviet submarine activity during the crisis see, National Security Archives, *The Submarines of October, An Electronic Briefing Book*, Part IV, "Chronology of Submarine Contact During the Cuban Missile Crisis" October 1, 1962 - November 14, 1962, at https://nsarchive2.gwu.edu/NSAEBB/NSAEBB75/subchron.htm

[7] M. Zakharov and V. Fokin, "Report on the Progress of Operation ANADYR", 25 September 1962, at www.nsarchive.gwu.edu

[8] See the translated Soviet documents, Minister of Defence R. Malinovsky and Marshal M. Zakharhov, "Initial Plans for Soviet Navy Activities in Support of Operation ANADYR", 18 September 1962; Marshal M. Zakharov and Admiral V. Fokin, "Report on the Progress of Operation ANADYR",25 September 1962, and Northern Fleet, "About Participation of Submarines 'B-4', 'B-36', 'B-59', 'B-130' of the 69th Submarine Brigade of the Northern Fleet in the Operation Anadyr during the period October-December 1962, December 1962, all www.nsarchive.gwu.edu.. These documents were unearthed and made public by the Russian historian Svetlana V. Savranskaya who has done ground-breaking work on the activities of Soviet submarines during the crisis; see especially her article, "New Sources on the Role of Soviet Submarines in the Cuban Missile Crisis", *The Journal of Strategic Studies* Vol 28 No 2 (April 2005), p. 233-259. See also Jan Drent, "Confrontation in the Sargasso Sea: Soviet Submarines during the Cuban Missile Crisis", T*he Northern Mariner Vol* XIII, No. 3, (July 2003), 1-19.

[9] Quoted in Joseph F Bouchard, *Command in Crisis: Four Case Studies* (New York: Columbia University Press, 1991), p. 87.

[10] Office of the Chief of Naval Operations, "The Naval Quarantine of Cuba, 1962", (1963), p. 1, at https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/n/the-naval-quarantine-of-cuba.html ; and USN Atlantic Command, "CINCLANT Historical Account of Cuban Crisis", 29 April 1963, p. 5, Directorate of History and Heritage (DHH), 87/95.

intelligence sources reported that missile installations were being constructed on Cuba, but the consensus was that they were surface-to-air (SAM) missile sites, thus defensive in nature. However, some senior intelligence officials became concerned that even though SAMs were defensive weapons, they might be intended to defend “something of very high value”, which could be offensive ballistic missiles. US military planners had developed scenarios for action against Cuba, but the potential offensive missile threat gave this increased momentum.[11] In a news conference on 13 September, President Kennedy issued a clear warning that if Cuba was transformed into "an offensive military base of significant capacity for the Soviet Union," the United States would do "whatever must be done to protect its own security and that of its allies."[12] On the first day of October, US Secretary of Defense Robert McNamara and the Joint Chiefs of Staff (JCS) received intelligence of evidence that MRBM sites were being installed. McNamara therefore directed Admiral Robert Dennison, USN, Commander-in-Chief Atlantic (CINCLANT), to further develop contingency planning in case it proved necessary to institute a blockade of the island nation and the other service chiefs were instructed to plan a program of airstrikes and a possible amphibious invasion. The following day McNamara informed the JCS that it might be necessary to carry out military action against Castro if he had "permitted the positioning of [Soviet] bloc offensive weapons on Cuban Soil or in Cuban harbors."[13] Preparations for possible airstrikes and an amphibious landing were stepped up and Admiral Dennison prepared to impose a blockade.[14] On 14 October an American U-2 reconnaissance aircraft took photographs that provided proof of the presence of Soviet Medium Range Ballistic Missiles (MRBM).

President Kennedy was informed of this early on 16 October 1962. In response he created an informal group of senior security advisors, dubbed EXCOMM (Executive Committee of the National Security Council), which met that day to discuss the options open to the President.[15] EXCOMM’s initial conclusion was that Kennedy had three: diplomatic negotiation with Khrushchev, a maritime blockade to prevent further shipments of weapons while negotiations were in progress, or airstrikes

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[11] For American defence plans regarding Cuba see, Lawrence Kaplan, Ronald Landa and Edward Drea, *History of the Office of the Secretary of Defense: The McNamara Ascendancy, 1961-1965* (Washington: Office of the Secretary of Defense, 2006), pgs. 199-203, at http://dx.doi.org/10.1080/02684527.2015.1005495.

[12] Presidential News Conference, 13 September 1962, quoted in Chang and Kornbluh, *The Cuban Missile Crisis*, p. 368, 365-368. See also, Bouchard, *Command in Crisis*, p. 87-91.

[13] Office of the Chief of Naval Operations, “The Naval Quarantine of Cuba, 1962”, (1963), p. 2; and CINCLANT, “CINCLANT Historical Account of the Cuban Crisis”, 29 April 1963, DHH, 87/95, p. 41-42; Kaplan, Landa and Drea, *History of the Office of the Secretary of Defense: The McNamara Ascendancy, 1961-1965*, p. 203-204; and Chang and Kornbluh, *The Cuban Missile Crisis*, p. 369.

[14] Chang and Kornbluh, *The Cuban Missile Crisis*, p. 369; and Michael Isenberg, *Shield of the Republic: The United States Navy in an Era of Cold War and Violent Peace* (New York, St Martin’s Press, 1993), p. 708-709.

[15] The conversations of the EXCOM were taped by President Kennedy, and there is a multitude of historical literature on the subject. However, many authors and historians have relied upon inaccurate transcriptions of the conversations, or as is the case of Robert Kennedy’s flawed memoirs of the crisis, *Thirteen Days: A Memoir of the Cuban Missile Crisis*, have created a number of myths not borne out by fact. The most reliable analysis of the EXCOM deliberations is Sheldon M. Stern, *The Cuban Missile Crisis in American Memory: Myth and Reality* (Stanford: Stanford University Press, 2012).

on the missile sites followed by a possible invasion of Cuba. Pressure mounted on 18 October when fresh intelligence revealed the Soviets also were constructing IRBM sites. With twice the range of MRBMs, intermediate missiles could threaten almost the entire United States with nuclear destruction.[16] In American eyes, this rocketed the threat to a grave level. Since diplomatic negotiations would take time and enable the missile sites to become operational, and because it was thought airstrikes might not eliminate all the missiles, a maritime blockade gained traction as the preferred response. On 19 October, Kennedy informed the committee he had settled on that choice; however, since establishing a blockade was legally an act of war the action was termed a "quarantine" involving the selective interdiction of Soviet shipping bound for Cuba.[17]

In a historic television address on the evening of Monday, 22 October, Kennedy informed the American people, and the world, of the situation in Cuba and the measures he had decided to take in response. In the hours before his speech officials were dispatched to inform key American allies; in Ottawa, Prime Minister John Diefenbaker was briefed by the US Ambassador to Canada.[18] In his TV presentation Kennedy informed the world there was "unmistakable evidence" that the Soviet Union had installed missiles in Cuba that provided "a nuclear strike capability against the Western hemisphere."[19] He announced that the United States was therefore establishing "a strict quarantine on all offensive military equipment under shipment to Cuba", and warned that if any missiles were launched from Cuba against any target in North or South America, it would be regarded "as an attack by the Soviet Union on the United States, requiring a full retaliatory response."[20]

Reactions to Kennedy's address varied, but shock and astonishment predominated, accompanied by a sense of doom at the prospect of a nuclear exchange. In Canada, parts of which lay within range of the IRBMs, news reports on TV and radio as well as the headlines in Canadian newspapers reflected that same sense of foreboding. Commander H.J. Hunter, RCN who was working on the

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[16] The Soviets shipped two types of missiles to Cuba, SS-4 SANDAL MRBMs and SS-5 SKEAN IRBMs, but only the SS-4s reached Cuba. See, Norman Polmar and John D. Gresham*, DEFCON-2: Standing on the Brink of Nuclear War during the Cuban Missile Crisis* (Hoboken: John Wiley, 2006), pp. xxiii and 313-314.

[17] Kaplan, Landa and Drea, *History of the Office of the Secretary of Defense: The McNamara Ascendancy, 1961-1965*, p. 207-208; Chang and Kornbluh, *The Cuban Missile Crisis*, p. 88-89; and Stern, *The Cuban Missile Crisis in American Memory*, p. 45.

[18] For President Kennedy's communication with Prime Minister Diefenbaker and the latter's meeting with US Ambassador L.T. Merchant see, John F. Kennedy to John Diefenbaker, 22 October 1962 in *Documents on Canadian External Relations Vol 29 1962-1963* (Ottawa, Government of Canada, 2013), p. 1133-1134; and Livingston T. Merchant, "Memorandum of Conversation between Canadian Prime Minister Diefenbaker and Merchant, October 22. Meeting to deliver President's October 22 letter on Cuba", 2 November 1962, p. 1-2 in *Foreign Relations of the United States*, 1961–1963, Volumes X/XI/XII; American Republics; Cuba 1961–1962; Cuban Missile Crisis and Aftermath, Document 361. In his letter Kennedy explained he would be instituting the quarantine and would be taking the matter to the UN Security Council. He urged he and Diefenbaker stay in "close touch" and that he would try to keep the Prime Minister fully informed of developments.

[19] Radio-TV Address of the President, 22 October 1962, in Chang and Kornbluh, *The Cuban Missile Crisis*, p. 160-164.

[20] Chang and Kornbluh (eds), *The Cuban Missile Crisis*, p. 89; Peter Haydon, *The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered* (Toronto: Canadian Institute for Strategic Studies, 1993), p. 22.

staff of the Directorate of Naval Operational Requirements at Naval Service Headquarters (NSHQ) in Ottawa, heard Kennedy announce "his blockade of Cuba" on his car radio while driving to attend a night class at Lisgar Collegiate. "The appalling possible consequences", he told his diary, "leads one directly into a state of continuing nightmare":

> [the quarantine] is in effect an act of war against the Soviet Union – if they choose to react strongly an armed clash with the possible ultimate frightfulness is imminent. My reactions are fear and anger – fear that our lovely family and their bright futures may be extinguished – in a wider sense fear for civilization and for the whole future of mankind. And bitter anger that the power struggle should involve so many millions like ourselves who want absolutely nothing more than to be left alone to continue our lives in peace – to give our children a measure of happiness and the and the opportunity to have physical and moral freedom.[21]

Hunter often related aspects of his professional life to his diary but in this instance, he said nothing of the mood at NSHQ. Hunter was not the only sailor tinged by anxiety in the face of impending doom. Lieutenant-Commander Alec Douglas, Squadron Navigator and Operations Officer of the Seventh Canadian Escort Squadron based at Halifax, and later official historian of the Canadian Forces, sent his wife and daughter to his parents' home in London, Ontario before readying for operations alongside the other sailors and airmen of Atlantic Command.[22]

[21] H.J. Hunter Diary, 22 October 1962, Shearwater Aviation Museum.

[22] W.A.B. Douglas, unpublished memoir (2014). The author was a Grade 3 student at Robert Hampton Gray Memorial School in HMCS *Shearwater* at the time of the crisis, and recalls drills where students practised sheltering under their desks in case of an attack on the base. His father was on the operations staff at the naval air base and was seldom seen throughout the crisis. We lived in base housing and the author's mother was told that if conflict broke out it was up to her to evacuate her family; given that and recalling the bombing of her native England during the Second World War, she decided we would stay put. Her only precaution was to stock up on groceries.

Atlantic Command

In a report written early in the crisis, the Chairman of the Canadian Chiefs of Staff Committee, Air Marshal Frank Miller, summarized the initial responses of each of Canada's armed services:

A. RCN has assumed a high state of military readiness. As in the past the RCN is eager to cooperate and support the USN.

B. The Army has placed the National Survival Attack Warning System on a 24-Hour basis and has manned emergency HQs with skeleton staffs. Rotation to and from Germany is being modified to ensure maximum possible readiness of units in Europe. Reinforcement to bring units in Europe to full strength are being dispatched. Further movement of dependents overseas has been suspended. All other measures of a non-public nature associated with military vigilance are being implemented.

C. RCAF forces assigned to NORAD are on DEFCON 3 Weapons State CHARLIE status at the request of CINCNORAD. Measures of a covert nature associated with military vigilance are being implemented. RCAF Maritime Patrol Aircraft have intensified their patrols in CANCOMARLANT waters. AFHQ Ops Centre has kept the Air Member CJS(W) promptly and fully informed of the details of steps taken by the RCAF to improve its military readiness.[23]

The activities of the Army and the bulk of the RCAF continued largely as described by Miller throughout the crisis; however, those involving the RCN and the RCAF's Maritime Air Command (MAC) became more fluid and intense as they adjusted to meet the significant maritime challenge that confronted Canada and the United States, particularly in the Atlantic.

Atlantic Command comprised Canada's air and seagoing maritime forces on the Atlantic coast. Headquartered in Halifax, Nova Scotia, it was commanded by Rear-Admiral Kenneth L. Dyer RCN, an officer of considerable ability, respected by colleagues in both Canada and the United States. Besides his national appointments as Canadian Commander Maritime Forces Atlantic (CANCOMARLANT) and Flag Officer Atlantic Coast (FOAC), Dyer also held a veritable Scrabble-board of titles related to his responsibilities under the North Atlantic Treaty Organization (NATO) and bi-lateral agreements with the US. Under NATO the RCN had obligations to the Supreme Allied Commander Atlantic (SACLANT), Admiral Dennison, including responsibility for the Canadian Atlantic Sub-Area (CANLANT).

Although the SACLANT obligation had become a cornerstone of RCN planning, it was matched, and occasionally overshadowed, by Canada's close defence partnership with the United States. Since 1940's Ogdensburg Agreement, Canada and the US had cemented military

[23] Chairman, Chiefs of Staff Committee (CCOS) to Canadian Joint Staff (Washington) (CJS (W)), 26 October 1962. For a study on the response of the Chiefs of Staff Committee and the Canadian government to the crisis see, Brad Gladman and Peter Archambault, "Advice and Indecision: Canada and the Cuban Missile Crisis", *Canadian Military History*, Vol. 23, No 1, (2014) at https://www.scholars.wlu.ca/cmh/vol23/iss/1/2.

co-operation through vehicles such as the Permanent Point Board on Defence (PJBD) and the Military Co-operation Committee (MCC). In the naval arena, the RCN and US Navy had forged a close relationship since the early days of the Battle of the Atlantic when they cooperated in running trans-Atlantic convoys. These relationships were not allowed to wither after the war, and in February 1947 the two countries announced their intention to continue with joint co-operation in continental defence. Demonstrating the intimacy of the partnership, that August the RCN's Director of Naval Plans noted "in view of the vital importance of the defence of North American war making ability in a future war, RCN planning will in future be largely based on the Naval forces now envisaged in the [US/Canada] Basic Security Plan. This will make desirable the standardization of the RCN and the USN by the time that the Basic Security Plan must be ready for immediate implementation."[24] The creation of NATO in April 1949 led to the establishment of the Canada-US Regional Planning Group (CUSRPG), which, in part, functioned as a liaison between the North American navies and NATO forces under the command of SACLANT. Importantly, although CUSRPG was part of NATO, for security reasons the US and Canada were often unwilling to share the details of their continental defence arrangements with their European allies; in particular, this applied to information regarding sound surveillance systems.[25]

Just prior to his retirement in the summer of 1960, Dyer's predecessor as FOAC, Rear-Admiral H.F Pullen, outlined the relationship between his position and his naval allies to the south:

> Under CINCWESTLANT, the Western Atlantic Area is divided into two geographical areas. He also has a functional commander reporting to him. The southern half of the WESTLANT area is under the command of Commander, Ocean Sub Area (CTF 15), a USN Vice-Admiral, with Headquarters at Norfolk, Virginia, and the northern half under the command of Commander Canadian Atlantic Sub Area (CTF 214), an RCN Rear Admiral with Headquarters in Halifax. The functional command is the North American Anti-Submarine Defence Force Atlantic, with its Commander (CTF 217) a USN Vice-Admiral with Headquarters in Norfolk, Virginia. This commander has various ASW Groups along the western seaboard of North America reporting to him. The most northerly of these groups is under the command of the Commander ASW Group (CTG 217.1), an RCN Rear-Admiral with Headquarters here in Halifax.[26]

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[24] Quoted in Nicholas Tracy, *The Two-Edged Sword: The Navy as an Instrument of Canadian Foreign Policy* (Montreal: McGill-Queens University Press, 2012), p. 102.

[25] Isabel Campbell, "Canadian Insights into NATO Maritime Strategy, 1949-70: The Role of National and Service Interests", *The Northern Mariner*, Vol. XXV, No. 3 (July 2015), p. 241. See also, Sean Maloney, *Securing Command of the Sea: NATO Naval Planning 1948-1954* (Annapolis: Naval Institute Press, 1995), p. 97-98; and "Parry and Thrust: Canada Maritime Forces and the Defence of North America", in *The Northern Mariner* Vol. XVIII No. 1 (January 2008), p. 40.

[26] Rear-Admiral H.F. Pullen, "Evolution of the Control of Canadian Maritime Forces", (undated but just before his retirement in the summer of 1960), H.F. Pullen Fonds, Public Archives of Nova Scotia, MG 1, Vol 2526.

Expressed simply, Dyer – addressed as CANFLAGLANT in signal traffic – commanded Canada's sea-going and maritime air forces in the Atlantic, the latter comprising the RCN's air branch and the RCAF's Maritime Air Group (MAG), led by Air Commodore William I. Clements. Apart from his national responsibilities, as indicated by Rear-Admiral Pullen, Dyer's command was a key element in the NATO maritime force structure where he worked directly with US Navy's Atlantic Fleet, particularly the Anti-Submarine Warfare Force Atlantic Fleet under Vice-Admiral E.B. Taylor USN (COMASWFORLANT). In the crisis that followed Dyer worked in close partnership with both Clements and Taylor, and on occasion interacted with Admiral Robert L. Dennison USN, double-hatted as SACLANT and Commander of the US Atlantic Fleet (CINCLANT). Importantly, the United States government declared the Cuban crisis a national emergency, which kept the associated operations isolated from NATO; thus the relationship between Maritime Command and US forces was governed strictly by bilateral arrangements. As historian Peter Haydon summed it up:

In the autumn of 1962, a comprehensive series of bilateral contingency plans existed, and these had been carefully structured to be interoperable with national contingency and basic operations plans. So, when face with an evolving operational problem in the western Atlantic that had nothing to do with NATO (because the Americans chose to treat the situation as a national threat) the question of how to integrate American and Canadian ASW surveillance operations did not become an issue.[27]

As will be seen, the relationship between the RCN and US Navy over the coming weeks was buttressed by a strong bond of mutual trust that had been nurtured over the two decades since the early days of the Battle of the Atlantic.[28]

[27] Peter Haydon, "Canadian Involvement in the Cuban Missile Crisis Re-Reconsidered", *The Northern Mariner*, XVII no. 2 (April 2007), p. 62.
[28] For the origins of RCN/US Navy cooperation see, W.A.B. Douglas, Roger Sarty, Michael Whitby et al, *No Higher Purpose: The Operational History of the RCN in the Second World War*, Pt 1 (St Catharines: Vanwell, 2003).

Maritime Forces on the Atlantic

The Canadian Atlantic Sub-area extended from the coastline out to 40 degrees West longitude on a line with Cape Farewell, Greenland, down to 40 degrees North latitude, off Nantucket, Massachusetts. To cover this massive expanse of ocean, Rear-Admiral Dyer had at his disposal a mix of forces both new and old, cutting-edge and obsolescent. At sea, the Fifth Canadian Escort Squadron (CANCORTRON 5), comprised of *Restigouche*-class destroyer escorts (DDE), was his most effective unit. Commissioned over the previous four years, the Restigouches represented the latest in ASW capability and were led by aggressive commanders with well-trained ships companies – if they were not 'The Jewel in the Crown' of the Atlantic escort force, they certainly saw themselves as that. Dyer's two other destroyer groups – CANCORTRONs 1 and 3 – included destroyers of Second World War vintage. Upgrades to their anti-submarine (A/S) sensors and weaponry had transformed them into adequate ASW platforms, but wear and tear over the years had impacted reliability. The Prestonian-class frigates of CANCORTRONs 7 and 9 were also Second World War era ships, but they had been extensively modified from the main deck up during the 1950s. Lacking the speed and sensor fit of the destroyers, they were nonetheless useful ships that could fulfill more limited roles. The surface force was rounded out by the Bay-class minesweepers of MINRON 1, new ships that were useful for patrolling inshore waters. Finally, Dyer's fleet had limited submarine capability in the form of two Royal Navy Amphion-class conventional boats of the Sixth Submarine Division. *Alderney* and *Astute* mainly fulfilled a training function as 'clockwork mice' for the fleet but they had recently been modernized into valuable A/S platforms. Although commissioned British ships, they had a mix of British and Canadian sailors and were under Rear-Admiral Dyer's operational control.[29]

Dyer's greatest strength lay with his air component, the core of which comprised modern patrol aircraft with sophisticated A/S and ocean surveillance capability. The navy's air branch centered on the modern light fleet carrier HMCS *Bonaventure* and the CS2F Trackers of VS-880. 'Bonnie' had joined the RCN as a fully modernized A/S carrier in 1957, and in the intervening years, she and her air department had earned a reputation as being amongst the best such units in NATO. In particular, Trackers had proven the most advanced carrier borne ASW aircraft of their generation, and naval aviators were proficient with the latest specialized technologies. As effective as Trackers were, Maritime Air Command's Canadair CL-28 Argus could fly further, linger longer, with more capability than any other maritime patrol aircraft (MPA). In terms of maritime reconnaissance, the all-weather Arguses were the undisputed masters of the skies over the Northwest Atlantic, and their seventeen-man crews had the latest in ASW technology at their disposal. MAC also had a squadron of medium ranged Lockheed P2V-7 Neptune MPAs.[30] With few exceptions Argus, Neptunes and Trackers were fitted with the

[29] See Appendix One for the individual ships assigned to each escort squadron.

[30] See Appendix One for the strength and location of the Argus, Neptune and Tracker MPA squadrons. For a valuable history of the Argus see C. Baker and B. Campbell, *The Canadair Argus CL-28/CP-107: The Untold Story of Canada's Cold War Maritime Hunter* (Chester, NS: Bryler Publications, 2011).

latest sensors and their aircrew were recognized as being skilful in the use of critical systems including air-to-surface radar, electronic countermeasures equipment (ECM), JEZEBEL, Explosive Echo Ranging (EER), and Magnetic Anomaly Detection (MAD).[31]

Canadian ships frequently honed their ASW skills by exercising with their US Navy allies; here USN and RCN destroyers flank the anti-submarine carriers Bonaventure and Essex. Although Bonaventure seems dwarfed by the Essex, like other Canadian units, she was an integral component of the maritime defence of North America. (DND)

[31] JEZEBEL was a passive detection system whereby sonobuoys picked up acoustics from a target which were transmitted to the aircraft where they were analyzed – as will be seen, RCN Trackers had to return JEZEBEL recordings to their base to be analyzed. With Explosive Echo Ranging (EER) an aircraft dropped sonobuoys around a target, followed up by the release of small explosive charges. The active return from the detonation of the charges enabled aircrew to track the movements of a submarine. Magnetic Anomaly Detection (MAD) used a magnetometer to detect the presence of submarines or other submerged objects by observing changes in the earth’s magnetic field. Canadair Limited, “Argus MK.II Maritime Patrol Aircraft”, February 1961, DHH, PRF Canadair Argus; and Baker and Campbell, *The Canadair Argus CL-28/CP-107*, p. 27-37.

De Havilland CS2F Trackers of naval air squadron VS-880 carried out surveillance missions from shore bases and HMCS Bonaventure. Here we see the array of anti-submarine weapons and sensors typically utilized by maritime patrol aircraft, including sonobuoys, air-to-surface rockets, depth bombs and A/S torpedoes. (DND)

Despite the relative strength of the maritime forces on the Atlantic, weaknesses existed. As always, commanders believed they did not have enough assets nor the ability to support what they did have over a sustained period; the longer operations continued, the more the challenges would mount. Endurance, or ‘reach’, was also a challenge for the navy. It had long appreciated the need to refuel its ships while under way, but its new replenishment ship, HMCS *Provider*, was a year from commissioning. Consequently, replenishment at sea (RAS) was only available from *Bonaventure* but for reasons of practicality was limited to ships sailing in company – it would be a mistake to tie-down an aircraft carrier for use as a tanker. The repair ship HMCS *Cape Scott* had limited under-way replenishment capability and was largely limited to a static refuelling role. Perhaps the most significant weakness, however, was the fact that the RCN had only the one aircraft carrier, which obviously affected the availability of a potent maritime weapon. Moreover, *Bonaventure* was relatively small and could only support a limited air group of twelve-eighteen Trackers and a few A/S helicopters – the RCN’s fighter squadron of F2H-3 Banshees was de-commissioned earlier that year. HMCS *Assiniboine*, the first helicopter equipped destroyer (DDH), would not be in service until 1964.

A critical component of the ASW defences in the Northwest Atlantic was the Sound Surveillance System, one of the most advanced defence systems of its age. Simply put, SOSUS was a means by which submarines could be detected and localized through the capture of low frequency acoustics by arrays of hydrophones extending far out to sea on the ocean floor. These arrays were connected to naval shore facilities (NAVFACs) through which the acoustic data was analyzed digitally with any resultant target data passed on to operational headquarters like Norfolk or Halifax for prosecution. As described by RCN planners when they initially assessed the concept in the mid-1950s, "a network of surveillance stations strategically sited over the ocean approaches to the Coast" would form "a surveillance belt which will detect and locate snorkeling submarines and thereby assist the ASW forces in the protection of coastal shipping and defence against submarines capable of launching attack weapons aginst the mainland." Performance would be affected by many variables including oceanography and the topography of the ocean floor; however, "ranges against snorting[32] submarines up to 500 miles (800 KMs) may be experienced under favorable conditions on some bearings while on others it might not exceed 150 miles (240 kms)" … "Should the submarine be on the surface or proceeding [submerged] on main motors, the detection capability is drastically reduced."[33] The first full operational test of SOSUS began in April 1952 with a forty hydrophone array installed in 200 fathoms from Eleuthra in the Bahamas. The test proved successful and the US Navy immediately planned for the establishment of a chain extending along the eastern coast of the United States, and by 1956 a dozen SOSUS stations were planned or under construction in the North Atlantic with seven more in the Pacific.[34] Individual NAVFACs were to be positioned a few hundred kilometres apart to cover the entire seaboard and to provide a degree of overlap to enable cross bearings of contacts to be obtained.

Given that Soviet submarines would follow the Great Circle Route to approach North America, the US Navy recognized that arrays would have to be positioned on the Canadian Atlantic seaboard to achieve uninterrupted coverage. Thus, in November 1952 the US State Department approached Canada for permission to conduct hydrographic-oceanographic surveys in the vicinity of Sable Island off Nova Scotia, and on 17 March 1953 the Cabinet Defence Committee (CDC) granted approval.[35] As research progressed, it became evident that severe climatic conditions made Sable Island unsuitable and the site was shifted to Shelburne, Nova Scotia, with the facility sited on federally-owned land on the appropriately named Government Point

[32] 'Snorting' was informal Canadian naval terminology for snorkeling, the method by which conventional diesel-electric submarines replenished their batteries while remaining submerged at periscope depth.
[33] ACNS(P), "Report of the Seaward Defence Committee", Paper No 3 "The Use of Sound Surveillance Systems in the Defence of Canadian Coastal Waters" and Appendix B Annex IV "Long Range Underwater Detection Devices"; and CNS, "Underwater Surveillance Requirements", 14 September 1955, all Library and Archives Canada (LAC), RG 24, Vol 1471, file CSC 2110 vol 1.
[34] US Navy, Office of Naval Research (ONR), "Sea-based Airborne Antisubmarine Warfare, 1940-1977; Vol I, 1940-1960", 17 February 1978, p. 132-133, 153. This important study was prepared under contract by R.F. Cross Associates Ltd. and de-classified in December 1990.
[35] Cabinet Defence Committee (CDC), "Record of Cabinet Defence Committee Decision", 17 March 1953, LAC, RG 2.

at the entrance to Shelburne harbour. A Chiefs of Staff briefing in April 1954 described the extent of the array:

> The Sound Research Station at Shelburne is planned to consist of an array of special devices laid on the ocean floor in 1000 fathoms of water, approximately 100 miles at sea, with a tail cable laid from the array to Shelburne, where the equipment and personnel would be housed. In addition to the deep water array, a shallow water array is being laid for the purpose of research into the conditions met in cold, shallow waters peculiar to the Canadian coastal areas.[36]

The Cabinet Defence Committee gave full approval to the facility in April 1954. Since SOSUS was highly classified it was agreed that FOX would be referred to as a "Joint RCN/USN Oceanographic Research Station", and its stated purpose was a "Naval experimental station for the purpose of making oceanographic measurements." Installation of the SOSUS equipment at the new 'Station FOX' was carried out by the Western Electric Company and a US Navy Construction Battalion built the facilities. On 1 April 1955 the new facility was commissioned as HMCS *Shelburne* and achieved full operational status in November 1956, and all the buildings and equipment, except electronics, furnished by the US Navy became RCN property. As the SOSUS network continued to expand, in 1959 a station was opened at the US Naval Air Station in Argentia, Newfoundland.

Although initially staffed mostly by US Navy personnel, by November 1959 Canadians were running *Shelburne* – unique amongst NAVFACs, women members of RCN filled many of the analyst positions.[37] Unsurprisingly with such sophisticated technology, teething problems arose during *Shelburne*'s early operations. One problem was FOX's almost complete isolation from operational forces and headquarters, an issue exacerbated by the fact that it was the only Canadian station in existence. Moreover, there was inadequate or improper radio equipment at the site to enable effective communication, and coordination with Canadian headquarters and US Navy NAVFACs suffered accordingly. Nonetheless, FOX claimed to have detected three 'probable' Soviet submarines in 1957; however, they were almost certainly false contacts and the the first confirmed SOSUS detection of a Soviet diesel boat was credited to the US Navy NAVFAC at Cape Hatteras on 26 June 1962.[38]

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[36] CSC Minutes, 1 April 1954, DHH, 73/1223 Box 61 File 1307B.

[37] *Shelburne* became one of the highest-rated NAVFACs and its data was instrumental in analyzing the details surrounding the loss of the nuclear submarine USS *Thresher* in April 1963. See Bruce Rule article about the loss of the *Thresher* at https://www.iusscaa.org/articles/brucerule/uss_thresher_(ssn-593)_article_in_the_4_apr_2013_issus_of_navy_times.htm .

[38] Useful information on the early years of the SOSUS system, later known as the Integrated Undersea Surveillance System (IISS), can be found at https://www.iusscaa.org/history.htm. Most valuable are "The Commentaries of Bruce Rule" at https://www.iusscaa.org/articles/brucerule/. Rule was a decades-long veteran of the IUSS with almost unparalleled knowledge of its history.

Bonaventure topping-up a destroyer. Rear-Admiral Dyer calculated that the lack of a robust under way replenishment capability reduced his forces availability at sea by some twenty-five per cent. (DND)

Due to the complex features of the ocean environment and the difficulty in processing information for real time tactical use, information from SOSUS was not always as effective as anticipated, particularly in its early years. As naval analyst Norman Friedman explained:

> SOSUS is a passive system, recognizing individual submarines (and surface ships) by their characteristic sonic signatures which are received over great distances and distinguished from background noise by sophisticated data processing, including correlation of data from several arrays. In order to minimize background noise, the hydrophones and their terminals are in isolated locations. Detection, however, is neither certain nor continuous, and locating information is not exact. SOSUS provides a probability that any submarine in the North Atlantic will be placed in a searchable area at a given time. The inexactitude of location is inevitable, given the passive character of the system, the finite beam width of the arrays, and the character of the ocean itself, which distorts sound waves over very long distances. In any case, there is an uncertainty connected

with the time delay between the emission of sound by the submarine and reception at an array.[39]

The Cuban crisis presented the first real test of SOSUS's effectiveness, and it exposed some of the uncertainty noted by Friedman. In particular, it was discovered that many Soviet fishing trawlers used the same diesel propulsion machinery as their conventional submarines, which sometimes resulted in the former being mistaken for the latter – the commonality of propulsion units also made it impossible for SOSUS to distinguish bewteen FOXTROT-class patrol submarines and ZULU missile-firing boats.[40] Analysts had also yet to build up a comprehensive library of submarine acoustic 'signatures' to enable them to identify and track individual boats. Another issue was the near airtight security shrouding SOSUS, whose existence was guarded by "special security regulations."[41]

Quite simply, only select personnel were aware of it. In Atlantic Command SOSUS, for example, SOSUS intelligence was initially limited to the support of maritime air but not surface operations. Flight Lieutenant Victor Furney, RCAF, an air controller at Atlantic command headquarters during the Cuban crisis, recalled that he and the other RCAF controllers were prevented from sharing SOSUS intelligence with naval personnel who kept the surface plot in an adjoining room. This restricted co-ordination, and caused occasional tension when Furney and his associates were unable to explain why they moved aircraft into certain patrol areas.[42] Happily, it appears this restriction was lifted towards the end of the crisis and a few authorized naval personnel were indoctrinated into SOSUS. Nonetheless, the confusion over the origin of propulsion acoustics and the problems caused by security restrictions underscore that as the crisis broke in the autumn of 1962 there was still much to learn about the genuine capability of the SOSUS system upon which so much faith was placed.

Finally, no matter what the level of sophistication and capability of Atlantic Command's A/S sytems and platforms, the ocean environment of the Northwest Atlantic had a severe impact on their ability to find submarines. The area is notorious for its poor sonar conditions. In particular, severe temperature layering inhibited sound propagation and degraded the performance of both active and passive sonar equipment. Submariners used this to advantage and bathythermy gear enabled them to seek out temperature gradients to use as shields to prevent detection – escorts and aircraft had their own bathythermic equipment but there was often little they could do to penetrate layers with sonar. Canada's A/S forces had struggled with the oceanographic challenge on its doorstep since before the Second World War, and in the

[39] Norman Friedman, "SOSUS and US ASW Tactics", United States Naval Institute *Proceedings*, (March 1980), p. 120.
[40] Bruce Rule to author, 13 April 1917.
[41] "Security Caution", ACNS(P), "Report of the Seaward Defence Committee", 15 April 1955, LAC, RG 24, Vol 21471, file CSC 2110 vol 1.
[42] Victor Furney ms, in author's possession.

winter of 1944/45 German U-boats took advantage of the oceanographic conditions off Halifax to operate with near impunity.[43] Although defence scientists and oceanographers made steady headway by developing improved sensors and bathythermic devices, air- and sea-borne anti-submarine platforms remained at the mercy of the natural abnormalities of the ocean environment.[44]

[43] For oceanographic conditions and the Second World War experience off Atlantic Canada see, WAB Douglas, Roger Sarty and Michael Whitby *et al*, *A Blue Water Navy: The Official Operational History of the RCN in the Second World War, Vol 2 Pt 2* (St Catharines: Dundurn, 2007), p. 411-414 and 439-446.

[44] The RCN's AN/SQS-504 ship-borne Variable Depth Sonar was a key innovation to defeat layering but technical difficulties hampered development and it was not yet in service at the time of the Cuban Missile Crisis.

The Threat

Admiral Dyer's platforms, systems and plans were mainly concerned with defending against Soviet submarines and trawlers.[45] Both were serious nuisances in the tormented peace of the Cold War, but if war did erupt, they would be transformed into grave threats. Submarines had formed a significant element of Russia and the Soviet Union's maritime arsenal from the earliest days of the 20th Century. In 1962 they boasted some 400 boats, an increasing number of which were long range patrol boats capable of global operations. These included about two dozen new diesel-electric Project 641 class, known as FOXTROTs by NATO navies – the Soviets had begun to develop boats with nuclear propulsion; however, they were unreliable, and none entered the Atlantic during the Cuban crisis.[46] NATO navies were confident of their ability to counter conventional submarines in a traditional anti-shipping campaign resembling the Battle of the Atlantic; however, the equation changed in the late 1950s when the Soviets introduced long-range submarines capable of launching missiles with nuclear warheads against targets in North America. Until then, the Atlantic Ocean had provided a moat-like buffer against maritime nuclear threats, but that changed with intelligence the Soviets would have the capability to deploy missile firing submarines (SSB) into North American waters by the late 1950s.[47] That assessment proved accurate: in 1959 the Soviets introduced the Project AV-611 ZULU boats, and seven were operational in 1962, each armed with two R-11FM 'SCUD' cruise missiles with a range of about 650 kms.[48]

Even though the early generation of SSBs had to surface to launch their missiles, tackling them was a far tougher proposition than traditional ASW on the open ocean. The challenge for anti-submarine forces was driven by the necessity to find, fix and destroy missile boats before they launched their missiles; killing them afterwards held little significance. Such hunts were made more difficult since A/S forces were attempting to locate individual, free-ranging submarines attempting to elude detection, instead of ones lying in wait for convoys or patrolling shipping lanes – the 'needle in a haystack' analogy applies. As the US Navy's

[45] Soviet long-range patrol aircraft covered the Eastern North Atlantic but did not yet have the capability to reach the Canadian sub-area.

[46] For Soviet submarine development see Norman Polmar and K.J. Moore, *Cold War Submarines: The Design and Construction of U.S. and Soviet Submarines* (Washington: Brassey's 2004); Pavel Podvig (ed), *Russian Strategic Nuclear Forces* (Cambridge, Mass: MIT Press 2001), p. 236-237 and 283-286; and Jan Breemer, *Soviet Submarines: Design, Development and Tactics* (New York: Janes, 1989).

[47] Assistant Chief of the Naval Staff (Plans), "Report of the Seaward Defence Committee", Appendix 'D', Annex I, "Nuclear Weapons.", LAC, RG 24, Vol 21471, file CSC 2110 vol 1.

[48] See Polmar and Moore, *Cold War Submarines*, p 107-111; Podvig, *Russian Strategic Nuclear Forces*, p. 283-284; and Norman Polmar and John O'Connell, *Strike from the Sea: The Deployment of Strategic Cruise Missiles Since 1934* (Annapolis: Naval Institute Press, 2020), p 108-112.

influential 1956 ‘Project NOBSKA’ study into ASW declared, “Confronted with quiet submarines of long endurance, a sufficiently accurate means of navigation, and suitable weapons, a defence against shore bombardment by submarines [firing missiles] becomes a huge problem. Even the partial defence of a long coastline requires a very large effort.”[49]

A US Navy helicopter keeps a wary eye on the FOXTROT B-59 after it surfaced off the Quarantine line. (National Security Archives)

Canadian naval officers agreed, and from the mid-1950s, RCN planning was dominated by the dilemma of countering the missile-firing submarine. This resulted in a series of joint RCN/US Navy exercises off Nova Scotia, where despite sustained, co-ordinated efforts by aerial and sea-going A/S forces, the friendly submarines posing as Soviet missile boats fulfilled their firing missions virtually unscathed.[50] The experience of exercise BEAVERDAM III in March 1959 was typical with both maritime patrol aircraft and surface ships meeting little success in countering three allied submarines posing as Soviet SSBs. Of the eighteen opportunities Neptune and Tracker MPAs had to

[49] Quoted in Owen R. Cote, Jr, *The Third Battle: Innovation in the U.S. Navy’s Cold War Struggle with Soviet Submarines* (Newport: Naval War College Press, 2003), p. 20.

[50] See Isabel Campbell, “A Transformation in Thinking: The RCN’s Naval Warfare Study Group of 1956”, in *People, Policies and Programmes: Proceedings of the 7th Maritime Command Historical Conference* (Winnipeg: Canadian Naval Heritage Team, 2008), pp. 165-181; and Michael Whitby, "A “New Look” at Cold War Maritime Defense: The Royal Canadian Navy’s Seaward Defence Report and the Threat of the Missile-Firing Submarine, 1955," *US Naval War College Review*: Vol. 73, No. 4 (Autumn 2020) at https://digital-commons.usnwc.edu/nwc-review/vol73/iss4/8/

detect submarines surfacing to 'launch' missiles during the exercise, only three launches were definitely thwarted and fifteen missiles were 'fired' successfully. The performance of the surface groups was even more dismal. Most ships failed to get even within a dozen kilometres of a submarine, and in the one close encounter, although the submarine HMS *Ambush* sighted the destroyer HMCS *Restigouche* through its periscope when she passed within 2400 metres, the ship's sonar failed to detect the SSB. One summary gives a flavour of the encounters. At 0950 on 12 March:

> [The submarine HMS] ALDERNEY surfaced in position 44-44N 59-36W, and at 1000 simulated firing her first missile at ARGENTIA. Assessed as a successful missile launch. This launch was made 22 miles from the center of Area 2, in the close proximity of a fleet of approximately 30 fishing vessels. The area was being surveyed by Summerside Neptune Y4X04. At 1025, ALDERNEY surfaced in the same position and at 1035 simulated firing her second missile at ST JOHN's, NFLD. Assessed as a successful missile launch. [51]

Thwarting SSBs was a problem.

Beyond displaying a proven ability to launch ballistic missiles the Soviets had begun to position their SSBs at locations of strategic advantage. Traditionally they kept their submarines close to home but in the 1950s they embarked upon out of area operations (OAO), including into the North Atlantic.[52] These initially were few in number and none of the sorties were detected; nonetheless, rumours of 'enemy' submarine sightings increased, some being taken quite seriously. In the first week of October 1957, for example, a submarine was reported in Notre Dame Bay on the northeast coast of Newfoundland, tallying with fears Soviet missile boats may attempt to launch surprise attacks from isolated bays and inlets. Probably to test responses to an emergency as much as to hunt for an actual submarine, under Operation LIMELIGHT, the FOAC, Rear-Admiral H.F. Pullen, deployed six Avenger A/S aircraft and five H04S helicopters to Gander, Newfoundland, followed up by the frigates *Fort Erie* and *Lanark*. The Avengers flew eighty-four sorties around the clock, while the helicopters flew sixty-two daylight sorties and another at night. Although there was a whiff of ECM activity, the aircraft and frigates failed to find the suspected intruder, which probably never actually existed. Pullen remained undeterred: "While no positive detections were made, there have been no sightings of submarines in the Notre Dame Bay area since the air group's departure on 27 October. It seems likely that the operation has at least shown the unwelcome visitors the door." Pullen informed NSHQ he was "determined to exclude enemy submarines from our coastal waters" and to that end implemented regular surface and air patrols along the Newfoundland coast.[53]

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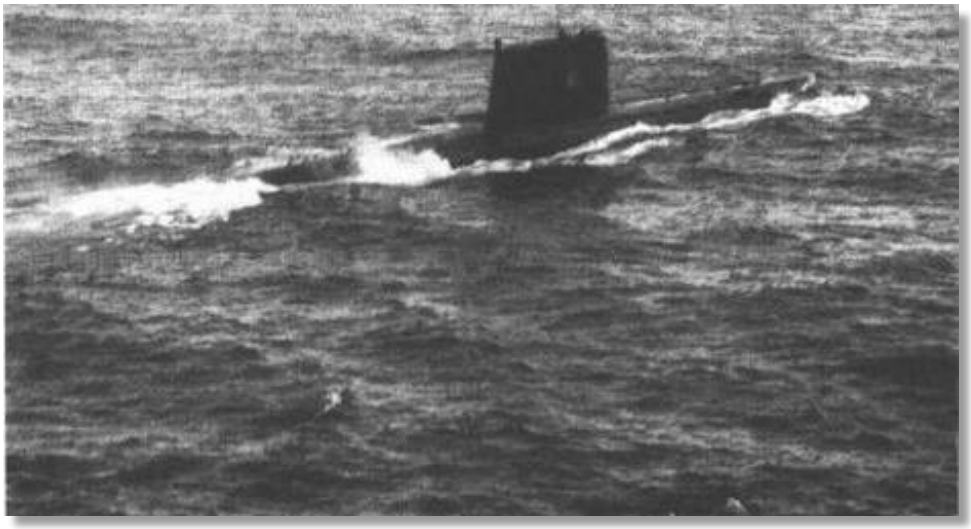
[51] Maritime Commander Atlantic, "Analysis of BEAVERDAM III (BEARTRAP)", 24 April 1959, DHH, 73/561.

[52] For early Soviet out of area operations see Jan Drent, "Confrontation in the Sargasso Sea: Soviet Submarines during the Cuban Missile Crisis", p. 3-5.

[53] FOAC to CNS and CAS, "Operation LIMELIGHT", 11 December 1957, LAC, RG 24 (Acc 83-84/167), Box 10, File 1115-22 Vol 2.

Despite that effort, a year and a half passed before there was actual visual and photographic proof of the presence of a Soviet submarine anywhere in the Atlantic. On 28-29 May 1959, the US Navy's Tench-class diesel submarine USS Grenadier tracked a Soviet ZULU-class SSB until it surfaced off Iceland. A P2V Neptune MPA supported the hunt and the images it took were subsequently published in Life magazine, the caption noting "The picture gave the Navy these vital facts about the nonnuclear submarine: it is larger than had been thought and its characteristics indicate that it can fire ballistic missiles."[54] So the threat was real, and in a crisis such as was about to unfold, finding missile boats became the overriding focus of Maritime Command and the US Atlantic Fleet.[55]



The ZULU-class missile submarine tracked by USS Grenadier in May 1959. (Courtesy USS Grenadier website)

The Soviet fishing fleet was another concern. In the summer of 1960, the Soviet Union had dramatically ramped-up its fishing activities in the Northwest Atlantic and they eventually outnumbered vessels from other fishing nations. In the summer of 1962, it was estimated some 550 Soviet vessels were in the western Atlantic from Newfoundland down to the Caribbean, leading a Canadian official to complain "There are more Russians out there than Newfoundlanders!"[56] Loosely defined, the Soviet fishing 'fleet' included factory ships, trawlers,

[54] COMSUBLANT, "Diesel Sub Commander Recalls Historic Soviet Sub Chase", 29 May 2009, at https://quietwarriors.wordpress.com/2014/05/30/diesel-sub-commander-recalls-historic-soviet-sub-chase/. *Grenadier*'s crew was rewarded with a case of bourbon for their success.

[55] In a 1960 briefing the outgoing CANCOMARLANT, Rear-Admiral H.F. Pullen RCN, disclosed that a position known as "COMNORASDEFLANT" was made responsible for the close-in defence of the North American continent against missile-firing submarines. His geographic area of responsibility was not rigidly defined and "will change, and extend, as the capability of the weapon against which he is defending changes. The various ASW groups reporting to him do not have a rigid demarcation between each of their general areas of responsibility." Further research is required but this may account for the fluidity of the movements of Canada's maritime forces during the crisis as well as their occasional positioning outside the CANLANT area. Rear-Admiral H.F. Pullen, "Evolution of the Control of Canadian Maritime Forces", (undated but probably just before his retirement in 1960), H.F. Pullen Fonds, Public Archives of Nova Scotia, MG 1, Vol 2526.

[56] For the rapid escalation of Soviet fishing efforts see John D. Harbron, "The Soviets' Floating City in our Atlantic

tankers, tugs, and intelligence vessels.[57] Although intelligence trawlers known as 'AGIs' caused particular worry, as one RCN officer explained in colourful Cold War prose, all vessels generated suspicion: "We just cannot shrug off the fact that all maritime science has military applications and research vessels of the type used by the Communists in our waters are equipped to provide a pretty sophisticated back-up for the intelligence needs of the Red fleet."[58]

The plethora of Soviet fishing vessels, ranging in size from small trawlers to enormous factory ships, working the Northwest Atlantic during the crisis absorbed much of the attention of Atlantic Command's aerial and seagoing surveillance units.

Beyond the staggering increase in numbers, intelligence officers noted that the behavior of these vessels had become increasingly truculent. In three instances in 1961, Soviet trawlers were suspected of cutting the Ballistic Missile Early Warning System (BMEWS) undersea cables between Cape Dyer on Baffin Island and Thule, Greenland – it was uncertain whether the act was intentional,

Waters", *Maclean's* Magazine, (June 1962).

[57] Chief of Staff Committee memo, "Law of the Sea: The North American Aspect of the Canadian Negotiating Position with the USA" 22 June 1962, DHH, 79/246 Folder 29.

[58] Terence Robertson, "Red Threat off Canada's Coast: The Experts know that some of those Russian fishermen must be Fishing More than Fish", *Weekend Magazine*, 9 March 1963 in DHH, 79/246 Folder 29.

but fishing vessels "were almost invariably present when breaks occurred."[59] In another instance, a trawler was photographed with an undersea cable draped over its stern. Beyond tampering with strategic infrastructure there was concern about their ability to gather critical intelligence. A briefing to the Naval Board in November 1961 described how vessels "sit off Canadian military patrol areas and SOSUS installations and there is little doubt that they observe reactions and collect radio traffic." The briefer also noted that a Soviet tanker had been caught refueling a submarine off the east coast that July.[60]

A particular example of the anxiety stirred by such activity was seemingly out of a James Bond movie. The US Air Force had anchored three long range air defence radar platforms on Georges Bank off Nantucket; they were dubbed 'Texas Towers' due to their similarity to the oil rigs that dotted the Gulf of Mexico. After twenty-eight personnel died when one of the towers collapsed in a gale in January 1961, the remaining two platforms were evacuated in the face of serious storms and according to a NORAD report "Often when the towers were evacuated, Russian trawlers would move in quite close, raising the specter of the Russians boarding the two towers and claiming them as salvage."[61]

Most troubling to Dyer was the threat the fishing fleet posed to anti-submarine operations, particularly those against missile firing submarines. A study prepared on the heels of the Cuban crisis observed:

> The presence of large numbers of Soviet fishing vessels in the Canadian Atlantic particularly in probable missile launching areas, hinders anti-submarine warfare to a very serious degree. Some Soviet trawlers have the same engines as Soviet submarines, thus making identification by [SOSUS] shore detection stations difficult. Moreover, A/S ships and aircraft radars are cluttered with small contacts, each of which must be visually identified when an investigation is taking place.[62]

Besides muddling the ASW picture, intelligence officers assessed that "the Soviets have a comprehensive knowledge of military installations and communications in the east coast including submarine cables by this time", including SOSUS. They suspected the Soviets knew where the arrays were located and would attempt to use trawls or anchors to disable them at the outset of a conflict. Moreover, by charting the layout of undersea cables they could provide critical navigation

[59] DNI, "The Threat to Canada Posed by the Soviet Fishing Fleet" 15 January 1963, DHH, 79/246 Folder 29; and NORAD/CONAD, Directorate of Command History Office, "North American Air Defence Command and Continental Defence Command, Historical Summary July-December 1962", 1 April 1963, p. 32. For more on trawler incidents see David Winkler, *Cold War at Sea: High-Seas Confrontation between the United States and the Soviet Union* (Annapolis: Naval Institute Press, 2000), p. 37-40.

[60] DNI Brief "The Application of Soviet Seapower in Waters Adjacent to Canada", 16 November 1961, DHH, 81/715.

[61] NORAD/CONAD, "North American Air Defence Command and Continental Defence Command, Historical Summary July-December 1962", p. 23-25.

[62] RCN, "The Threat to Canada Posed by the Soviet Fishing Fleet", 15 January 1963, DHH, 79/246 Folder 29.

information to missile-firing submarines.

Before the crisis broke, in July 1962 Dyer had recommended several measures to counter the Soviet fishing fleet including the establishment of a coordination centre to track their activities, the formation of a permanent surveillance patrol of three disguised Government-run fishing vessels manned by the RCMP – modern 'Q-ships' if you will – and arming CS2F, T-33, and P2V aircraft with air-to-surface rockets. (He must have rued the fact that the last of the RCN's F2H-3 Banshee jet fighters had departed *Shearwater* that very summer since they would have been the most effective platform against the threat.) None of the measures were implemented by the time the crisis broke, thus the guns of the surface fleet were the only real weapons at Dyer's disposal if conflict erupted; beyond that there was only harassment. Summing up the situation in July 1962, Dyer observed that the overall threat "has increased more rapidly than anticipated and has now reached alarming proportions."[63]

[63] CANCOMARLANT, "Soviet Fishing Fleet Threat to Canada", 25 July 1962, DHH, 79/246 Folder 29. The legal aspect of Soviet activities off Canada's coast is discussed in DNI Brief, "The Application of Soviet Seapower in Waters Adjacent to Canada", 16 November 1961, DHH, 81/715.

Setting the Command Stage

On 17 October Vice-Admiral E.B. Taylor, Commander, Anti-Submarine Warfare Force US Atlantic Fleet, and Rear-Admiral G.P. Koch Commander, Fleet Air Wings Atlantic Fleet flew into *Shearwater* for two days of urgent talks with Rear-Admiral Dyer. Between them, Taylor and Koch headed the US Navy's ASW and MPA forces in the Atlantic. That such a visit took place was not unusual given the close ties and bi-lateral agreements between the US Navy and the RCN. Yet, the content of their conversations is one of those areas where documentary evidence is lacking. Dyer's monthly report only acknowledged "Discussions of immediate operational concern took place"; nonetheless, certain suppositions are possible.[64] Obviously, the focus was on rising tensions in the Atlantic. It seems unlikely that Taylor and Koch revealed to Dyer that the Soviets were in the process of building offensive missile sites in Cuba since President Kennedy had only been informed of that the day prior to their arrival and he had not yet discussed the matter with his own Joint Chiefs of Staff. Likewise, Dyer probably would not have been informed of the quarantine since President Kennedy had yet to settle on that option. [65] It is more likely that Taylor, Koch and Dyer discussed measures to enable joint surveillance of the increased Soviet shipping and submarine activity in the North Atlantic; in particular, as will be seen, talks probably concerned the steps necessary to establish a 'Sub-Air' Barrier off Newfoundland. It also appears that they discussed modifications to the use of SOSUS intelligence. Initially, that intelligence seems to have been limited only to the prosecution of SOSUS contacts by maritime patrol aircraft (MPA); however, earlier in the summer of 1962 there had been discussion about adding surface forces and submarines to the mix. Taylor, Koch and Dyer likely wanted that agreement settled, at least in principle, in time to address the increased activity in the North Atlantic. Moreover, since SOSUS was highly classified, discussions as to its use would not have been conducted over conventional communications networks but would have required face-to-face conversation – 'hot lines' between Halifax and Norfolk were set up only after the crisis – and the agreement could only be hammered out by officers of flag rank.[66]

[64] FOAC, Report of Proceedings (ROP), 13 November 1962, DHH, 81/520/8000 Box 162, File 4. Rear-Admiral E.B. Grantham, Commander Mine Force, US Atlantic Fleet, also visited Dyer on 19 October for a planned three-day debriefing on the minesweeping exercise SWEEP CLEAR, but he returned to his headquarters at Charleston, South Carolina two days early "because of operational requirements". See, Haydon, "Canadian Involvement in the Cuban Missile Crisis Re-Reconsidered", p. 55.

[65] Reardon, *Council of War: A History of the Joint Chiefs of Staff 1942-1991*, p. 232.

[66] CANCOMARLANT to CANAVHED 2232z 1 November 1962, in Haydon, *The 1962 Cuban Missile Crisis*, p. 267.

Rear-Admiral Kenneth Dyer RCN; Commander, Maritime Forces Atlantic. (DND O-10417).

Air Commodore William Clements, RCAF; Commander, Maritime Air Command. (DND)

Vice-Admiral Herbert Rayner, RCN; Chief of the Naval Staff. (DND)

Rear-Admiral Jeffry Brock, RCN; Vice-Chief of the Naval staff. (DND)

Vice-Admiral Edmund Taylor, USN; Commander, Anti-Submarine Forces US Atlantic Fleet. (US Navy History and Heritage Command)

Immediately after Taylor and Koch departed *Shearwater* on 18 October, Dyer hopped into the rear seat of a Lockheed T-33 jet to report to NSHQ in Ottawa.[67] This revelation helps to dispel one of the chief myths associated with the crisis. Some historians insist that Dyer acted more or less independently during the crisis without direction from Ottawa.[68] In fact, NSHQ was fully involved throughout, and the nuts-and-bolts of how the relationship would unfold was probably a topic of discussion when Dyer met the navy brass in Ottawa. This much is clear: from the moment of his return to Atlantic Command after his visit to NSHQ, Dyer sent daily situation reports and other signals detailing specific aspects of the operations, including details of cooperation with US naval forces, to naval and/or air force headquarters (AFHQ). Upon receipt

[67] CDR Jake Kennedy, RCN piloted the T-33 transporting Dyer to Ottawa. As an example of the secrecy that descended upon RCN activities during the Cuban crisis, Kennedy was directed not to enter the flight in his logbook; he showed the author the blank space where the details and passenger of the flight should have been recorded. Author conversation with Kennedy, 30 July 2018.

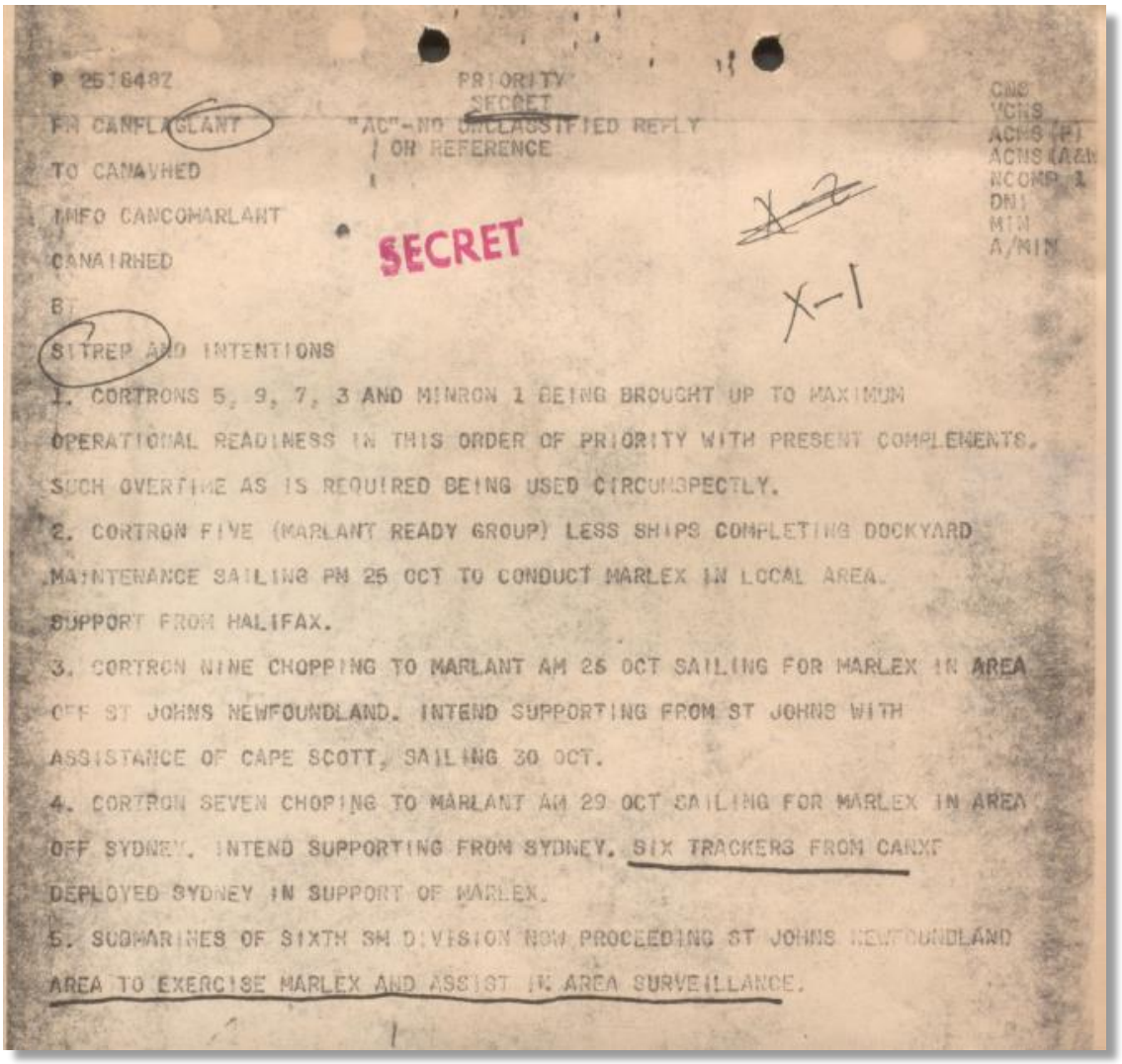
[68] Tony German was the most insistent that Dyer acted without much direction from Ottawa. German, The Sea is at Our Gates (Toronto: McClelland and Stewart, 1990), p. 264. The idea is echoed, although not as stridently, in more recent works including Marc Milner, Canada's Navy: The First Century (Toronto U of T Press, 1999, p. 235: David Zimmerman, Maritime Command Pacific: The Royal Canadian Navy's West Coast Fleet in the Early Cold War (Vancouver: UBC Press, 2015). P. 153-156; Nicholas Tracy, The Two-Edged Sword, p. 139; and Richard Mayne, "Years of Crisis: The Canadian Navy in the 1960s", in Richard Gimblett (ed), The Naval Service of Canada, 1910-2010: The Centennial Story (Toronto: Dundurn Press, 2010), p. 146.

at the communications centre at NSHQ these messages were distributed to the Chief of the Naval Staff (CNS), Vice-Admiral Herbert Rayner, the Vice-Chief (VCNS), Rear-Admiral Jeffry Brock, and other senior staff. Most of these 'SITREPs' were also shared with the Minister of National Defence, Douglas Harkness and the Associate Minister, Pierre Sévigny.[69] Throughout the crisis, the information supplied by Dyer was used to maintain a temporary operational plot at NSHQ, overseen by the VCNS and his staff. It is also evident that Dyer, Rayner, and Brock also had regular telephone conversations, and that Air Commodore W.I. Clements, Commander Maritime Air Group, consulted regularly with his superiors at AFHQ. Thus, Dyer and his team were not isolated on the island of command, but had direct or tacit approval for decisions, as well as critical political top cover. Events will demonstrate that Halifax and Ottawa did not always agree on operational matters, but communication consistently flowed both ways throughout the crisis.

There were other matters that had to be sorted out by NSHQ. Once the US announced it was implementing its quarantine around Cuba at 1000 EST on 24 October, senior government officials requested the navy to provide a legal definition of the principles of a naval blockade. There was also the question of what to do about RCN personnel on exchange with the US Navy. Given the large number, it is hardly surprising that a few got caught up in the crisis. Lieutenant R.W. Hogg was serving in the fleet oiler USS *Neosho*, part of the replenishment group supporting the ships enforcing in the quarantine, and would thus be at least peripherally engaged in the operation. He requested instructions from Captain J.C. O'Brien, the naval attaché in Washington, as to whether he should leave the ship. O'Brien consulted the VCNS, and Rear-Admiral Brock, perhaps mindful of the British anger when the RCN withdrew personnel from RN ships during the 1956 Suez crisis, decided Hogg that should "carry on". Other Canadians on exchange with the US Navy also became entangled in the crisis: Lieutenant Glen Cook flew operational sorties in Sikorsky Sea King helicopters from the carrier USS *Wasp* as did MAC aircrew attached to the US Navy's VX-1.[70]

[69] Dyer's messages to Ottawa have been preserved in DHH, 80/381.

[70] Naval Member, Canadian Joint Staff Washington, ROP, 1 November 1962. DHH, 81/520 8000 HMCS Niagara. See Cook, Vignettes of a Canadian Naval Aviator, 1955-83 (Privately Published, 2005) p. 162-163; and Larry Milberry, Canada's Air Forces on Exchange (CANAV Books: Toronto, 2007) p. 160-161. Brock commanded the RCN mission in the UK during the 1956 Suez crisis, so he knew first-hand the RN's upset at the withdrawal of Canadian personnel.



P 251648Z
FM CANFLAGLANT
TO CANAVHED
INFO CANCOMARLANT
CANAIRHED
B
SITREP AND INTENTIONS
1. CORTRONS 5, 9, 7, 3 AND MINRON 1 BEING BROUGHT UP TO MAXIMUM OPERATIONAL READINESS IN THIS ORDER OF PRIORITY WITH PRESENT COMPLEMENTS. SUCH OVERTIME AS IS REQUIRED BEING USED CIRCUMSPECTLY.
2. CORTRON FIVE (MARLANT READY GROUP) LESS SHIPS COMPLETING DOCKYARD MAINTENANCE SAILING PM 25 OCT TO CONDUCT MARLEX IN LOCAL AREA. SUPPORT FROM HALIFAX.
3. CORTRON NINE CHOPPING TO MARLANT AM 26 OCT SAILING FOR MARLEX IN AREA OFF ST JOHNS NEWFOUNDLAND. INTEND SUPPORTING FROM ST JOHNS WITH ASSISTANCE OF CAPE SCOTT, SAILING 30 OCT.
4. CORTRON SEVEN CHOPING TO MARLANT AM 29 OCT SAILING FOR MARLEX IN AREA OFF SYDNEY. INTEND SUPPORTING FROM SYDNEY. SIX TRACKERS FROM CANXF DEPLOYED SYDNEY IN SUPPORT OF MARLEX.
5. SUBMARINES OF SIXTH SM DIVISION NOW PROCEEDING ST JOHNS NEWFOUNDLAND AREA TO EXERCISE MARLEX AND ASSIST IN AREA SURVEILLANCE.

PRIORITY
SECRET
"AC"-NO UNCLASSIFIED REPLY
/ OR REFERENCE

SECRET

CNS
VCNS
ACNS (P)
ACNS (A&W)
NCOMP
DNI
MIN
A/MIN

X-2
X-1

This ‘SITREP’ sent at 1648Z on 25 October is typical of the many Rear-Admiral Dyer sent to NSHQ during the crisis. Note the NSHQ ‘circ list’ at top right including “CNS, VCNS, ACNS (P), ACNS (A&W), NCOMP, DNI, MIN and A/MIN.” Dyer sent some fifty-five ‘Sit-Reps’ and contact reports to NSHQ between 24 October and 15 November. (DHH, 80/381).

On 24 October, Naval Board held a special meeting to review the steps taken to address the crisis. Rear-Admiral Brock emphasized that their measures had been guided by “the overriding necessity for discretion and unobtrusiveness” and had been largely limited to NSHQ – they wanted to damp down any suggestion they were going to a war footing. Beyond mentioning that they were setting up an ops centre at NSHQ, he revealed that directives were

in place for the security and censorship of naval information; stores and equipment were being supplied to the alternate national headquarters at HMCS *Cataraqui* in Kingston, Ontario; the availability of key personnel had been confirmed with only essential members recalled from leave; and the combat readiness of operational equipment was under review. After discussing these actions, the Board agreed to “prepare and obtain all necessary clearances for draft messages which may be required to implement measures required to be taken up to and including a state of Simple Alert” so it was prepared if the situation escalated. Finally, the Board agreed that the CNS would inform national commands and liaison officers “of the current position of the RCN with relation to the crisis over the blockade of Cuba”, while the VCNS would “review the employment of the fleet with a view to keeping HMC Ships in RCN operational areas as much as possible.”[71] From that it is evident that Vice-Admiral Rayner was prepared to handle the more strategic, navy-wide aspects of the crisis while Rear-Admiral Brock focused on the day-to-day activities of the fleet. Importantly, that emphasises that each was fully involved in the crisis.

[71] Naval Board, Special Meeting, 1015 on 24 October 1962. DHH, 81/520/1000-100/2, Box 26, File 2.

Opening Moves

Even before his meeting with Vice-Admiral Taylor or his ensuing visit to NSHQ, Rear-Admiral Dyer had taken steps to increase his command's operational vigilance. The naval intelligence staff in Halifax reported that there had been no upsurge in Soviet activity in the Canadian area of responsibility at the end of September or the beginning of October: the fishing fleet remained constant at about 230 vessels operating in the Georges Bank, Sable Island, and Grand Bank areas, and there were no submarine contacts evaluated as 'possible' or higher. But outside the Canadian sub-area they had noticed the significant build-up of Soviet Bloc ships destined for Cuba, which was accompanied by indications of increased Soviet submarine activity. Based upon that intelligence, which was undoubtedly buttressed by the information from Vice-Admiral Taylor and Rear-Admiral Koch, Dyer increased the frequency of his air patrols.

The move paid dividends almost immediately. As described in the opening to this study, on 17 October, the same day Vice-Admiral Taylor arrived at Shearwater, the Argus aircraft detected a "Probable" submarine contact in the DEPRESS 2 Patrol Area southeast of Sable Island. The contact report stated that "Argus a/c gained sinker for 6 sweeps; single MAD contact; 9 uncorrelated JULIE contacts. Later, single ASH and JEZEBEL contacts gained and oil slick sighted. Contact cold after 4 hours of various indications. Classification – Probable." In simple terms, this meant that the aircraft tracked a probable contact using almost all the sensors at hand – in order of mention: air-to-surface (ASV) radar, Magnetic Anomaly Detection (MAD), Explosive Echo Ranging or JULIE, diesel exhaust detection (ASH), and JEZEBEL. However, for a submarine contact to be considered definitive in the 1962 timeframe, in addition to the information obtained from sensors, it had to be seen snorkeling or running on the surface; fleeting sensor hits were not enough. Nonetheless, prudence demanded that detections such as that by the Argus on 17 October be taken seriously.

As it was, B-27 went 'cold' and was not included in subsequent A/S plots. But even confirmed submarine sightings could lead to spurious conclusions. On 20 October US Navy aircraft patrolling the North Atlantic began surveillance of the Soviet submarine replenishment ship Terek. After continuous tracking, on 22 October a P2V Neptune aircraft on patrol roughly midway between the Azores and Newfoundland, photographed Terek with a ZULU class submarine refuelling alongside. This confirmed the presence of a Soviet missile boat in the North Atlantic, but analysts erred in assuming that the ZULU would return to a patrol position off North America after refuelling.[72] In fact, the SSB was topping up on its way home to the Soviet Union after completing such a patrol and it played no role in the crisis.[73] As for the Terek, it was shadowed by US Navy

[72] See for example, Haydon, The Cuban Missile Crisis Re-Reconsidered", p. 55.
[73] Svetlana V. Savranskya, "New Sources on the Role of Soviet Submarines in the Cuban Missile Crisis," p. 237-8. For the *Terek*-ZULU encounter see CNO, "The Naval Quarantine of Cuba, 1962", (1963), p. 12; Bouchard, *Command in Crisis*, p. 117; and National Security Archives, "The Submarines of October"; "Summary of Soviet Submarine Activity in Western Atlantic to 271700Z"; and Captain Joseph F. Bouchard "Guarding the Cold War Ramparts: The US Navy's Role in Continental Air Defence", *The Navy War College Review* Vol 52 No 3 (Summer 1999), p. 111-135.

destroyers and patrol aircraft into November, and on the 4th of that month they frustrated its attempt to refuel a FOXTROT returning from the Caribbean.

To return to Canadian activities, one of the first actions Naval Board took when the crisis broke was to recall the Bonaventure task unit home from the United Kingdom where it had been participating in the NATO exercise SHARP SQUALL. The sudden recall involved rounding up sailors from Bonaventure, her air squadrons and the five destroyers of CANCORTRON 1, many of whom were scattered on leave around Great Britain. The move was also accompanied by a change in command of the RCN's most important task group, when Commodore Robert Welland replaced Commodore William Landymore. In his memoirs Welland describes how Rayner called him into his office at the outset of the Cuban crisis and told him "Welland, you are one of our best operational officers, I want you to leave tomorrow to command the fleet...because there's a danger of nuclear war…Get a flight to England and relieve Landymore in Bonaventure, she's in Portsmouth."[74] In fact, the timing of the command change was coincidental. In late August 1962, Vice-Admiral Rayner had informed Minister Harkness that Rear-Admiral E.W. Finch-Noyes, Flag Officer Pacific Coast, had requested early retirement for health reasons. They decided that Landymore, then serving as Senior Canadian Officer Afloat (Atlantic) (SCOA (A)), would replace Finch-Noyes and Welland would, in turn, relieve Landymore. They announced the moves in a press release on 6 September 1962 explaining that Welland would take over as SCOA (A) on 19 October 1962.[75] These changes went ahead as scheduled: Welland assumed command of the task group in Portsmouth, UK on 19 October, Finch-Noyes took the farewell salute from Pacific Command on 23 October, and Landymore raised his flag as FOPC on 1 November.[76] Nonetheless, swapping the leaders of the RCN's most capable task group at the moment of crisis seems peculiar.[77] It may well be that Rayner pressed on with the changes because he thought Landymore was best equipped to command the west coast or that Welland was indeed better suited to command the task group. Moreover, by adhering to the announced schedule they downplayed any potential alarm that might have arisen if the moves had not gone ahead. That said, there can be no doubt Landymore must have been disheartened to relinquish command of his task group at the very moment it was needed most.

With Welland at the helm, TU 302.7, Bonaventure and four destroyers, departed Portsmouth on 25 October, a day ahead of schedule – they probably could have left sooner but, again, there seems to have been a desire to avoid raising alarm. Nootka had suffered damage during SHARP SQUALL, so her sailing was delayed thirty-six hours for repairs, which enabled her to collect sailors unable to get back to their own ships in time. The task group's estimated time of

[74] Rear-Admiral R.P. Welland, *This Will Have to Do* (Private ms in author's possession), p. 334-335. Parts of Welland's memoir are also serialized in the Naval Association of Canada's *Starshell* magazine at https://www.navalassoc.ca/naval-affairs/starshell/

75 These and other personnel moves were outlined in the October 1962 edition of *Crowsnest*, p. 7.

[76] Commodore C.A. Charles, CO of HMCS *Naden*, acted as FOPC until Landymore arrived.

77 The move was not without precedent, bringing to mind Captain Jeffry Brock's last-minute ascension as senior officer of the destroyers deployed to Korea in the summer of 1950.

arrival in Halifax was 2 November.[78] It was unfortunate that Bonaventure was on the wrong side of the North Atlantic at the wrong time since her absence deprived Dyer and Taylor of an invaluable ASW carrier group – Hunter Killer or HUK group in US Navy parlance – at a critical time. Moreover, it emphasized the shortcoming of having only one such asset.[79]

Rear-Admiral Dyer carried on with the forces at hand. Following the direction of Naval Board, on the afternoon of 24 October he amended the duties of his senior officers in accordance with emergency defence measures: the Commodore of the Stadacona barracks in Halifax, Commodore M.A. Medland and his staff moved to Sydney to establish a 'shadow HQ' and assume the duties and responsibilities of Flag Officer Atlantic Coast (FOAC) with the CO of Shearwater, Captain G.C. Edwards, as his Chief of Staff. The move was largely administrative in nature, but it ensured that a headquarters staff would survive if Halifax was targeted in a nuclear attack, and it allowed Dyer to concentrate on his operational responsibilities. The next afternoon, Dyer cancelled all long leave throughout the command; personnel already on leave would not be recalled, and out of port short leave could still be granted.[80]

These moves, in combination with the ammunitioning of ships in plain view at the Bedford armament depot as well as the general disquiet fomented by the Cuban situation, moved Dyer to seek permission to release a statement of assurance to the local population. "While every effort is being made to avoid actions which will alarm the general public in present situation," he explained to NSHQ, "queries have been received by both Naval authorities and news media with respect to ammunitioning and fueling of RCN ships which it has been essential to carry out and which has been normal under the present circumstances." NSHQ concurred, and Dyer reassured the local population through the media: "The Navy's Atlantic Command is not in a formal state of alert. We are only taking those steps necessary to ensure that we will be ready should an alert be ordered. These steps involve, among other measures, the normal topping up of ships with fuel, ammunition, and stores. In addition, as a temporary measure, no long leave is being granted, but personnel already on leave are not being recalled."[81]

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[78] ROP *Bonaventure*, 7 November 1962, DHH 81/520/8000 Box 11 File 2. ROP *Nootka*, 3 November 1962, DHH 81/520/8000 Box 72 File 1; and CANFLAGLANT to CANAVHED, 2314z 26 October 1962, DHH, 80/381.

[79] The RCN failed in its persistent attempts to acquire a second aircraft carrier. See, Michael Whitby, "Fouled Deck: The Pursuit of an Augmented Aircraft Carrier Capability for the Royal Canadian Navy, 1945–64", *Canadian Air Force Journal* (Summer and Fall 2010, Vol. 3, Issues 3 and 4), at http://airforceapp.forces.gc.ca/CFAWC/eLibrary/Journal/Vol3-2010/Iss4-Fall/Sections/04-Fouled_Deck-Part_2_e.pdf

[80] CANFLAGLANT to CANAVHED, 1927z 24 October 1962; and CANFLAGLANT message, 1228z 25 October 1962, both DHH 80/381.

[81] CANFLAGLANT to CANAVHED, 2031z 25 October 1962, DHH 81/520/1886 Box 175 File 2. The navy's ammunition depot was in plain view on Bedford Basin.

Although the light fleet carrier HMCS Bonaventure was overseas in European waters when the crisis broke, she played an important role in its latter stages. (DND)

A major exercise also provided cover for Dyer’s activities. Elements of Atlantic Command and the US Atlantic Fleet had been scheduled to carry out BEAGLE 2, a large “defence against missile launching submarines” exercise off Nova Scotia and Newfoundland between 29 October and 9 November.[82] The exercise had been on the books for months but in the face of the Cuban crisis, the Americans withdrew, leading Dyer to cancel the program on 24 October. Nonetheless, BEAGLE 2 served a purpose. Some 27 ships and vessels and six aviation units from Atlantic Command were slated to participate, including the Bonaventure task group, which meant that they were in a high state of readiness when the Cuban crisis broke. Dyer seized an opportunity. Rather than proceeding with BEAGLE 2, Dyer assigned his ships to a series of “MARLEXES” off Nova Scotia and Newfoundland, which provided cover for the operations that unfolded. Few were fooled by the subterfuge, but it at least afforded a level of deniability to explain why ships were heading out to sea. Dyer informed NSHQ “Intend to conduct MARLEXES in vicinity Cape Race and Sable Island with

[82] The US Navy had intended to contribute the USS *Lake Champlain* Hunter-Killer (HUK) ASW Group, an oiler, four submarines and patrol squadron to BEAGLE 2.

RCN forces, 6th S/M Division and RCAF A/C as available."[83] The word "Intend" is critical: under long-standing naval custom it meant that Dyer would proceed with the action stated unless directed otherwise by higher authority. Thus he was, in essence, seeking permission to proceed, and the fact that no counter-order was received meant that he had the authorization of naval headquarters. This pattern continued throughout the crisis.

Halifax Dockyard with a mix of warships representative of those that put to sea during 'CUBEX" in October-November 1962. The Dockyard's location meant that any upsurge in activity would be in plain view of interested Haligonians. (DND)

Dyer's deployment plans were governed by three factors: the establishment of an anti-submarine barrier; support to the SOSUS system; and surveillance of the Soviet fishing fleet. Regarding the former, on 24 October the CINCLANT, Admiral Dennison, directed the establishment of the "Argentia SUB/AIR Anti-submarine Barrier". Dubbed STONEWALL, the barrier was a maritime 'trip-wire' that stretched some 1,100 kilometres south-southeast from the approaches to Cabot Strait out into the Northwest Atlantic, thus lying across the route Soviet submarines would likely take to North American waters. It comprised ten US Navy diesel-electric A/S submarines (SSK),

[83] CANCOMARLANT to CANAVHED 2009z 24 October 1962, DHH 80/381.

supported by an advance guard of seventeen maritime patrol aircraft – the submarines remained in relatively static patrol boxes while the MPAs patrolled over a 280-kilometre swath northeast of the line of submarines. Both elements worked closely with the SOSUS station at Argentia and long-range Lockheed WV-2 'Willie Victor' electronic surveillance (AEW) aircraft.[84] Since the US Navy's Lockheed P2V Neptunes lacked the range to cover the farthest extremity of the barrier, Vice-Admiral Taylor tasked Rear-Admiral Dyer's Argus aircraft to that role. A message from Air Commodore Clements to RCAF headquarters during the crisis describes MAC's role:

> We started with one ARGUS on task but increased to two. One aircraft is satisfactory for area in front of three submarines but marginal in front of four. Difficult for aircraft in one corner to communicate with submarine in diagonally opposite corner. In addition, with only one aircraft, area would be empty for four to five hours should aircraft on task go unserviceable and have to return to base. Patrols are required behind this barrier because Soviet submarines may have passed into area prior to establishment of barrier, at least one suspected, and also because several submarines have been positively identified and these may come up into our area.

Describing how the barrier came into being in the brusque language of military messaging, Clements explained to the Vice Chief of the Air Staff:

> Reference your comment about one aircraft only being authorized for barrier. Am unaware of any authorization being requested or given. Canadian Chiefs of Staff and US Joint Chiefs made CINCLANT, who delegated to COMASWFORLANT, responsible for coordination of joint planning and operations on national basis prior to SACLANT taking command in a NATO situation. He asked [Canadian] Maritime Commander if we could assist in barrier. This was within our capabilities, at least for limited period, with peacetime squadrons. Barrier was of invaluable assistance in protection of Canadian waters and Canadian participation requested was small compared to benefits received and compared to USN participation. My advice to the Maritime Commander, based on above reasons, was to use two aircraft and this was done. [85]

Thus, Atlantic Command's participation in the Sub/Air Barrier occurred more or less automatically, following previously agreed upon bilateral defence measures.

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[84] Bouchard, *Command in Crisis*, p. 117 and 221. The submarines forming the barrier were USS *Hardhead*, *Sablefish*, *Piper*, *Irex*, *Cavalla*, *Sea Leopard*, *Argonaut*, *Cutlass*, *Torsk* and *Trumpetfish*. COMASWFORLANT directed the formation of the barrier on 25 October but it took several days for all units to arrive. The two British boats, which Bouchard does not mention, assumed their 'picket' positions a few days later.

[85] CANAIRLANT to CANAIRHED, 1630z 30 October 1962, quoted in Haydon, *The 1962 Cuban Missile Crisis*, p. 253.

As it was, flight operations in support of STONEWALL by US Navy and MAC aircraft reached a tempo of some 120 hours a day.[86] Given the location of their patrol area at the extremity of the barrier, Argus aircrew had the greatest challenge with each mission averaging about seventeen hours. The duty became a major focus of the Argus's role during the Cuban crisis, and increased over its duration: between 23-31 October they flew nine barrier sorties, but from 1-13 November the number grew to thirty-four. Ultimately, Argus STONEWALL patrols totalled some 773 hours.[87] The two British submarines on loan to the RCN, HMS Alderney and Astute from the 6th Submarine Division based at Halifax, also contributed peripherally to the barrier operation, occupying outlying 'picket' positions about 550 kilometres northeast of the main STONEWALL line.[88] Although the barrier ran through the CANLANT zone Dyer had operational control only of the Argus aircraft and the two British submarines. He also understood from previous plans that if Soviet submarine activity intensified, the barrier forces would shift eastward to the Greenland-Iceland-United Kingdom Gap, but that did not occur.[89]

An Argus inspecting shipping. Typically vessels were photographed for inclusion in intelligence files. (DND PL 113640)

Beyond the STONEWALL barrier, Dyer's initial deployment plan, promulgated to NSHQ on 25 October, reflected his concerns to support SOSUS and monitor the movements of Soviet trawlers. According to his "SITREP and Intentions":

1. CORTRONS 5, 9, 7, 3 and MINRON 1 being brought up to maximum operational readiness in this order of priority with present complements. Such overtime as is required being used circumspectly.

2. CORTRON FIVE (MARLANT Ready Group) less ships completing Dockyard maintenance sailing PM 25 OCT to conduct MARLEX in local area. Support from Halifax.

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[86] Commander-in-Chief, US Atlantic Fleet (CINCLANTFLT) Memorandum, 29 April 1963, "Top Secret CINCLANTFLT Historical Account of Cuban Crisis 1962", quoted in R.F. Cross Associates, *Sea Based Airborne Antisubmarine Warfare 1940-1977, Vol II 1960-1977*, p. 39.

[87] D.A. Grant, "Analysis of Maritime Air Command Activities during the Cuban Crisis", Maritime Command Operational Research Branch, March 1963, p. 1.

[88] Like the Canadian ships, *Alderney* and *Astute* were stored for war. See, P. Hennessy and J. Jinks, *The Silent Deep: The Royal Navy Submarine Service Since 1945* (London: Allen Lane, 2005), p. 276.

[89] As suggested in Clements' message to the CAS, the barrier probably was not shifted to the GIUK Gap position as per war plans because the US wanted to avoid involving NATO in its response to the Cuban crisis.

3. CORTRON NINE Chopping to MARLANT AM 26 sailing for MARLEX in Area off St John's Newfoundland. Intend supporting from St John's with assistance of CAPE SCOTT, sailing 30 Oct.

4. CORTRON SEVEN Chopping to MARLANT AM 29 OCT sailing for MARLEX in area off Sydney. Intend supporting from Sydney. Six Trackers from CANXS deployed Sydney in support of MARLEX.

5. Submarines of SIXTH SM DIVISION now proceeding St Johns Newfoundland area to Exercise MARLEX and assist in area surveillance.

6. Present intentions regarding BONAVENTURE and CORTRON ONE are return to Halifax.

7. Expected press queries regarding sailing will be answered by statement that ships are proceeding for Canadian portion of Joint Canadian-USN exercise which was cancelled and are carrying out what remains of the exercise.[90]

This sparks a number of observations. It was fortuitous that CANCORTRON 5 formed the Ready Group, since it meant Dyer could get his Restigouche-class destroyers, the most capable in his command, to sea almost immediately. Also, by deploying his frigate groups off Cape Breton Island and Cape Race, they were in position to guard the entrance to the Gulf of St Lawrence, keep a watch on elements of the Soviet fishing fleet, and support the SOSUS array running out of Argentia – of course, the naval forces had no knowledge of its existence. As mentioned previously, Dyer similarly deployed CANCORTRON 5 to an area south of Sable Island to support the Shelburne array. The section of eight CS2F Trackers from HMCS Shearwater (CANXS) deployed to Sydney, later re-positioned to Torbay, Newfoundland, would provide air support to the frigate groups. Moreover, as mentioned above, the two submarines from the Sixth division were intended to act as pickets in the northeast approaches to the STONEWALL barrier. Although Alderney, the first boat deployed, transited to her station via St John's, Astute proceeded by way of the Gulf of St Lawrence and the Strait of Belle Isle, perhaps to conduct surveillance in that area and to keep her clear of the SUB/AIR barrier – there were concerns that friendly submarines might be mistaken for Soviet. With regard to the escort maintenance ship HMCS Cape Scott, instead of sending her to St. John's as originally intended, Dyer positioned her at Shelburne to provide replenishment support for seagoing forces when the focus of operations later shifted south of Nova Scotia. Finally, and most importantly in terms of the national command and control authority, when Dyer's "SITREP and Intentions" arrived at the communications centre at NSHQ it was distributed to various senior members of the naval staff as well as to the naval assistant to the Minister and Associate Minister -- further evidence that senior defence officials were completely aware of, and in accord with, Dyer's plans.

[90] CANFLAGLANT to CANAVHED, 1848z 25 October 1962, DHH 80/381.

Putting to Sea

Rear-Admiral Dyer's first step was to bring CANCORTRON 5, the duty squadron, to full operational readiness, followed by the remainder of the fleet in the order: CANCORTRONs 9, 7, 3, and MINRON 1. With the exception of the older destroyers of CANCORTRON 3, all had been scheduled to participate in Exercise BEAGLE 2 and were thus at a relatively good state of readiness. Dyer put his plan into motion on the evening of 24 October 1962 when he directed CANCORTRON 5's HMCS *Gatineau* to cancel scheduled sonar trials and instead take on ammunition. At 0811 Thursday 25 October, the destroyer proceeded to the ammunition jetty in Bedford Basin to land practise ammunition and embark live rounds and A/S torpedoes. Later in the day *St Croix* and *Kootenay* received similar orders, while the ship's company of *Terra Nova*, which had been scheduled for maintenance, began the task of bringing the ship to a state of fighting readiness.[91] Of the squadron's other destroyers, *Columbia* was at sea conducting work-ups as part of post-refit trials, *Chaudière* was alongside in a semi-operational state preparing for a refit, while *Restigouche* was in the midst of a scheduled leave and maintenance period and would require several days to ready for operations.

With CANCORTRON 5 on the move, Dyer turned to the other squadrons in his command. On the evening of 24 October, Commander K.E. Grant, commanding CANCORTRON 9, was directed to ready his frigates for sea, and the next morning the squadron began taking on fuel, stores, and ammunition – it was these moves that prompted Dyer's message of reassurance mentioned earlier.[92] *Cap de la Madeline* and *Lauzon* were not ready to proceed, leaving *Buckingham*, *La Hulloise* and *Swansea* to fill out the squadron, which sailed for their patrol area off Cape Race on 26 October. Five of the six frigates in CANCORTRON 7 were available but the unit had just completed a period of leave and maintenance and it would take time to come full operational readiness. They ultimately sailed on 29 October, conducting hurried workups on passage to their patrol area.[93] The final squadron, CANCORTON 3, comprising destroyers of Second World War vintage, was not even close to whole: *Iroquois* was in the process of being paid off and *Haida* was in refit, leaving only *Sioux* and *Huron* available. Finally, *Alderney* and *Astute* sailed on 23 and 29 October respectively for their positions northeast of Newfoundland.[94]

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[91] *Terra Nova* ROP, 3 November 1962, DHH, 81/520/8000, box 103, file 5.

[92] CANCORTRON 9 ROP, 1 November 1962, DHH, 81/520/8000, box 239, file 1. The ROP for *La Hulloise* indicates that the ship came to four hours' notice for steam on the evening of the 24th even though it did not take on fuel and ammunition until the afternoon of the following day. This would seem to suggest that Dyer had given notice to all of his squadrons the night before that they were to arm, fuel and store ship for operational patrols. *La Hulloise* ROP, 3 November 1962, DHH, 81/520/8000, box 56, file 2.

[93] CANCORTRON 7 ROP, 6 November 1962, DHH, 81/520/8000, box 238, file 1.

[94] According to *Alderney*'s Ship's Movement Card she departed for her patrol station at 0200z on 23 October. At the time she was at sea acting as 'Clockwork Mouse' for CANCORTRON 7, DHH, 2010/15 HMS *Alderney*.

It was pure serendipity that Atlantic Command’s most capable escorts, HMCS St Croix and the other Restigouche-class destroyers of CANCORTRON 5, were the designated Ready Unit and thus prepared to deploy at short notice. (DND)

It is impractical to detail the movements of all Atlantic Command’s ships and aircraft throughout the three-week duration of the Cuban crisis, but snap shots of certain activities, such as CANCORTRON 5’s initial operations, illuminate the nature of the activities and challenges ofwhat became known as ‘CUBEX’. *St Croix* and *Gatineau* had taken on fuel and ammunition by 1700 25 October when Captain Patrick Nixon and his squadron staff boarded *Gatineau*. After a hurried conference with his commanding officers, at 2000 Nixon led his two ships out of harbor and made for their patrol area near Sable Island Bank.[95] *Kootenay* followed shortly afterwards, “blacked out” to conceal her departure,[96] while *Terra Nova* departed the next evening. Due to the staggered departures Nixon was unable to concentrate his squadron until 0330 27 October. Sea and weather conditions did not help. Hurricane ELLA, the strongest of the season, had cut through the area the previous week, leaving stormy seas in her wake, a situation that hampered operations throughout the crisis – one officer referred to the “unrelenting gales.”[97] Once on station, Nixon was confronted by another

[95] *St Croix* ROP, 6 November 1962, DHH, 81/520/8000, box 92, file 4.
[96] Interview with Captain D.H. Ryan, RCN (ret’d), CO of HMCS *Kootenay*, 1 October 2000, RCN History and Heritage Section, NDHQ.
[97] *La Hulloise*, ROP. 6 December 1962, DHH, 81/520 HMCS *La Hulloise*. Hurricane ELLA moved into Canadian waters just after midnight on 22 October, bringing winds of 120 km/h. It reached the Avalon Peninsula of Newfoundland later that morning but had been downgraded to a tropical storm by the time it made landfall. On 23 October Ella left Canadian

reality in that there was no seagoing replenishment capability to tap into, while the escort maintenance ship *Cape* Scott, ill-suited for under way replenishment operations, would only arrive at Shelburne early on the 31st.[98] Although *Cape Scott*'s presence at Shelburne would reduce CANCORTRON 5's time on passage for replenishment, it was not nearly as efficient as having an oiler in company. To maximize his ships' time on station, Nixon implemented a replenishment rotation that enabled him to keep three DDEs on task.[99] The other squadrons implemented similar rotations over the course of CUBEX, but it was later calculated that the constant shuttle to refuel reduced the forces available to Dyer at sea by some 25 per cent, a significant shortfall.[100]

Due to the tight security shrouding operations, Captain Nixon vaguely described CANCORTRON 5's initial task during CUBEX as "surveillance duties off Nova Scotia".[101] Sailors and airmen found this to be a challenge. On the one hand they had to attempt to resolve imprecise information about a small number of potential submarine contacts while still monitoring dozens of Soviet trawlers and associated vessels lingering in various areas of the Canadian zone of operations – and all of this in intemperate seas. As discussed previously, American and Canadian naval authorities recognized that submarines and fishing vessels could both have a potentially devastating impact at the outset of a shooting war, and because of that monitoring their movements was of utmost importance.

waters in a northeasterly direction. See Environment Canada site at: http://www.ec.gc.ca/Hurricane/default.asp?lang=En&n=FA6EE161-1.

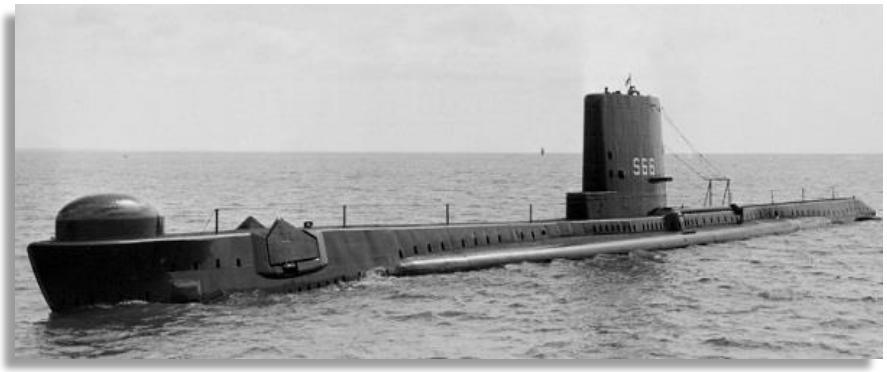
[98] CANFLAGLANT to CANAVHED, 2102z 29 October 1962, DHH 80/381.

[99] CANCORTRON 5 ROP, 2 November 1962, DHH, 81/520/8000-260/5, Box 236, File 9.

[100] VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 13-14, LAC, RG 24 (Acc 1983-84/167), Box 144, File 1279-118 pt 7.

[101] CANCORTRON 5, ROP, 2 November 1962, DHH, 81/520/8000-260/5, Box 236, File 9.

Although Prestonian-class frigates like HMCS Antigonish lacked the capability of destroyers, they fulfilled a useful role in the crisis identifying fishing vessels off Newfoundland and keeping an eye on a Soviet intelligence vessel (DND)



Along with her sister HMS Astute, HMS Alderney was deployed as a ‘picket’ northeast of the main Sub/Air Barrier. Alderney’s navigating officer was Lieutenant Peter Haydon RCN, who later became the preeminent scholar on Canada’s role in the crisis. (DND)

Rough seas, like these breaking over Chaudière, hampered operations during Cubex. (DND)

From Friday 26 October to the following Sunday, CANCORTRON 5 patrolled their assigned area between Halifax and Sable Island, identifying any vessels encountered. This information was relayed to Atlantic Command HQ in Halifax where an ops team maintained a detailed surface plot. Under normal circumstances, ships and aircraft were directed to keep clear of Soviet vessels to avoid charges of harassment, but that changed with the emergency. Captain Nixon directed that all vessels, especially Soviet ones, were to be monitored and identified, and that his destroyers should seize all opportunities to gather intelligence about Soviet radar and radio emissions, or ELINT. When operating in proximity to commercial vessels Canadian warships typically did not operate their powerful naval radars in case their pulse damaged civilian equipment, instead relying upon their weaker, commercially available, Sperry Mark II radars for navigation. However, some of the larger Soviet trawlers were suspected of being AGIs or ELINT gatherers, and on occasion when close to such vessels, the destroyers activated their SPS-10B search radars knowing its powerful pulse would probably blow out the crystals in the trawler's electronic array. Since Rear-Admiral Dyer's and Captain Nixon's operational orders were destroyed or perhaps issued verbally, it is not known whether this was standard procedure; but years later, *Kootenay*'s CO, Commander Patrick Ryan, admitted that it may not have been the most prudent tactic in a period of heightened tension. Nonetheless, it underscores the gravity accorded the trawler threat.[102]

[102] Interview with Captain D.H. Ryan, RCN (ret'd), CO of HMCS *Kootenay,* 1 October 2000, RCN History and Heritage Section, NDHQ. In the same interview Ryan claimed to have later used machine gun fire to sink floats surrounding a

As the ready duty squadron, CANCORTRON 5 had been able to get to sea with dispatch; Rear-Admiral Dyer's other squadrons were close behind, deploying over the following days. The frigates of CANCORTRON 9 were the next out of Halifax, *Buckingham* and *Swansea* leaving at 0830 26 October with *La Hulloise* and *Lauzon* joining later. They arrived at their station off Cape Race at 0200 28 October.[103] The other frigate group, CANCORTRON 7, had just emerged from a series of refits and were in the midst of squadron work-ups and preparations for BEAGLE 2 when the crisis broke. The five frigates put to sea on 29 October, returning briefly to harbour to land a work-up team that had overseen a final serial, before proceeding to their station off Cape Breton Island and Banquereau Bank off the north shore of Nova Scotia. The senior officer, Commander W.C. Spicer, had only taken over the squadron at the beginning of October and was only moderately pleased with its readiness.[104] Some of his officers perceived other deficiencies. Lieutenant-Commander Alec Douglas remembered the squadron anti-submarine specialist "complaining bitterly that we had no atomic depth charges." Douglas thought otherwise: "what effect their explosion might have had on the hull of a Prestonian-class frigate did not endear me to the idea of acquiring them."[105] Once at sea, efficiency improved as the squadron settled into their operational routine, and *New Waterford*'s CO found the activities "generally similar" to the BEAGLE 2 serials they had prepared for "with the obvious exception that the opposing forces are no longer simulated."[106] Once it reached its station the squadron was directed to confirm the identity of some Spanish trawlers, which proved a challenge in the face of the prevailing stormy weather; with tongue firmly in cheek Spicer observed it was "a congenial occupation so long as the sun is shining and the sea moderate."[107]

CANCORTRON 3's Second World War era destroyers were the least prepared to embark on operations. *Haida* and *Iroquois* were in various stages of maintenance, the latter to prepare for permanent de-commissioning – when queried about his experiences during the crisis, one officer only recalled efforts to deplete the wardroom's liquor supply before she was turned over for scrapping. Only *Huron* and *Sioux* were available for sea, and although both suffered personnel shortages, Dyer got them up to strength by pulling sailors out of training establishments. He combined the ships into an *ad hoc* task unit with *Columbia*, a Restigouche-class DDE in the midst of workups. Under the Commander Sea Training, Captain Andrew L. Collier, the three destroyers, designated TU 302.1.3, met in the exercise area south of Halifax at mid-day on 29 October. After two days of hurried workups they proceeded for surveillance duty in the area of Georges Bank.[108]

Soviet oceanographic vessel thought to be investigating undersea cables, but this cannot be confirmed.

[103] CANCORTRON 9 ROP, 1 November 1962, DHH, 81/520/8000.

[104] CANCORTRON 7 ROP, 6 November 1962, DHH, 81/520/8000, box 238, file 1.

[105] Douglas, unpublished memoir (2014). From all available sources no RCN ships or squadrons were armed with nuclear depth charges during the crisis.

[106] *New Waterford* ROP, 10 November 1962, DHH, 81/520 *New Waterford*.

[107] *Fort Erie* ROP, 8 November 1962, DHH, 81/520 *Fort Erie*.

[108] CANCORTRON 3 ROP, 1 November 1962; *Huron*, ROP, 6 November 1962; and *Columbia*, ROP, 5 December 1962; all DHH, 81/520.

Atlantic Command's efforts to get *Huron*, *Sioux* and *Columbia* ready were emblematic of Dyer's determination to mobilize all available ships and aircraft to meet the crisis. That his command managed to do so over the course of just four days was a significant achievement, and they would soon receive reinforcements. Two minesweepers of CANMINRON 1 put into Halifax on 31 October after a planned "familiarization visit" to Corner Brook, Newfoundland the previous week – the remainder of the squadron was either alongside or in dock with maintenance defects. The destroyer *Restigouche* would be available for operations on 2 November when she emerged from a period in dry dock.[109] Most significantly, *Bonaventure* and her four screening destroyers, were scheduled to enter Halifax on the morning of 2 November. The carrier's Tracker aircraft got a jump on operations, conducting surveillance flights while transiting the Canadian zone on their homeward leg; this proved challenging in the stormy conditions, and the carrier's CO, Captain F.C. Frewer, admitted he worried more about getting the aircraft and crews safely back to the carrier than finding submarines.[110] Upon arrival in Halifax, it would take three days for *Bonaventure* to be ready for operations.

For the sailors manning the ships deployed on CUBEX the last days of October 1962 had been a frenzied, stressful time that had tested their readiness, resilience, and resolve – and many were concerned about family and friends ashore. But they had met the challenge. As noted in the introduction, Lieutenant-Commander Alan Lowe, CO of the frigate *La Hulloise*, reflected that this should not have been a surprise: "The hidden reserves of loyalty of the Canadian sailor when he senses firm leadership and a whiff of danger, have probably been forgotten by many officers."[111]

[109] CANMINRON 1, ROP, 7 November 1962, DHH, 81/520 Box 225, File 5. CANFLAGLANT to CANAVHED, 2102z 29 October 1962 and 0510z 30 October 1962, both DHH, 80/381; and *Cape Scott*, Ship's Log, 31 October 1962, LAC, RG 24, vol. 8276.

[110] CTG 302.7 to CTF 302, 1352z 29 October 1962; and CANCOMARLANT to CANAVHED, "SITSUM 311600z", 31 October 1962, both DHH, 80/381. Tony German interview with Captain F.C. Frewer, DHH, 86/591.

[111] *La Hulloise*, ROP, 6 December 1962, DHH, 81/520 HMCS *La Hulloise*.

Commodore Robert Welland, RCN; Senior Canadian Officer Afloat (Atlantic). (DND)

Captain C.P. Nixon; RCN; Commander CANCORTRON 5. (DND)

Commander D.H. Ryan, RCN; captain HMCS Kootenay. (www.forposterityssake.ca)

Commander Tony Law, Commander CANCORTRON 3 and captain HMCS Sioux. (www.forposterityssake.ca)

Unique amongst the stations comprising the RCN/USN SOSUS network, HMCS Shelburne utilized women members of the navy for many of its operational positions. (DND)

Pacific Command

Canada's maritime forces on both coasts responded to the Cuban Missile Crisis, not just those on the Atlantic. Although events in the Pacific were less dramatic, a sense of urgency nonetheless prevailed. Still, circumstances on the west coast were different. Cooperation with the US Navy was close, but it was not influenced by the NATO relationship. Pacific Command was also "not well served" from the intelligence viewpoint and did not have access to information from the US Navy's west coast SOSUS system.[112] Pacific Command also had fewer resources: at the time of the crisis only three St Laurent-class destroyers from CANCORTRON 2, six Prestonians from CANCORTRON 4 and three Bay-class minesweepers were available. Beyond that, the RCN's sole submarine, HMCS Grilse, was poorly equipped for ASW and her main purpose was to serve as a 'clockwork mouse' for other units.[113] The deployment pattern was also different since the ships of Pacific command occupied static defence positions rather than patrolling at sea as in the Atlantic. The Soviet presence was also not as robust. It featured limited submarine activity; as far as can be ascertained, the only Soviet boat deployed in the Pacific during the crisis was a ZULU-class missile boat that departed its base at Vladivostok on 28 October, and only arrived at its patrol position off the Hawaiian Islands after tension had eased.[114] Soviet trawler activity was concentrated in the Gulf of Alaska on the periphery of the Canadian zone; nonetheless, the P2V-7 Neptunes of 407 squadron at Comox on Vancouver Island were kept busy on surveillance flights into that area – the RCN only had two Tracker aircraft on the Pacific and they mainly fulfilled a training function.[115] Finally, Esquimalt responded to the crisis on the same timetable as Halifax; the order restricting long leave for its personnel went out the same day as Rear-Admiral Dyer's, and Esquimalt sent a detailed SITREP of its intentions to Ottawa only an hour after Atlantic Command.[116]

The six frigates of CANCORTRON 4 were at sea conducting squadron exercises with Grilse when the crisis broke. On 24 October, they were ordered to proceed to Mayne Bay, a secluded anchorage tucked into the northwest corner of Barkley Sound on the seaward coast of Vancouver Island – this provided ready access to the open ocean instead of potentially being bottled-up in Esquimalt. Two frigates were directed to remain at Mayne Bay as a Ready Group while the rest of the squadron returned to Esquimalt. Acting Captain Douglas S. Boyle led his squadron into Mayne Bay where they anchored at 1110 25 October, or about six hours before

[112] VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 19.
[113] RCN, "Pink List", 22 October 1962; and VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 19.
[114] Savranskaya, "New Sources on the Role of Soviet Submarines in the Cuban Missile Crisis", p. 238.
[115] The signal traffic associated with 407's squadron's surveillance flights are in DHH, 79/246, Folder 29. Pts 5 and 6.
[116] CANFLAGPAC to CANAVHED, 1947z 25 October 1962. DHH, 81/520/1886, box 164 File 2. Rear-Admiral Dyer sent his intentions to Ottawa an hour earlier. See CANFLAGLANT to CANAVHED, 1848z 25 October 1962, DHH, 80/381.

Captain Nixon took CANCORTRON 5 to sea from Halifax. Beacon Hill and Stettler formed the Ready Group and rafted alongside their flotilla mates to top up on fuel, provisions and ammunition – Jonquiere transferred "550 barrels of fuel oil, a considerable amount of victuals and 12 mortar bombs to Stettler." When replenishment was completed at around 1800, Boyle led the rest of the squadron back to Esquimalt where they took on fuel and ammunition.[117] There they remained for the duration of the crisis, not as a Ready Force per se but as an operational reserve.

The two frigates anchored in Mayne Bay were designated Task Group 38.2 under Lieutenant-Commander A.C. McMillin, CO of Beacon Hill. McMillin conducted "an urgent but orderly period of exercises and drills … over the next four days to ensure the highest possible state of readiness." In between, sailors monitored newscasts with considerable interest and "an increased enthusiasm in performance was noticeable." Mayne Bay was stunningly picturesque, and after a couple of days of drills McMillan allowed recreational parties to go ashore, and "many fishing and hunting enthusiasts took advantage of this relaxation." Relaxing, perhaps, but tension lingered. Historian Wilf Lund, a young officer in Stettler at the time, recalled worrying "If we were going to be attacked, we needed more than two frigates between Canada and the might of the Russian Bear."[118]

Pacific Command's most capable seagoing assets were the St Laurent-class destroyers of CANCORTRON 2; however, like Bonaventure, they were caught off station. At 0830 on the morning of 23 October – before NSHQ had determined its response to the Cuban crisis – Saguenay, Skeena and Fraser departed Esquimalt, cheering the outgoing Pacific Commander, Rear-Admiral Finch-Noyes as they filed past Duntze Head. But the sailors were cheerful for an entirely different reason. Each destroyer had about 20 members of the Naden band embarked, and after they dropped the musicians off in San Francisco, they were off to Hawaii for three months of anti-submarine exercises with the US Pacific Fleet. Sailors considered such duty nirvana, but it was not to be. At 1500 24 October, while steaming southward off the coast of California, they were diverted 200 kilometers northward to join the destroyer USS Watts and US Navy P2V Neptunes to check a suspected submarine contact. False contacts occurred in the Pacific as well as the Atlantic, and the contact turned out to be seaweed. Saguenay's commanding officer, Commander H.R. Tilley recalled, "Although the contact, Q-23, was subsequently classified as probable kelp it provided a useful exercise with 4 destroyers and two to three aircraft in the contact area while all the time the blockade of Cuba was very much in

[117] CANFLAGPAC to CANAVHED, 0041z 26 November 1962, DHH 81/520 FOPC Signals 1958-62; Enclosure (B) to FOPC ROP, 1 November 1962, DHH, 81/520 Flag Officer Pacific Coast; ROP CANCORTRON 4 and 5 November, DHH, 81/520 CANCORTRON 4; ROP *Stettler*, 5 November 1962, DHH, 81/520 HMCS *Stettler*; ROP *Jonquiere*, 7 November 1962, DHH, 81/520 HMCS *Jonquiere*.

[118] ROP *Beacon Hill*, 6 November 1962, DHH, 81/520 HMCS *Beacon Hill*; ROP *Stettler*; and Lund interview with Rear-Admiral J.A. Charles, 14 June 1995, p. 36, DHH, 2001/30.

mind."[119] Hawaii still beckoned, but after resuming passage to San Francisco they received the deflating news that the cruise to paradise was cancelled due to the Cuban crisis and they were to return to home waters after dropping off the Naden band in San Francisco.[120] After a quick turn-around, they hurried north with instructions to relieve Beacon Hill and Stettler as the Ready Unit at Mayne Bay. They arrived there on the evening of 28 October and were replenished by the auxiliaries Dundurn and Laymore. Beacon Hill and Stettler rejoined the rest of their squadron at Esquimalt, while the three destroyers embarked upon a series of anti-submarine exercises with Grilse.[121]

HMCS Stettler formed half the Ready Group positioned in Mayne Bay. (DND)

[119] ROP *Saguenay*, 7 November 1962, DHH, 81/520 HMCS *Saguenay* (II).
[120] Naval Board decided to recall the 21st Division at its meeting on the evening of 24 October. Naval Board, Special Meeting, 1800 on 24 October 1962, DHH, 81/520/1000-100/2, box 26, file 2.
[121] CANFLAGPAC to CANAVHED, 1947z 24 October 1962, DHH 81/520 FOPC Signals 1958-62 Box 164 File 2; ROP CANCORTRON 2, 15 November 1962, DHH, 81/520 CANCORTRON 2; ROP *Saguenay* 7 November 1962, DHH, 81/520 HMCS *Saguenay* (II); ROP *Fraser*, 4 November 1962, DHH 81/520 HMCS *Fraser* (II); ; ROP CANCORTRON 4, 5 November, DHH, 81/520 CANCORTRON 4; ROP *Naden*, 21 November 1962, DHH, 81/520 HMCS *Naden*.

A frigate alongside in a picturesque setting similar to Mayne Bay. (Author’s collection).

That was the extent of deployments by MARPAC’s seagoing units during the crisis. The frigates of CANCORTRON 4 and the minesweeper squadron remained alongside in Esquimalt. No. 407 Squadron’s Neptunes played a more active role, carrying out nineteen operational sorties, including two surveillance patrols over the Russian research vessel Zarya and another four against Soviet trawlers in the Gulf of Alaska – the Zarya, a three-masted wooden sailing-motor schooner, would have appeared as a welcome apparition from a previous, non-nuclear, age.[122] The overall effort involved a sizeable portion of MARPAC’s operational strength, and they had reacted with the same speed and effectiveness as Atlantic Command. There was, however, a different tone. Although the general population were equally concerned about the ramifications of nuclear war, a greater degree of normalcy permeated the command. CANCORTRON 4 went ahead with an annual familiarization program that saw cadets from the Royal Roads Military College spend a weekend on the ships, and on the evening of 29 October the command’s officers proceeded with a mess dinner to celebrate the career of Rear-Admiral Finch-Noyes. Perhaps this was to avoid raising alarm, and the situation would have been different had MARPAC’s war stations been at sea.

[122] Enclosure (B) to FOPC ROP, 1 November 1962, DHH, 81/520 Flag Officer Pacific Coast; ROP CANCORTRON 4, 5 November, DHH, 81/520 CANCORTRON 4; and ROP *Naden*, 21 November 1962, DHH, 81/520 HMCS *Naden*.

St Laurent-class destroyers of CANCORTON 2 alongside in Esquimalt. The onset of the crisis saw the squadron at sea for a much-anticipated deployment to Hawaii. (DND)

Flying out of Comox, British Columbia, Lockheed P2V-7 Neptunes of No 407 Squadron RCAF carried out surveillance operations over the Gulf of Alaska. (DND)

Submarine Scares

As Rear-Admiral Dyer's forces deployed, he received ongoing intelligence regarding the potential submarine threat in the western Atlantic. On 27 October, five days after the sighting of the ZULU refuelling off the Azores, the CINCLANT, Admiral Dennison, reported to the Joint Chiefs of Staff that "a pattern of increased Soviet Submarine activity developed as additional ASW air surveillance was laid on concurrent with the developing Cuban situation." In his submission, whose information Dyer received through Vice-Admiral Taylor, Dennison enumerated the following confirmed sightings of Soviet submarines:

> At 211500z a P5M [Mariner aircraft] patrolling south of Bermuda detected snorkel. 46 hours later contact was photographed on surface and identified as FOXTROT Class Number B45. During prosecution this contact, evidence of additional FOXTROT in area obtained on JEZEBEL and SOSUS.
>
> At 251642z Coast Guard R5D [Skymaster aircraft] sighted snorkeling SUB 60 miles south of Cape Hatteras. Nineteen hours later SOSUS obtained a reliable contact in the probability area, substantiated by VP JEZEBEL. Contact investigation continues.
>
> At 252311z P5M sighted surface Soviet FOXTROT 350 [miles] SSW of Bermuda. Darkness precluded photo, contact submerged. VS aircraft at 271540z sighted surfaced sub which submerged before IDENT could be established.

Beyond those visual sightings, Dennison noted there were several SOSUS contacts remaining to be verified. "Evidence to date", he concluded, "indicates four Positive conventionally powered Long Range Submarines (3 FOXTROT and 1 ZULU) in Western Atlantic." He also observed "There is no contact evidence to indicate that Nuclear Powered or Missile configured submarines are deployed in the Western Atlantic" – though unverified, any suggestion there were no SSBs in the Western Atlantic would have eased tension amongst naval staffs, although they kept their guard up.[123]

Canadian maritime patrol aircraft were also getting contacts, though nothing as definitive as sightings of surfaced submarines. Typical of their activities, over the period 25-27 October, an Argus was assigned surveillance at the extremity of the STONEWALL barrier while

[123] CINCLANT to Joint Chiefs of Staff (JCS), "Summary of Soviet Submarine Activity in Western Atlantic to 271700z", 2016z 27 October 1962. National Security Archives (NSA), "The Submarines of October" The NSA site, updated over the years, remains one of the most valuable sources on naval operations associated with the crisis, and can be found at http://nsarchive.gwu.edu/NSAEBB/NSAEBB399/. The accompanying Staff Officer (Intelligence) report noted that the five contacts detected by SOSUS "have shown apparent different signature characteristics as compared to what is held in SOSUS libraries." This was perhaps the first indication that SOSUS was not achieving the expected results. See Bruce Rule, "Faulty Intelligence Nearly 'Sank' SOSUS during the Cuban Missile Crisis", (2012) at http://www.iusscaa.org/articles/brucerule/brucerule_cable_2012.htm

another patrolled the DEPRESS areas south of Halifax.[124] On 27 October the Argus on the STONEWALL patrol attempted to track a possible submerged contact. It had been discovered the previous day by another Argus whose crew thought it to be a submarine due to the machinery noise monitored through several of its sonobuoys; however, there was no correlation from any other sensors. Later, on the 28th another Argus gained a hit with JEZEBEL to westward of the original contact that it held for seventeen minutes. Eventually, both contacts were designated as B-32, which from that point went 'cold' – a few days later another detection by SOSUS of a contact thought to be B-32 was revealed to be a trawler.[125] The mystery lingers. At the time it was thought B-32 was the ZULU sighted refueling from the *Terek* on 22 October, which was assumed to have doubled back to North American waters, but we now know it returned to the Soviet Union. Subsequent analysis suggested the contact may have been the American nuclear attack boat USS *Skipjack*, transiting the area on her way to the Mediterranean.[126] Thus was the uncertainty surrounding submarine contacts, but it bears repeating that no matter how dubious a contact, naval commanders had to address any potential threat.

[124] CANCOMARLANT to CANAVHED and CANAVAIRHED, 1918z 26 October 1962, DHH, 80/381.
[125] CANCOMARLANT to CANAVHED, 1633z 27 October 1962, DHH, 80/381; and CTG 81.1 to CTF 81 TG 81.1 INFO CNO CINCLANT, "Appreciation of SOSUS Activity from 301301z to 311300z", 1621z 31 October 1962 in NSA "The Submarines of October".
[126] *Skipjack*'s movements are confirmed in Alfred Scott McLaren, *Silent and Unseen: On Patrol in Three Cold War Attack Submarines* (Annapolis: Naval Institute Press, 2015), p. 151-152.

Shifting South

While Rear-Admiral Dyer’s forces focused on activity in the CANLANT zone, the demands associated with enforcing the quarantine and tracking four FOXTROTs approaching Cuba was straining the seagoing resources of the US Atlantic Fleet. On 27 October, Vice-Admiral Taylor asked if Dyer’s forces could assume surveillance of the Quonset ASW area, which would enable him to shift reinforcements southward where pressure was heightened.[127] Accordingly, at 1600 on 27 October, Dyer directed Captain Nixon to move CANCORTRON 5 some 385 kilometers south of its current position off Sable Island to the area 40°N 62°W, about 480 kilometres seaward of New York City, outside the CANLANT sub area. This was an attractive launch area for missile submarines and also lay on the Great Circle Route Soviet submarines would take to approach or withdraw from the American coast or the Caribbean. Nixon led his ships south at 2100z on the 27th and arrived in the new patrol area at 0800z the next day. [128] Regrettably, the move added approximately fifteen hours transit time to Halifax – Cape Scott had yet to arrive at Shelburne – which meant that Nixon could only keep two destroyers on station while the other two replenished or were on passage to do so. Nonetheless, the Canadian move enabled the US Atlantic fleet to shift resources to the Quarantine area. This trend would continue.

[127] Barlow, “Some Aspects of the U.S. Navy’s Participation in the Cuban Missile Crisis.”
[128] CANCOMARLANT to CANAVHED 0223z 28 October 1962, DHH, 80/381.

To reduce the time his ships had to spend on passage to refuel, Dyer positioned the escort maintenance ship HMCS Cape Scott at Shelburne, Nova Scotia. (DND)

To Sustain or not to Sustain

As Atlantic Command met its varied commitments in the final days of October, the Cuban crisis threatened to boil over. Negotiations to resolve the crisis had edged along between the American and Soviets at a variety of formal and informal levels, but when Washington received conflicting signals about Soviet intentions on 27 October, the situation appeared to be near a breaking point. "As the sun rose on Sunday, 28 October", American naval historian Curtis Utz wrote, "the armed might of the United States was prepared for all likely contingencies":

> Polaris submarines and SAC bombers and ICBMs stood ready to incinerate the Soviet Union if its leaders launched a direct attack on the United States. US Atlantic Fleet carrier, surface, and attack submarine forces, with Canadian naval forces in support, were deployed in strength in the Atlantic and Caribbean. Air Force, Navy and Marine Corps tactical fighter and attack squadrons remained on alert at bases in the southern United States. Army airborne, infantry, and armored divisions, as well as Marine Corps landing forces, awaited an order to start the invasion of Cuba.

Their potential adversaries were also prepared:

> Also at full alert were Soviet and Cuban forces on the island. In addition to the MRBM, IRBM, and SAM batteries, the Soviets had ready for battle in Cuba four regimental combat groups, equipped with tanks, armored personnel carriers, antitank missiles, and Luna (FROG) tactical rockets. Unknown to US intelligence, tactical nuclear warheads for the Lunas had been stockpiled in Cuba. The Soviet military commander in Cuba was authorized to use the short-range weapons to defeat an amphibious invasion by American forces. In addition to the Soviet forces, the Cubans fielded a regular force of 75,000, a reserve force of 100,000, and a militia of 100,000.[129]

Happily, not just for those directly involved but the entire world, at 0800 a message arrived in Washington from Premier Khrushchev in which he promised to withdraw Soviet missiles from Cuba. Details, especially in terms of timetables and verification of the withdrawal, remained to be ironed out but as Utz observed, "the world breathed easier."[130] The news was received with relief in Canada; however, its maritime commanders realized the crisis had not completely

[129] Curtis A. Utz, *Cordon of Steel: The US Navy and the Cuban Missile Crisis* (Washington: Naval Historical Center, 1993), p 38-39. Utz was one of the first American historians to acknowledge the role played by the RCN and RCAF in the crisis.

[130] Utz, *Cordon of Steel*, p. 39. This episode revolves around President Kennedy's handling of two signals received from Moscow that were quite different in tone. As with several aspects of the crisis, the incident, known as the 'Trollope Ploy' in which Kennedy ignored the most pugnacious message, has developed its own mythology. For the clearest explanation of what occurred see, Sheldon M. Stern, "The Cuban Missile Crisis Myth You Probably Believe", The George Washington University, History News Network at https://historynewsnetwork.org/article/7982

passed since Soviet submarines remained in the Western Atlantic. Moreover, 'disengagement' is amongst the most dangerous of military challenges. Atlantic Command's assessment of a continuing threat put them at odds with the leadership at NSHQ, who were under pressure to reduce operational costs in the face of a severe financial crisis confronting the federal government.[131] As October gave way to November, this disagreement played out in a flurry of messages and telephone conversations between Halifax and Ottawa, some quite strident in tone, with the US Navy playing no small part in the ultimate resolution.

One source that illustrates the differing attitudes at play in Halifax and Ottawa was a message Air Commodore Clements sent to AFHQ on the afternoon of Tuesday 30 October. "General idea gained by me of CNS conversation with Admiral Dyer [the previous day]", Clements explained, "is that Ottawa considers crisis practically over and Navy and this command [MAC] are to go back to pre-Oct 22 status." In terms of the contribution MAC was making to the US Atlantic Fleet's efforts, that meant the "Maritime Commander will doubtless have to tell COMASWFORLANT that, as of today, we have been cut back by our HQ to normal flying rates and can only assist to a limited degree." Clements reminded his superiors, "Believe you are aware there have been 5 Positive 2 Highly Probable and 4 Possible submarines in Western Atlantic in last week. No indication yet of any movement out of that area." In an earlier message that afternoon Clements had explained to AFHQ that the submarines confirmed to be in the Caribbean "may come up into our area" on their way home. To underscore the gravity of the situation, Clements emphasized "Never since last war has such a situation existed."[132]

In the telephone conversation referred to by Clements, Dyer assuredly made a strong case to Vice-Admiral Rayner to maintain his current tempo of operations. There could be no relaxation of effort. To reinforce that position, on the afternoon of the 30th Dyer shared an intelligence summary with NSHQ that listed the current submarine contacts gained by American and Canadian forces in the Western Atlantic from the Caribbean to waters off Newfoundland. Obviously originated by COMASWFORLANT, the summary showed clearly that from a maritime warfare viewpoint, the situation remained precarious despite the general relaxation of tension caused by Khrushchev's promise to remove Soviet missiles from Cuba.

Beyond the urgings from Dyer and Clements to maintain the status quo, on 30 October NATO warned against any relaxation in precautionary measures and NSHQ learned that the US Atlantic Fleet would not reduce its effort.[133] Naval Board met at 1400 on 30 October to

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[131] In the summer of 1962, Canada's economy was rocked by an exchange crisis that caused the Diefenbaker government to implement stringent economic measures, including drastic cuts in military expenditures.

[132] CANAIRLANT to CANAIRHED, 1630z 30 October, CANCOMARLANT to CANAVHED 2232z 1 November 1962, in LAC, LAC, RG 24 (Acc 83-84/216), Box 47, File 003-114 Vol 2. See also, Haydon, *The 1962 Cuban Missile Crisis*, p. 255.

[133] Addendum to NATO Message PO/62/686, 30 October 1962, DHH, 73/1223, series IX, file 3171.

reconsider its position and that evening Vice-Admiral Rayner issued new instructions to his commanders in the Atlantic and Pacific. They reflected a compromise between the requirements of headquarters and those at the sharp end:

> Whilst there has been a temporary relaxation in political tension over Cuba there is no indication of improvement in the general military situation.
>
> 2. SACEUR has warned against any relaxation in precautionary measures. CINCLANTFLT has not indicated any reduction in defensive deployments.
>
> 3. Possibly ten Northern Fleet submarines are believed deployed in the Atlantic at this time probably having sailed from home ports prior to declaration of quarantine. Four F[OXTROT] Class submarines have been positively identified and photographed in vicinity of patrol line.
>
> 4. As yet there is no indication of dismantling missile sites in Cuba.
>
> 5. Northern arc of Quarantine Patrol Line has been withdrawn to a line Cape Canaveral-Puerto Rico.
>
> 6. Assessment of situation suggests period of tension will continue until satisfactory verification of dismantling of Cuban missile bases is provided.

In the face of this situation, Rayner explained "A policy is thus required of continued watchfulness without run down of maintenance of fleet units or reduction in training, and a capability to intensify operations at short notice. It is therefore intended that":

> (a) Operational units be kept in command areas.
>
> (b) Training be maintained at previously planned level.
>
> (c) Fuel expenditure be planned to keep within current fiscal year allowances and to allow cushion in event of increased operational activity.
>
> (d) Commands revert to normal procedures for maintenance, repair and overtime employment.

To track the fiscal costs associated with these activities, the CNS directed "Abnormal expenditures attributable to Cuban situation are to be reported each Monday for preceding week. First report required 5 Nov to cover whole period up to 3 Nov."[134]

[134] CANAVHED to CANCOMARLANT and CANCOMARPAC, 2238z 30 October 1962, in Haydon, *The 1962 Cuban Missile Crisis*, p. 256.

Thus, Naval Board directed Dyer to maintain his operational posture but also to implement previous plans regarding maintenance and training. Adhering to these directives, Dyer informed NSHQ that evening that HMCS Gatineau would cease its CUBEX operations on 13 November and proceed into refit as originally planned; likewise, MINRON 1 would participate in the exercise SWEEPEX 1/62 scheduled for 16-28 November in the Shelburne area. He followed that with a SITREP laying out the activities of his operational forces, which was unchanged from those previous.[135] His one concern was that fuel limitations imposed by NSHQ might affect operations, but he explained he was tapping into fuel previously allocated for the cancelled BEAGLE 2 exercise. Authorization to maintain his tempo of operations came from NSHQ the next day, the only caveat being that Dyer ensure an adequate reserve of sonobuoys remained, and that maintenance and training schedules be met.[136]

Pressure from the US Navy contributed to this outcome. Vice-Admiral Rayner and the Chief of Naval Operations (CNO), Admiral George Anderson, remained in contact throughout the crisis, and it may well be that the CNO encouraged the CNS to keep up the effort. More concretely, on 1 November, Vice-Admiral Taylor sent Dyer a message, which the Canadian forwarded to NSHQ, explaining the Atlantic Fleet's resolve to maintain maximum surveillance efforts, and urging that Canada do the same. Taylor reiterated the number of Soviet submarines reported in the Western Atlantic, emphasizing "This unprecedented level of activity warrants a commensurate increase in surveillance", and that his command would continue its "current level of surveillance for an indefinite period." Agreeing with an earlier SITREP Dyer had dispatched to NSHQ outlining his intention to maintain a full operational effort, Taylor explained this was "wholly justified by and appropriate to the nature of the existing threat to North American continent. Recommend you continue at this level." In closing, Taylor iced the cake, saluting Atlantic Command's efforts to that point: "The cooperation shown in coordinating forces in this key area is another example of the importance of our common plans for readiness."[137] There can be little doubt that Dyer requested Taylor's expression of support, and by forwarding it to NSHQ, he sent a clear message that the US Navy was maintaining its surveillance operations for the foreseeable future, that Canada should not only do the same but had an obligation to do so. That viewpoint carried the day. At their meeting on 5 November the Chiefs of Staff confirmed "the state of readiness of the RCN would depend upon that in force for associated US naval forces", and for the duration of the crisis the Canadian maritime effort continued at its previous level.[138] The relief that decision brought to Dyer and Clements is

[135] CANFLAGLANT to CANAVHED, 2312z 30 October 1962; and CANCOMARLANT TO CANAVHED 0302z 31 October 1962, both DHH, 80/381.
[136] Ottawa later approved the acquisition of 2,000 sonobuoys from the US; however, NSHQ decreed that if any of them were used, they would have to be purchased outright since there were no more reserves left in Canada and this would be difficult to justify under the government's austerity program. CANAVHED to COMARLANT, 7 November 1962, DHH, 81/520/1886.
[137] COMASWFORLANT to CANCOMARLANaT, 0121z 1 November 1962, DHH, 80/381.
[138] Minutes of Chiefs of Staff Meeting, 5 November 1962, DHH, 2002/17 Box 72 File 2.

evident in a signal the latter sent to AFHQ: “Appreciate very much authorization for flying rate increase. Consider this definitely an operational requirement in present circumstances.” Somewhat pointedly, Clements added “It also helps lessen embarrassment of inadequate Canadian participation in previously prepared plans.”[139]

Senior American naval officers valued the ongoing Canadian commitment, recognizing that it was critical to the success of the quarantine. In his after-action report for the Cuban operation, Admiral Dennison acknowledged how “CANCOMARLANT increased their ASW surveillance and their assistance and cooperation in ASW contributed significantly to the ASW effort.” Most importantly, he observed “without this valuable assistance much of the Western Atlantic would not have been adequately covered because of the [US Atlantic Fleet’s] heavy ASW commitments.”[140] Thus, Canadian efforts in the northwest Atlantic enabled the US Navy to breathe easier while it implemented the quarantine further south.

[139] CANAIRLANT to CANAIRHEAD, 012030Z, in Haydon, *The 1962 Cuban Missile Crisis*, p. 262.
[140] CINCLANTFLT Memorandum, 29 April 1963, “Top Secret CINCLANTFLT Historical Account of Cuban Crisis 1962”, quoted in R.F. Cross Associates, *Sea Based Airborne Antisubmarine Warfare 1940-1977, Vol II 1960-1977*, p. 39.

Widening Frontiers of Surveillance

Atlantic Command maintained its surveillance effort until the crisis abated in mid-November. Five activities dominated operations during this time: two unique maritime air patrols; monitoring the Soviet fishing fleet loitering around Georges Bank; locating and shadowing Soviet surface assets suspected of replenishing other units, including submarines; and hunting submarine contacts off Newfoundland and Nantucket. In retrospect, none of these missions appear to have turned up evidence of Soviet belligerence, but that was not certain at the time.

The two maritime air missions were in stark contrast with one another. The first saw a move south of the CANLANT zone that was of direct assistance to the Americans. On 30 October Vice-Admiral Taylor asked Rear-Admiral Dyer if Maritime Air Command could contribute Argus aircraft to what was known as the BRAVO 2 SIERRA patrol, centred at 38° North 68° West about 800 kilometres off the Virginia/Delaware coast. This was off the approaches to the strategically important Washington-Philadelphia-New York corridor and, more significantly, in the vicinity of the SOSUS arrays originating at Cape Lewes, Delaware and Cape Hatteras, North Carolina. The patrol had been conducted by a US Navy patrol group based at Quonset, Rhode Island; however, with the bulk of its own aircraft deployed to Argentia for barrier patrols, to the Azores for patrols in the mid-Atlantic, or to Key West for quarantine operations, the group’s air and maintenance personnel were feeling the strain of sustained operations. MAC accepted the duty and rotated an Argus into the patrol for alternate 24-hour periods staging through the US Naval Air Station at Brunswick, Maine. Ultimately, Canadian airmen covered the area for some fifty-seven hours before the crisis ended.[141]

The other maritime air mission was a long distance, one-off surveillance flight into the Arctic. North American Air Defence Command (NORAD) officials were apprehensive that Soviet vessels might attempt to disrupt the continental air defence system on the run down to a conflict, and as mentioned before, evidence existed they had cut the Ballistic Missile Early Warning System (BMEWS) undersea cables running between Thule, Greenland and Cape Dyer on Baffin Island in 1961.[142] Fears of a repeat disruption arose when a Soviet trawler was sighted near the cable terminating at Deer Lake, Labrador at the outset of the Cuban crisis; as a NORAD history bluntly stated “Since restoring a cable took from 10 days to two weeks, a break was no small matter.”[143] As a precaution, NORAD requested aerial reconnaissance between Labrador and Greenland and up into Davis Strait. Initially, intelligence officers focused on the activities of the Soviet trawler RT 94, which had last been monitored on 19 October off the northeast coast

[141] Grant, “Analysis of Maritime Air Command Activities during the Cuban Crisis”, Appendix A, Figure 1. The fifty-seven hours does not include transit time.
[142] NORAD/CONAD, Directorate of Command History Office, “North American Air Defence Command and Continental Defence Command, Historical Summary July-December 1962”, 1 April 1963, p. 23-25.
[143] NORAD/CONAD, Directorate of Command History Office, “North American Air Defence Command and Continental Defence Command, Historical Summary July-December 1962”, p. 32.

of Newfoundland, but two other vessels subsequently raised suspicion.[144] Argus MPAs were obviously best suited for the mission but they were urgently needed elsewhere, so it was assigned to a venerable Avro Lancaster of No 408 Squadron RCAF that had survived twelve bombing missions during the Second World War, including raids over Germany.

An Avro Lancaster that was a veteran of Bomber Command missions over Europe in the Second World War flew a "special maritime patrol" into the fringes of the Arctic. (Shearwater Naval Aircraft Museum)

Originally scheduled to be flown on 28 October, inclement weather intervened, and the surveillance flight could not be mounted until 4 November – an all-weather Argus could have flown at any point. Designated a "special maritime patrol" in No 408's Operational Record Book, the Lancaster's crew was directed to patrol from Torbay, Newfoundland, north along the coast of Labrador, across the entrance of Hudson Strait and on to Iqaluit, NWT, then known as Frobisher Bay. After a lay-over at Iqaluit, they were to fly northward into Davis Strait towards Cape Dyer, before returning to Goose Bay, Labrador. The aircrew was instructed "to photograph all Russian shipping encountered", paying special attention to the trawlers RT 94 and RT 99, and the tanker Artem. An ice log was also to be kept, and they were to observe radio silence throughout.[145] When finally mounted, the mission featured a long arduous flight that endured some eleven hours each way, but they encountered no Soviet vessels. Nonetheless, as a precaution the crew took some 200 images of "representative types of ships" for examination by intelligence personnel.[146]

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[144] CANCOMARLANT to CANAIRHED, CANAVHED and COMASWFORLANT, 0223z 28 October 1962, DHH, 80/381.
[145] CTF 302 to CTF 302.2.0, 1851z 1 November 1962, DHH 81/520/8000 Box 164 File 5.
[146] CTF 302.2.0 to CTF 302, 2353z 9 November 1962, DHH 81/520/8000 Box 164 File 5. For a history of the Lancaster that flew this mission see, Matthias Joost, "A History of Lancaster KB882" at http://www.rcaf-arc.forces.gc.ca/en/article-template-standard.page?doc=a-history-of-lancaster-kb882/j7oyqr5m A history of 408 squadron declares that the Lancaster crew "spotted and photographed an apparently damaged Soviet submarine

There was no shortage of Soviet vessels further south, especially in the area of Georges Bank. Straddling the southern edge of the Canadian sub-area, Georges Bank was situated east-south-east of Cape Cod, Massachusetts, about 400 kilometres south of Nova Scotia. It was a favourite fishing hole of several nations, including the Soviets. The fact that it was also a key strategic area due to the SOSUS array originating at Nantucket and the presence of the two "Texas Tower" long-range radar platforms mentioned earlier, raised anxiety about Soviet trawlers. Submarine activity also had to be considered, and although the banks themselves were relatively shallow, nearby deep-water channels could be appealing hiding places for Soviet submarine captains.

As mentioned previously, at the end of October, Rear-Admiral Dyer sent Task Unit (TU) 302.1.3, comprising Columbia, Sioux and Huron, to patrol the Georges Bank area. They faced a daunting challenge to construct an accurate picture of Soviet activity. Besides numerous fishing boats, intelligence revealed that there were additional vessels of interest in the area, including the intelligence trawler RT 710, the suspected support ships Atlantika and BMRT 301, and the AGI Shkval, an AGI the Americans and Canadians had been trying to locate for days.[147] The task group's initial sweeps on 1 November came up empty, and the next day Sioux worked independently after Huron detached to Shelburne to refuel and Columbia returned to Halifax. Shortly after noon on 2 November a VS-880 Tracker aircraft reported a possible MAD contact twenty-nine kilometres from Sioux, which it held for about ten minutes. Subsequent analysis of the MAD data suggested a possible submarine contact. Designated E-58, it would become the focus of considerable attention over the next week.[148] Nothing eventuated that day, and when Sioux reached the datum point, she only found a Soviet factory ship in the immediate vicinity. Sioux's CO, Commander C.A. Law, later reported, "Considering that the [MAD] contact was located in water of depth generally less than 20 fathoms [36.5 metres], more often less than 10, and with a least depth of 3½ fathoms it was considered that no submarine could operate submerged in that vicinity."[149] Moreover, it was later determined that some Soviet trawler cables and lines were large enough – "as thick as a man's thigh", one journalist reported – to cause a MAD hit, presenting yet another source of false submarine contacts.[150]

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making for home on the surface", but there is no evidence to support this assertion and it was probably based on aircrew scuttlebutt. See *408 Squadron History* (The Hangar Bookshelf, 1984), p, 55. Interestingly, the flight is not mentioned in a comprehensive study of 408 Squadron during this period, perhaps an indication of its secrecy. See, *408 Squadron RCAF: the Rockcliffe Years, 1949-1964* (Ottawa: 408 (Goose) Squadron Ottawa Group, 2014).

[147] CTF 302 to CANAIRHED and CANAVHED, 31 October 1962, DHH, 80/381; *Sioux* ROP, 1 December 1962, DHH, 81/520 *Sioux* 8000, Box 98 File 2; and Barlow, "Some Aspects of the U.S. Navy's Participation in the Cuban Missile Crisis."

[148] CTF 302, "Sitsum 031600z", 1709z 3 November, DHH, 80/381.

[149] *Sioux*, ROP, 1 December 1962, DHH, 81/520 *Sioux* 8000, Box 98 File 2.

[150] John D. Harbron, "The Soviets' Floating City in our Atlantic Waters", *Maclean's* Magazine, (June 1962), p. 3.

Commander Tony Law's Report of Proceedings for November 1962 is one of the few detailed operational reports not destroyed, and it provides a valuable description of activities on Georges Bank over the next two days. While returning from Shelburne, Huron came upon "7 Russian base ships and a tanker in position 41°44'N 68°W", on Georges Bank due west of Cape Cod. Sioux joined her, and at 1700 made contact "with a concentration of 10 factory trawlers and one tanker." Law continued:

> For the next few hours events moved at a very fast pace. By 1930Q [local time] all ships in the immediate vicinity had been identified. It was suspected that BMRT 301 was also in the area and because considerable interest had been shown in this vessel, Sioux commenced a search to locate her and maintain close surveillance. Huron joined Sioux and both ships swept through the datum and commenced an expanding search north…. At this time both ships concentrated on locating the Russian trawler since by this time it was very dark and the number of vessels present had increased. BMRT 301 was located by Huron and she maintained close surveillance while Sioux carried out a sonar search in the area while maintaining surveillance of the tanker Piryatin. This surveillance was maintained throughout the night.
>
> During the entire night the main body of factory trawlers continued fishing operations, steaming up and down parallel tracks in ENE/WSW direction along 100 fathom contour. The fishing vessels were most precise and patrolled in an orderly manner, suggestive of a controlling military influence. At irregular times various ships were observed to make flashing signals apparently from a pre-set code as no other ship could be seen making acknowledgement or reply.[151]

An article in Maclean's magazine in the summer of 1962 described the centralization the Soviets used to manage their fishing efforts, with as many as a dozen trawler captains holding "strategy meetings" onboard mother ships each morning to determine that day's movements and activities.[152] This resulted in regimented movements that could be misinterpreted, and anyone suspecting hostile activity could easily draw the conclusion they were maneuvering to cover the movements of a submarine. This situation proved impossible to unravel during the crisis and often led to bogus submarine reports. In a telling incident, Law encountered a similar state of affairs a few days later. After Sioux held a "momentary sonar contact", a group of Soviet fishing trawlers manoeuvred in a manner that could be interpreted as an attempt to disrupt the destroyer's hunt. Upon reflection, Law suggested "two possible conclusions are drawn from this manoeuvre":

[151] *Sioux*, ROP, 1 December 1962, DHH, 81/520 *Sioux* 8000, Box 98 File 2.
[152] Harbron, "The Soviets' Floating City in our Atlantic Waters", p. 3.

(a) The manoeuvre could have been designed to confuse the contact area and disguise the presence of a Soviet Submarine or; - what is far more likely,

(b) The factory trawlers with their fish locating equipment had detected the same school of fish as Sioux and were coming to get some of it.

The Second World War era destroyer HMCS Sioux faced a steep challenge in keeping track of Soviet trawlers on Georges Bank. (DND)

Sioux confirmed the contact was indeed a school of fish; the warships moved off while the Soviets harvested their prey.[153] Not every contact was a submarine and not every trawler was engaged in bellicose activities; but the incident illustrates that in periods of high tension there could be a tendency to accept the worst.

[153] *Sioux* ROP, 1 December 1962. DHH, 81/520 8000, Box 98 File 2.

Closing Moves

With other ships becoming available to move into the Georges Bank area and the southern extremities of the CANLANT zone, Rear-Admiral Dyer restructured his task units. Fresh out of her maintenance period, Restigouche departed Halifax on 2 November. Embarked was the Senior Canadian Officer Afloat (Atlantic) (SCOA (A)), Commodore Robert Welland, who earlier that day had arrived in Halifax with the Bonaventure task unit. He transferred back to the carrier on 6 November when she joined operations. At that point Bonaventure formed TU 302.7.1 while TU 302.1.0, comprising Captain Nixon's CANCORTRON 5, was dissolved to form TU 302.7.2. Two destroyers of CANCORTRON 1 would later augment Nixon's squadron when they were ready for sea. Both task units came under Welland as CTG 302.7. The two other destroyers of CANCORTRON 1 were folded into Sioux's task unit on Georges Bank.[154] Aside from the two frigate squadrons operating near the Cape Race and Sable Island areas, Welland would command the task units operating on the fringes of or outside the CANLANT zone including the Georges Bank/Nantucket area and, in Bonaventure's case, off Bermuda. Task group and unit designations can present a confusing picture but simply put, the fact that Rear-Admiral Dyer sent his senior seagoing commander and his most valuable platforms to those waters demonstrates the importance accorded the mission. This was not due to any dramatic incursions into the area by Soviet units; rather his forces were helping to fill the gap left by US Navy units required in the Caribbean. In particular, with four FOXTROTs detected near the quarantine line, the US Atlantic Fleet had concentrated most of its own ASW carrier groups to support their three attack carriers operating in the Caribbean, thus the Bonaventure task group filled a significant void.[155] Details of its operations are sketchy due to the absence of records, but according to Welland's memoirs, for more than a week his ships and aircraft patrolled some sixteen thousand square miles of ocean. The fact that Bonaventure was able to replenish her screening destroyers meant the task unit maintained full strength throughout the mission.[156]

One aspect of Bonaventure's operations shows how Canadian naval personnel exploited innovation 'on the hop' during the crisis. When the carrier returned from Europe in the midst of the crisis, Commodore Welland had her fitted with an AN/AQA 3 JEZEBEL processor he scrounged from the RCAF. During her surveillance operations off Bermuda, CS2F Trackers equipped with JEZEBEL relay systems were able to transmit low frequency data gathered from sonobuoys over the aircraft's radio frequencies directly to the carrier where they could be analysed by the AN/AQA 3.[157] This was a significant advance. Previously, Trackers, which unlike

[154] CTF 303 to CANAVHED, 0335z and 2101z 3 November 1962, both DHH, 80/381; and Commander CANCORTRON 5, ROP, 4 December 1962, DHH, 81/520/8000-260/5, Box 236, File 9.

[155] It appears that only the Hunter-Killer Group comprising the A/S carrier USS *Lake Champlain* and several destroyers was available of the American northeast seaboard.

[156] Welland memoir in author's possession; and *Bonaventure* ROP, 5 December 1962, DHH, 81/520 *Bonaventure* 8000, Reports of Proceedings 1957-1962.

[157] The RCN's *ad hoc* JEZEBEL relay system was apparently fashioned in the home basement workshop of

the RCAF's Argus and Neptunes were not equipped with JEZEBEL processors, had to record such information and then fly the tapes back to the carrier for analysis. That process took hours, which meant that any 'hot' contact was bound to be 'cold' by the time the analysis was complete. In contrast, the 'Jez relay system' enabled the use of real time tactical information to ranges up to 120 miles from the carrier.[158] The breakthrough, along with the RCN's pioneering use of JEZEBEL in destroyers – 'Des Jez' as it became known – seized the attention of American naval officers, and in February 1963 they invited the RCN to demonstrate the procedures in exercises involving their Task Group BRAVO and the nuclear submarines USS Thomas Jefferson and Nautilus. As opposed to the mere hours RCN units previously had against nuclear boats, this meant they would have more than a week's exposure to learn from. Although the RCN's innovative practices may explain this, its invaluable support to CINCLANT during the missile crisis may also have played a part.

Much of the activity in the southern portion of the CANLANT area and beyond, centred around the contact E-58, derived from the initial MAD hit by the VS-880 Tracker on 2 November. Both the original contact and subsequent searches now seem dubious. On 3 November anxiety was no doubt heightened, albeit briefly, by a SOSUS contact off Cape Cod that was classified as a possible ZULU class – like so many such contacts it proved to be a Soviet fishing vessel. E-58 had gone cold by noon on 3 November, but it was still being investigated by patrol aircraft as well as by TU 302.1.3 of Restigouche, Huron and Sioux – Commodore Welland and his staff on Restigouche had not yet joined Bonaventure.[159] On the afternoon of 3 November, Taylor and Dyer decided to deploy TU 302.1.3 on a barrier patrol in the vicinity of the Nantucket Light Vessel in case E-58 moved into that area. Since this was outside the CANLANT zone it involved 'chopping' the Canadian ships to the "limited tactical control" of Rear-Admiral H.H. Caldwell, USN, the Commander of Task Group 81.2 operating out of Quonset Point, Rhode Island. In a signal to Caldwell, copied to NSHQ, Dyer explained that CTU 302.1.3 was being assigned "to investigate E-58", and that "limited tactical control involves the positioning of Canadian forces by you along with provision of intelligence. Canadian tactical procedures and rules of engagement will be employed by Canadian forces." Dyer would retain "overall operational control and logistic support."[160] Thus, in addition to the BRAVO 2 SIERRA

Lieutenant-Commander Gary Crosswell, an RCN electrical officer serving at HMCS *Shearwater*. The Croswells lived across the street from the author, and he well recalls seeing LCDR Croswell busy with a soldering gun on numerous occasions.

[158] Commodore R.P. Welland, "Resumé of Progress in Anti-Submarine Warfare during the Past Year", ud, DHH, 79/246 File 118. For development of the JEZEBEL relay see Peter Charlton history of the RCN's experimental air squadron VX-10, *Nobody Told Us It Couldn't Be Done*, (Privately Published), p.76; Peter Charlton and Michael Whitby (eds), *Certified Serviceable: The Technical Story of Canadian Naval Aviation* (Shearwater 1995), p. 108; and Stuart Soward, *Hands to Flying Stations: A Recollective History of Canadian Naval Aviation, Volume Two, 1955-1969* (Vancouver: Neptune Developments, 1995), p. 282-283.

[159] CTF 302 to CANAVHED, COMASWFORLANT, CANAIRHED 1709z 3 November 1962, DHH 80/381.

[160] CTF 302 to CTG 81.2, 2116z 3 November 1962, DHH, 80/381. As Peter Haydon has detailed so well, after four years of negotiation, in August 1961, the RCN and US Navy settled on agreeable Rules of Engagement (ROE) explicit

patrol carried by Argus aircraft further south, Canadian naval forces were assisting in the defence of the Northeastern seaboard of United States. Bonaventure's move into the large surveillance area straddling the Great Circle Route midway between Nova Scotia and Bermuda, only added to the commitment.[161]

In the forenoon on 7 November, E-58 again became 'hot'. Kootenay had joined TU 302.1.3 the previous afternoon and was patrolling in deep water on the fringes of the Soviet fishing fleet southeast of Nantucket. To emulate a single-propeller commercial vessel like a fishing trawler, Commander Ryan proceeded at slow speed on one of his two shafts and used only the Sperry navigation radar.[162] Whether or not the subterfuge worked, when Kootenay powered up her hull-mounted sonar for a routine scan, the sonar team reported a contact. Other destroyers and US Navy Tracker and Neptune aircraft joined the search – the latter gaining apparent hits with MAD and sonobuoys – and in a signal to Rear-Admiral Dyer three hours after Kootenay initial contact report, Rear-Admiral Caldwell evaluated it as "possible FOXTROT" and re-designated it E-58. Adding to the suspicion, according to Ryan two Soviet trawlers in the vicinity moved aggressively in an attempt to disrupt his search. After five hours, E-58 again went cold; this time for good.[163] As it turned out, the mystery of E-58 may have been solved on 5 November when it was identified as the conventional submarine USS Toro. Taylor and Dyer's staffs were seemingly unaware of that or chose to take all precautions and continue the hunt.[164] Of course, seemingly ubiquitous Soviet trawlers may also have obscured the picture. Nevertheless, for a short time, Canadian and American sailors were convinced they had held a Soviet submarine. At 2100, the next day, Caldwell relinquished tactical control of CTU 302.1.3.[165]

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to the SSB threat. Unhappily, the precise details of the ROEs remain unknown; however, Canadians insisted they have final say regarding their forces' response under any tactical situation, which accounts for Dyer's insistence that CTU 301.1.3 retain RCN ROEs even while under US Navy operational control. See Haydon, "Canadian Involvement in the Cuban Missile Crisis Re-Reconsidered", p. 44-45.

[161] CTF 302 to CANAVHED, 0918z 6 November 1962; and CTF 302 to CANAVHED, 0420z 9 November, both DHH 80/381.

[162] Interview with Captain D.H. Ryan, RCN (ret'd), CO of HMCS *Kootenay*, 1 October 2000, RCN History and Heritage Section, NDHQ.

[163] CANCOMARLANT to CANAVHED, 1939z 7 November 1962, DHH 81/520/8000 Box 164 File 5.

[164] Captain M.H. Rindskopf USN, Chairman, CNO Submarine Contact Evaluation Board, "Special Report of the CNO Submarine Contact Evaluation Board as of 5 November 1962", in NSA, "The Submarines of October".

[165] CTF 302 to CANAVHED, 0420z 9 November 1962, DHH, 80/381.

Sustained anti-submarine hunts and surveillance operations near the Quarantine Line strained the Atlantic Fleet’s resources. Here two destroyers monitor the movements of the submarine B-59 on 28-29 October. (National Security Archives)

The A/S picture was equally murky off Newfoundland during the first days of November. It appears that the no submarine contacts were actually made by the submarines and aircraft deployed on the main STONEWALL barrier. However, Canadian ships and the two British submarines under RCN operational control positioned northeast of the barrier briefly thought they detected some. [166] On 2 November, HMS Alderney gained passive sonar contact of a possible submarine moving northeast. A US Navy P2V Neptune diverted from its barrier patrol to cooperate with Alderney, but a four-hour search found nothing. Two days later, Astute also briefly held a passive contact, but another Neptune sweep also came up empty.[167] To the

[166] Joseph F Bouchard, *Command in Crisis*, p. 118. Note that Bouchard had access to the COMDESFORLANT report on ASW operations during the crisis and does not mention any contacts on the STONEWALL line.

[167] CTF 302 to CANAVHED, 0450z, 2120z 2 November 1962; 1709z 3 November; and 1845z 5 November 1962, all DHH, 80/381. The authors of a comprehensive study of Royal Navy Cold War submarine policy and operations, note that *Alderney* and *Astute* “failed to detect any Soviet submarines”, which suggests that they understood their

southwest, on the afternoon of 3 November the frigate HMCS Swansea obtained a "probable" passive sonar contact off Cape Race. Further investigation revealed nothing but on 5 November the frigate HMCS Lauzon got an ECM hit later evaluated as having the characteristics of Soviet submarine radar.[168] These two contacts, designated B-33 and B-36, were later evaluated as likely coming from the same source. Although the status of all four contacts remains unverified – the frigates' hits were probably from trawlers – they had to be taken seriously since the Argentia SOSUS array lay nearby, and they may have indicated the arrival of additional Soviet submarines in North America waters. With US Navy aviation assets in Argentia tied down on barrier responsibilities, on 6 November Rear-Admiral Dyer shifted the VS-880 detachment of six CS2F Trackers from Sydney on Cape Breton Island to the RCAF base at Torbay, Newfoundland to be in better position to patrol the Cape Race/Argentia area.[169] No further contacts resulted.

As American and Canadian forces grappled with the A/S problem, efforts were also under way to locate and track a particular Soviet surface vessel known to be in the western Atlantic, the aforementioned trawler Shkval. Ironically, she was the former USS Rampart, an Admirable class minesweeper that had been transferred to the Soviets during the Second World War under the Lend-Lease program. Far from exhibiting admirable qualities, Shkval was a confirmed AGI or 'spy ship'. Intelligence officers could not pin down her location at the outset of the crisis, but she was thought to be working north-easterly from a position off Cape Hatteras to refuel from the tanker Atlantika, which was known to be off southern Nova Scotia.[170] Trackers from VS-880 started searching for the Atlantika on 29 October, and finally located her in the Bay of Fundy on the 31st. As a Hallowe'en 'treat', Shkval was discovered south of Cape Cod the same day. It was thought she might try to refuel from the Atlantika or other vessels in the Georges Bank area, thus the three destroyers of TU 302.1.3 were directed to search for her there in the first days of November.[171] But Shkval vanished again, and she was not located until the afternoon of 4 November when an Argus sighted her in the vicinity of the Sub/Air barrier.[172] Alarmed, Rear-Admiral Dyer dispatched the frigate New Waterford from CANCORTRON 9 to intercept and shadow the AGI. This was easier said than done. Like all Prestonian-class frigates, New Waterford was not equipped with air warning radar or UHF radio direction finding equipment that locked in on the frequencies used by military aircraft, so she had difficulty locating the aircraft shadowing Shkval. As a result, she did not sight the trawler until 6 November. From then on, frigates of the Seventh and Ninth squadrons took turns

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contacts were 'non-sub'. They also quote an officer who described the sonar conditions as "extraordinarily difficult." Hennessy and Jinks, *The Silent Deep*, p. 276-277.

[168] For the frigate contacts see CTF 302 to CANAVHED, 1845z 5 November 1962, DHH, 80/381; and NSA, "The Submarines of October" Captain M.H. Rindskopf USN, Chairman, CNO Submarine Contact Evaluation Board, "Special Report of the CNO Submarine Contact Evaluation Board as of 5 November 1962".

[169] CTF 302 to CANAVHED, 1845z 5 November 1962, DHH 80/381. DHH 81/520/8000 Box 11 File 2; and *Bonaventure* ROP, 7 November 1962, DHH, 81/520 *Bonaventure* 8000.

[170] CTF 302 to CANAVHED, "CANCOMARLANT SITSUM 311600z", 2016z 31 October 1962, DHH, 80/381.

[171] CANCOMARLANT to CANAVHED, 0319z 1 November 1962, DHH 80/381.

[172] CTF 302 to CANAVHED, 0352z 5 November 1962, DHH, 80/381.

shadowing the intelligence vessel and never lost touch. Despite the shortcomings mentioned above, once in contact, the commander of CANCORTRON 7 insisted "frigates proved ideal for the shadowing role."[173] Certainly, their sea-keeping qualities paid dividends. Lee Day, a sailor in Inch Arran, recalled awful conditions shadowing the supposed 'fishing vessel':

> That trawler was decked out with more high tech communications and radar antennas than most warships of the day and not once did they put a line or a net in the water. The North Atlantic was even less hospitable than usual that fall and many of the crew, old salts and ordinary seamen alike spent those weeks at sea just trying to stay dry, warm and avoid succumbing to sea sickness. For much of that time the upper deck was out of bounds due to high seas. (No stabilizers on those old buckets.) I recall getting off watch early one morning when the seas had calmed somewhat. We were laid off less than a hundred yards from that Russian trawler at sun rise, close enough to make visual contact with their crew. We waved a greeting to them, and they waved back in a friendly sort of way. We had not become friends, just brief acquaintances sharing the experience. I doubt they enjoyed being there any more than we did.[174]

The frigates maintained close surveillance of Shkval even after the crisis ended in mid-November. She refuelled from the Atlantika on 10 November, but remained in the northwest Atlantic, presumably keeping an eye on things and monitoring communications.[175] Ultimately, her movements proved relatively harmless, at least when it came to supporting submarines. In February 1963, Commodore H.A. Porter, the special assistant to the CNS, reminded Vice-Admiral Rayner of a briefing from COMASWFORLANT in January that concluded Shkval "appeared to be moving to support Russian submarines although this course of action did not develop."[176]

[173] Commander Seventh Escort Squadron, "Seventh Escort Squadron – Report of Operations June 1962 to April 1964", 12 May 1964, DHH, 81/520-8000-260/7 Box 237, File 6.
[174] Lee Day, post on World Naval Ships forum, 27 October 2014. http://www.worldnavalships.com/forums/archive/index.php/t-9551.html.
[175] CTF 302 to CANAVHED, 0500z, 11 November 1962, DHH, 80/381.
[176] SA/CNS minute to CNS, 6 February 1963, DHH, 99/31-1B-12.

Denouement

The drawdown to the crisis came quickly, but although maritime forces began to relax their readiness they did not completely let down their guard. The situation was especially tricky in the western Atlantic. Although the four FOXTROTs detected in the quarantine area were known to be homeward bound, Soviet surface vessels such as the Shkval continued their activity, and forces had to be ready in case tensions again escalated. On 10 November, Rear-Admiral Dyer flew to Norfolk to consult with Vice-Admiral Taylor on how best to address this precarious balance, and he informed Ottawa that COMASWFORLANT supported a drawdown of Canadian ASW forces to conserve them in case the operational tempo increased due to another emergency. Taylor told Dyer that he expected to soon dissolve the STONEWALL barrier. Dyer agreed to maintain his current level of air support but drew back surface operations. To reduce the operational commitment Dyer established Surface Surveillance Units ALPHA and BRAVO, comprised of four Restigouches and five Prestonians respectively. One group would "normally be at sea on surveillance duty" and would replenish from a convenient port; when in harbour they would remain at four hours' notice for sea. Meanwhile, the standby group would remain at Mobility State 1, with normal short leave being granted. Otherwise, Dyer's command returned to what can be described as a precautionary status, which involved:

(A) Maintenance of a high state of readiness

(B) Fuel requirements not to exceed annual fuel allowance

(C) All forces to remain within CANLANT area

(D) Refit, conversion programmes to be continued

(E) Provision of forces for training programmes[177]

Events moved more quickly than expected, and 1200z on 13 November, Vice-Admiral Taylor dismantled the Sub/Air barrier. Like Dyer, he remained cautious and continued a high state of readiness in southern waters.[178] For his part, Dyer kept his two Surveillance Units at the ready, and individual frigates continued to shadow the Shkval.[179] As his command returned to a degree of normalcy, on 18 November Dyer flew to Ottawa. The stated purpose was routine promotion meetings, but there was obviously more to discuss.[180]

[177] CANFLAGLANT to CANCOMFLT, CANVHED and CANAIRHHED, 2151z 13 November 1962, DHH 80/381.
[178] CTF 302 to CTU 302.2.0 INFO CANAVHED, 1812z 13 November 1962, DHH, 80/381.
[179] CTF 302 to COMASWFORLANT, CANAIRHED and CAVAVHED, 0315z 13 November 1962, DHH 80/381.
[180] CANCOMARLANT to CANAVHED, 18 November 1962, DHH 81/520/8000 Box 164 File 5.

Wash-up

Any operation of the magnitude and significance of CUBEX will spark serious reflection, and naval and military officials enumerated significant lessons. Sadly, as with other matters associated with the event, one must rely upon incomplete documentation since few after-action reports from squadrons or individual ships survived, if they were ever written. The material that is available and that is of relevance to this volume mainly focused on two aspects of the crisis: maritime cooperation with the US Navy and support to operations at sea.

Although the details of the meetings are unavailable, senior RCN officers were involved in lessons-learned discussions with their American counterparts, and COMASWFORLANT forwarded copies of his detailed after action report to various Canadian headquarters.[181] Vice-Admiral Rayner and the CNO, Admiral George Anderson, continued their close relationship and kept-up their regular correspondence – in Anderson's retirement letter to his Canadian counterpart he said he would tell his successor "he will always be able to count on the Canadian Navy in time of trouble."[182] Thus, working-level solidarity held fast. Significantly, however, the RCN did modify procedures regarding the implementation of measures derived from bi-lateral plans. Prior to the Cuban crisis this occurred almost automatically; Rear-Admiral Dyer discussed matters with Norfolk and NSHQ, but these largely focused on the mechanics of implementing the bi-lateral measures, not the approval to do so. In December, however, Vice-Admiral Rayner notified his commanders that the implementation of operational measures associated with bi-lateral agreements required approval from NSHQ prior to being set in motion by a command. We know that Dyer informed Vice-Admiral Rayner of the measures he took in October, but the CNS's directive indicates the process had become more formalized.

The annual RCN Senior Officers meeting in Ottawa from 14-16 January 1963 presented an opportunity to discuss lessons from the Cuban crisis. The VCNS, Rear-Admiral Brock, expressed how it was fortuitous that the crisis followed on the heels of the major NATO command-post exercise FALLEX 62: "It could not had been better timed had it been intentionally planned as a work-up for the Cuban crisis which followed some three weeks later."[183] Thus, responses to potential challenges were fresh in mind. Of the assembled officers, Rear-Admiral Dyer had the most to say about Cuba. He expressed concern that the Soviets were able to deploy a large concentration of submarines without warning, and "emphasised the

[181] Commodore H.A. Porter alluded to a briefing CNS staff received from COMASWFORLANT in January 1963, and staff in Halifax referred to tactical intelligence of Soviet submarine tactics that could only have come from US Navy sources. See, SA/CNS minute to CNS, 6 February 1963, DHH, 99/31-1B-12. Copies of Vice-Admiral Tayler's after-action report were distributed to NSHQ, MARLANT HQ, CANAVAIRHED and the Maritime Warfare School but none of these copies have been found. But even if found, current security regulations would prevent access.
[182] Admiral G. Anderson to Vice-Admiral H.S. Rayner, 27 June 1963, DHH, 99/31-IA-6.
[183] VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 13-14.

requirement to greatly increase our efforts to gain strategic intelligence." He added "that in this respect it appears that SOSUS was not as successful as had been hoped." On the matter of relations with the US Navy, Dyer "took particular note of the closeness of co-ordination" and "the immediate reaction of each to the other's needs or suggestions." Nonetheless, weaknesses existed including the need for "quicker acceptance and distribution of new tactics for combined forces, common holdings of communication instructions, more combined training etc." Much of Dyer's commentary concerned logistics, and he recommended several measures, including the expansion of reserve fuel and ammunition holdings, increased dispersal of such resources, additional seagoing tanker support, and the improvement of docking and repair facilities outside designated target areas such as Halifax. He thought the dispersal of support facilities especially important and emphasized the weakness of "having all surface and sub-surface forces based in Halifax", which was presumed to be a Soviet target. "Dispersed logistic support would be even better", he suggested, "If Sydney and St. John's, as well as Halifax, were bases with squadrons permanently allocated" – this seemed pertinent since under the FALLEX 62 exercise scenario Halifax was hit by a missile with a nuclear warhead launched from a Soviet SSB. Dyer also wanted to enhance acoustic quieting in warships, hasten the delivery of Variable Depth Sonar, fit ships with JEZEBEL recorders, and improve equipment and maintenance support to aircraft. For his part, the new FOPC, Rear-Admiral William Landymore, had little to add, although he called for an increase in strength on the west coast in both ships and maritime aircraft.[184]

In the spring of 1963 NSHQ's plans division also compiled a list of lessons derived from both FALLEX 62 and the Cuban crisis. These mostly mirrored those discussed at the Senior Officers' meeting and many had already been addressed. For example, a temporary naval operations centre had been established at NSHQ to streamline the handling of urgent intelligence and operational information; the Naval War Book and Emergency Defence Plan were being combined to give more specific instructions to commands; agreement had been reached with the US Navy towards a common concept of ASW operations; and secure 'hot lines' had been set up between Halifax, Norfolk, Argentia, and the US naval air station at Brunswick, Maine. The staff recognized that other measures requiring action, particularly those concerning the expansion and dispersal of logistic support, would necessitate increases to the budget which, it was acknowledged, would be difficult to achieve in the restrictive fiscal climate. Finally, regarding the Soviet fishing fleet that had dominated so much of CANCOMARLANT's focus during the crisis, in January 1963 a study group of senior officers issued recommendations on how to deal with the threat.[185]

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[184] VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 4.

[185] "Recommendations of the Study Group Formed to Consider the Russian Trawler Threat", 15 January 1963, DHH, 79/246 Folder 29.

The Cuban crisis also bred outcomes of primary interest to the United States and Soviet navies. Many SOSUS contacts turned out to be false and that led to serious questioning of the system's effectiveness, including, as we have seen, from Rear-Admiral Dyer. It appears that the problem derived from a false understanding of the nature of acoustic 'signatures' obtained by the system in the years before the crisis. According to Bruce Rule, who worked for some 30 years as an analyst in the Integrated Undersea Surveillance System (IUSS) as the SOSUS organization came to be known, and who has become one of its preeminent historians, found that almost all acoustic detections of Soviet diesel submarines available to SOSUS analysts before the Crisis turned out to be from surface and not snorkel operations. This, Rule explained, "was a critical shortcoming because snorkel mode acoustic signatures differed significantly from surface mode signatures." Post-crisis analysis revealed that the four FOXTROTs that deployed to Cuba "snorkeled on only one outboard diesel-driven shaft line to conserve fuel. This and the cavitation that procedure caused gave a completely different acoustic signature than when they used two propellers while running on the surface, but that was not yet appreciated." Thus, 'signatures' were unlike what was expected, and many contacts were misidentified as submarines – most turned out to be Soviet fishing vessels – while actual contacts were overlooked. This fomented a significant lack of confidence in a system in which the US Navy and RCN had placed enormous faith. Ultimately, the anomaly was resolved in 1963-64 when a SOSUS station in Norway recorded a number of snorkeling FOXTROTs. That produced accurate signatures, which increased the value of SOSUS intelligence exponentially; as Rule described, SOSUS emerged from "The Acoustic Dark Ages", and became instrumental in Cold War ASW.[186]

Despite the strategic failure of Operation ANADYR, the challenges associated with global submarine operations, and the apparent ease with which US Navy anti-submarine forces detected the four FOXTROTs heading to Cuba, the Soviet navy found some positive outcomes from the crisis. One concerned the gathering of electronic intelligence (ELINT), which involved the recording and analysis of electronic transmission from all sources, but especially radio. A 1964 Soviet study on "Reconnaissance at Sea" noted "the wide use of electronic means of the probable enemies' system of control of naval forces, and their active use in day-to-day and combat activity." The authors observed: "in a period of worsening international relations the number of functioning electronic means increases, as does the intensity of their use. Thus, in the area of the Caribbean Sea in October 1962, the overall growth of radio networks and radio communication links of the US Navy in the Atlantic theatre amounted to 60 percent (two-thirds of which were for short-range communications)."[187] Much critical information was gathered

[186] Bruce Rule, "Faulty Intelligence Nearly 'Sank' SOSUS during the Cuban Missile Crisis" (2012), at http://www.iusscaa.org/articles/brucerule/brucerule_cable_2012.htm.

[187] USSR, Ministry of Defence, Rear-Admiral B. Bobkov and Captain First Rank I. Khurs, "Military Thought: Reconnaissance at Sea", from *Collection of Articles of the Journal Military Thought* (Issue No 2 (74) 1964), p. 6. This article was promulgated through the CIA in 1974 and made public in 2006. The four FOXTROTs deployed to the Caribbean also had special communications intelligence teams onboard. See, W. Craig Reed, *Red November: Inside the US-Soviet Submarine War* (New York: William Morrow, 2001).

from this influx of communications intelligence – COMINT – and given their continuous deployment of intelligence vessels in the waters adjacent to North America that was a major Soviet priority. The RCN would not have escaped this scrutiny and information from AGIs like the Shkval undoubtedly increased Soviet knowledge of Canadian naval communications, procedures, and patrol patterns. For its part, the RCN also unquestionably benefitted from ELINT gathered during the crisis including significant information on Soviet submarine operating cycles obtained by the US Navy.[188]

[188] For the role of ELINT and other sources of naval intelligence, Christopher Ford and David Rosenberg, *The Admiral's Advantage: US Navy Operational Intelligence in World War II and the Cold War* (Annapolis: Naval Institute Press, 2005); and for the US Navy's HF/DF efforts see Reed, *Red November*.

Loose Ends

Two important subjects need to be resolved: the number of Soviet submarines deployed into the Atlantic and the effectiveness of the RCN's command and control organization. Regarding the former, the precise number of Soviet submarines deployed during the crisis continues to linger unresolved. This is an important gap since the bulk of CANMARLANT's efforts were expended against that threat, and although numerous contacts were claimed by SOSUS, ships or aircraft, beyond the four FOXTROTs forced to the surface off the quarantine line and the 22 October sighting of the ZULU refuelling from the Terek, there was no other visual confirmation of any Soviet submarine in the western Atlantic. As we have seen, estimates at the height of the crisis put the number as high as ten possible contacts in the western Atlantic including the four FOXTROTs positively identified near Cuba. From that point estimates of the number of Soviet submarines in the Western Atlantic have trended steadily downwards.[189] A 1978 US Navy operational research study based upon records of the Atlantic Fleet concluded there were six submarines in the Western Atlantic, but this seems to be derived from a double- counting of one of the FOXTROTs approaching Cuba.[190] Commemorations surrounding the 40th anniversary of the crisis saw a flood of new information, most significantly from declassified documents released through the National Security Archives that detailed the Atlantic Fleet's ASW operations and assessments. The anniversary also saw the first accounts from Soviet submariners involved in Operation ANADYR, but these only concerned the four FOXTROTs on passage to Cuba and their sober experience at the hands of American anti-submarine forces – their most startling revelation was the fact that the FOXTROTs were each armed with a nuclear torpedo.[191] In his superb study of the Cuban crisis, naval veteran and analyst Captain Joseph Bouchard USN (ret'd) explained:

> About thirteen to twenty additional contacts, depending on who is making the judgement, were considered to be "probable" Soviet submarines, but could not meet the strict visual identification criteria necessary to be confirmed (even though several of them were [falsely] 'sighted'). For the Soviets to have had a total of eighteen to twenty-four submarines in the Caribbean and Western Atlantic would have been an incredible and extremely unlikely feat. All but one or two of the probable contacts can be dismissed as additional detections of the confirmed sightings or very realistic false contacts.[192]

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[189] In his original study on Canadian involvement in the crisis, Peter Haydon concluded there were "at least twelve Soviet submarines deployed into North American waters and the Caribbean's in the Atlantic, but in his later study he reduced the number asserting "The evidence seems to say that there were certainly six submarines and possibly a seventh." See Haydon, "Canadian involvement in the Cuban Missile Crisis Re-Reconsidered", p. 58-59.
[190] CINCLANTFLT Memorandum, 29 April 1963, "Top Secret CINCLANTFLT Historical Account of Cuban Crisis 1962", quoted in R.F. Cross Associates, *Sea Based Airborne Antisubmarine Warfare 1940-1977, Vol II 1960-1977*, p. 40.
[191] See Jan Drent, "Confrontation in the Sargasso Sea: Soviet Submarines during the Cuban Missile Crisis."
[192] Bouchard, *Command in Crisis*, p 118. Importantly, Bouchard benefitted from access to the COMASWFORLANT report on ASW operations during the crisis. Unhappily, that study, though once declassified, has since been re-

Bouchard's analysis rings true and has been reinforced by more recent research. In a seminal 2005 article, Russian historian Svetlana Savranskaya revealed that after reversing their plans to send a considerable force of submarines to Cuban waters, the Soviets limited the deployment to the four FOXTROTs detected by the Americans and the ZULU B-75, which had been detected on 22 October refuelling from the Terek on its way home – as mentioned previously, she also revealed that the Pacific command deployed a ZULU to patrol off Hawaii but that was the extent of activity in that ocean. Norman Polmar and K.J. Moore came to the same conclusion in their study of US and Soviet Cold War submarines, insisting there were only five Soviet boats in the Atlantic – the four FOXTROTS and B-75.[193] Both these studies benefitted from some access to Soviet documentation. Nonetheless, until further research can be carried out in Russian archives – which may, of course, reveal nothing to the contrary – these assessments will have to be considered definitive. Thus, although there were numerous reports of Soviet submarine detections in the Canadian area of operations, there appears to have been none deployed there. This raises a critical question: if it does come to light that Soviet submarines were in position off Canada's coast during the crisis, does not the inability of our anti-submarine forces to achieve sustained tracking of their movements or confirm their presence by forcing them to surface through a hunt to exhaustion represent a massive failure?

The effectiveness of the RCN's command and control system can be addressed with more certainty. Minister Harkness and Associate Minister Sévigny were privy to a majority of the SITREPs Dyer sent to Ottawa at least daily. The Chiefs of Staff Committee and senior RCAF staff were also in the picture. Moreover, from the outset Rayner and Brock involved themselves in the crisis: the CNS at the strategic level, including discussions with the Chiefs of Staff, the Minister, and his American counterpart, and Brock at the operational level – the establishment of an operations room at NSHQ early in the crisis is evidence of NSHQ's involvement. Beyond the message traffic that flowed into NSHQ from Dyer, one can only guess at the number of phone conversations that took place between staff at NSHQ and Halifax. There were disagreements to be sure, especially at the end of October, but the fact that Dyer raised his concerns directly with Ottawa and had detailed interactions with them over the issues involved demonstrates the high degree of cooperation between Halifax and Ottawa. Thus, rather than being aloof from the crisis and abandoning Dyer, as had been suggested, Rayner and NSHQ, with critical political top cover from the Minister and Associate Minister of National Defence, made a major contribution to the RCN's role in the crisis. Naval decision-makers at all levels, and all headquarters, provided professional and effective leadership.

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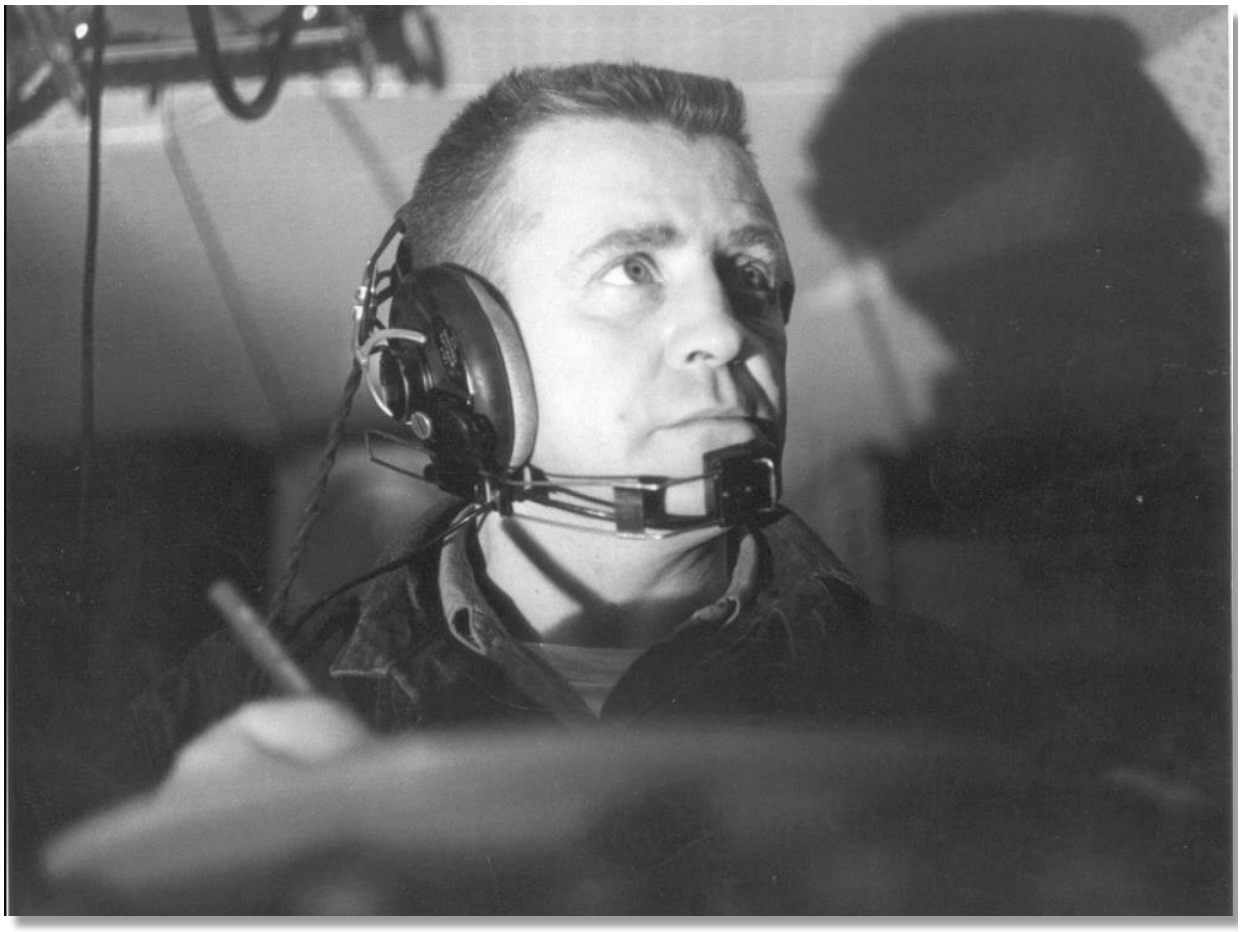
closed.

[193] Svetlana Savranskaya, "New Sources on the Role of Soviet Submarines in the Cuban Missile Crisis", p. 238. Norman Polmar and K.J. Moore, Cold War Submarines, p. 203-204. In his latest research Norman Polmar reveals a fifth Foxtrot put to sea for Cuba from the Soviet Union but had to return home due to mechanical problems. See, Polmar, "The Submarines of October", Naval History (October 2022).

Similar accolades can be extended to the fleet. During the crisis, twenty-nine of thirty-eight of Atlantic Command's ships and submarines, or seventy-six per cent, "were ready and available for action": in the Pacific, the response was twelve of eighteen, or two-thirds.[194] In some cases, ships' companies had to be scratched together with sailors yanked from training establishments, but the ships were at sea or defence stations or on standby. On the MAC side Argus MPAs were only forced to abort three of ninety-eight planned sorties. The fact that most units were scheduled to begin or had just completed major exercises contributed to this result, but the achievement was nonetheless impressive. There were hiccups to be sure, but once at sea, the fleet fulfilled its commitments – in face of the aforementioned "unrelenting gales" in the Atlantic – and although there is a sense it was becoming a challenge to sustain the effort as the crisis endured, at no point did they fail to carry out an assignment or respond to a request from its ally. This was not war, but it was close to it; under those conditions the most basic requirements were to establish maritime presence and monitor what was occurring in the Canadian area of responsibility. That they did. And, from all accounts it is evident that sailors responded to the crisis with spirit and enthusiasm. If the RCN's and Maritime Air Command's response to the "exceptional circumstances" of the Cuban Missile Crisis can be seen as their most serious test during the Cold War, they can be said to have done their job.

[194] VCNS, "Minutes of the Thirteenth Senior Officers' Conference, Held at Naval Headquarters, Ottawa, on 14 to 16 January 1963", p. 18.



Petty Officer Rick Bridges of HMCS Ottawa; one of the sailors and airmen who met the challenge of CUBEX. (Rick Bridges Collection www.forposteryssake.ca)

APPENDIX I: CANADA'S MARITIME FORCES

Atlantic Command (RADM K.L. Dyer)[195]

First Canadian Escort Squadron (CAPT A.D. McPhee):
MICMAC (LCDR J.M. Cutts)
CAYUGA (CDR W.M. Beckett)
NOOTKA (CDR S.M. King)
CRESCENT (CDR P.H. Cayley)
ALGONQUIN (CDR P.C. Berry) (in refit)
ATHABASKAN (CDR E.A. Fox)
MACKENZIE (CDR A.B. German) (trials)

Third Canadian Escort Squadron (CDR C.A. Law):
SIOUX (CDR C.A. Law)
IROQUOIS (LCDR W.D. Munro) (destoring)
HURON (CDR D.S. Bethune)
HAIDA (CDR W.H.I. Atkinson)

Fifth Canadian Escort Squadron (CAPT C.P. Nixon):
TERRA NOVA (CDR J.B. Young)
RESTIGOUCHE (CDR B.C. Thillaye)
GATINEAU (CDR J.W. Roberts)
CHAUDIÉRE (CDR P.J. Pratley) (pre-refit trials)
ST CROIX (CDR D.C. Rutherford)
COLUMBIA (CDR D.W. Knox) (work-ups)
KOOTENAY (CDR D.H. Ryan)

Seventh Canadian Escort Squadron (CDR W.C. Spicer):
FORT ERIE (CDR W.C. Spicer)
NEW WATERFORD (LCDR J.H. Wilkes)
INCH ARRAN (LCDR B.A. Mitchell)
VICTORIAVILLE (LCDR W.P. Rikely)
OUTREMONT (LCDR J.R.H. Ley)
LANARK (LCDR J.M. Reid) (storing/refit)

[195] Royal Canadian Navy, "Pink List: Corrected to 1200Z, 22 October 1962", p. 5-11

Ninth Canadian Escort Squadron (CDR K.E. Grant):

CAP DE LA MADELEINE (CDR K.E. Grant) (refit)
LAUZON (LCDR R.A. Beach)
LA HULLOISE (LCDR A.G. Lowe)
SWANSEA (LCDR B.A. Cartwright)
BUCKINGHAM (LCDR R.F. Choat)

First Canadian Minesweeping Squadron (CDR R.B. Hayward):

CHALEUR (CDR R.B. Hayward)
RESOLUTE (LT G.W. Garrard)
CHIGNECTO (LCDR D.G. Wales)
THUNDER (LCDR M. Barrow)
QUINTE (LCDR G.G. Armstrong)
FUNDY (LT R.J. Luke)

Special Duties

CAPE SCOTT (CDR A.H. Rankin)

Sixth Submarine Division (LCDR C. Ringrose-Voase RN):
HMS ASTUTE ((LCDR C. Ringrose-Voase RN)
HMS ALDERNEY (LCDR R. Cudworth RN)

Naval Air Squadrons:

VS-880 (CDR D.M. McLeod)
24 CS2F-2 Trackers (18 BONAVENTURE; 6 SHEARWATER)

VU-32 (LCDR S.R. Linquist)
7 T-33 Silver Star; 8 CS2F-1 Trackers; 6 CF2F-2 Trackers (SHEARWATER)

HS-50 (LCDR E.A. Fallen)
6 H04S3 (BONAVENTURE)

HU-21 (LCDR W.E. James)
4 H04S3 (SHEARWATER)

PACIFIC COMMAND (RADM E.W. Finch-Noyes/RADM W.M. Landymore)[196]

Second Canadian Escort Squadron (CAPT G.H. Hayes):

FRASER (CDR R.C. Thurber)
SAGUENAY (CDR H.R. Tilley)
OTTAWA (CDR I.A. MacPherson) (Leave and self-maintenance)
MARGAREE (CDR J.L. Panabaker) (refit)
SKEENA (CDR R.H. Leir)
ST LAURENT (LCDR C.E. Brooks) (refit)

Fourth Canadian Escort Squadron (A/CAPT D.S. Boyle):

SUSSEXVALE (LCDR A.N. Turner)
STETTLER (LCDR R.F. Gladman)
STE THÉRÈSE (LCDR M.A. Martin)
ANTIGONISH (LCDR E.M. Jones)
BEACON HILL (LCDR A.C. McMillin)
JONQUIÈRE (LCDR R.L. Hughes)
NEW GLASGOW (LCDR J.G. Mills)

Second Canadian Minesweeping Squadron (LCDR A.B. Torrie):

FORTUNE (LCDR A.B. Torrie)
JAMES BAY (LT R.A. Orton)
MIRAMICHI (LT C. Cotaris) (self maintenance)
COWICHAN (LT R.D. Okros)
Special Duties
CAPE BRETON (CDR I.A. McPhee)
GRILSE (LCDR E.G. Gigg)

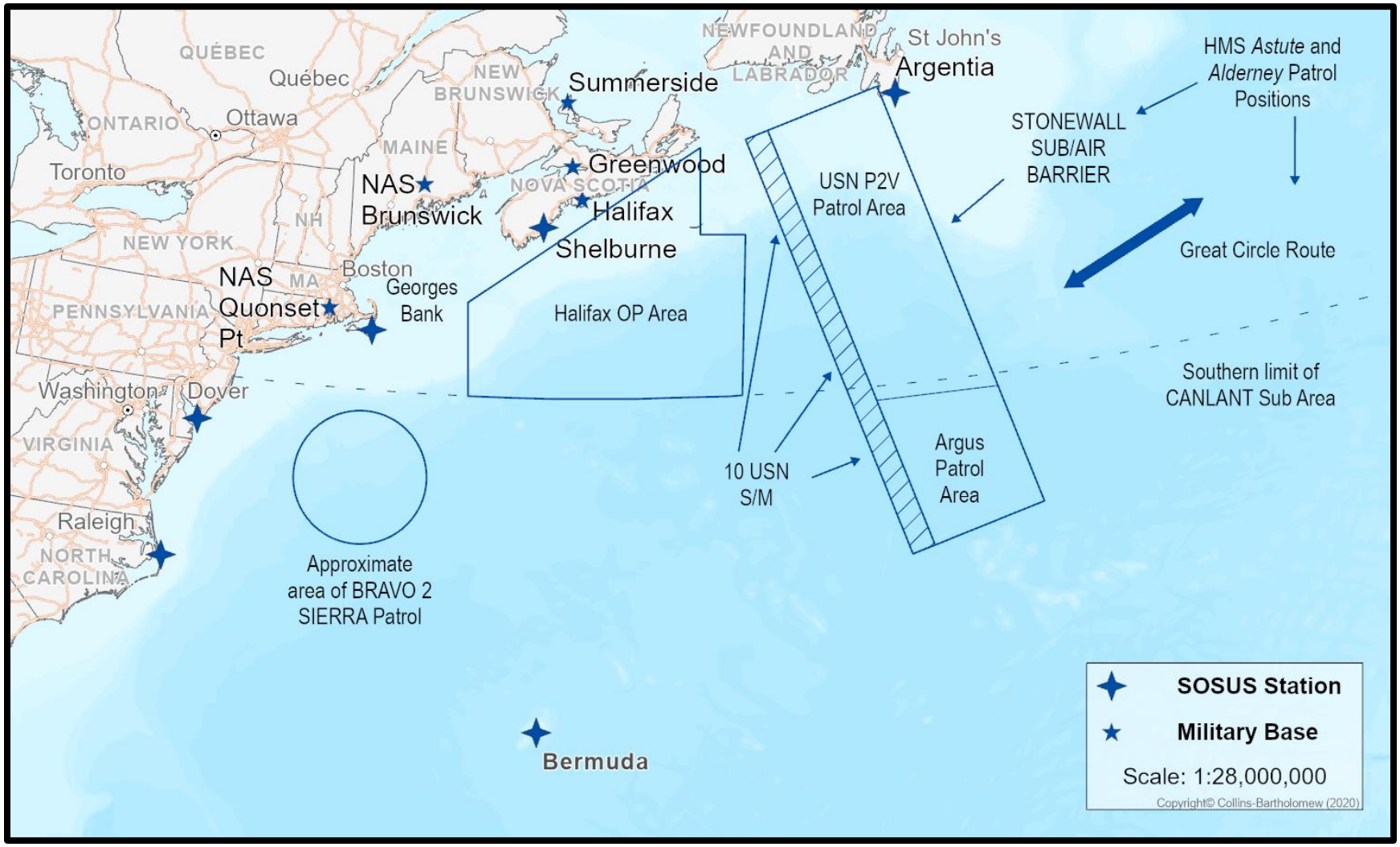
[196] Royal Canadian Navy, "Pink List: Corrected to 1200Z, 22 October 1962", p. 13-19

Naval Air Squadron:

VU-33 (LCDR S.E. Soward)
2 CS2F-1 Trackers; 2 T-33 Silver Stars; 2 HUP

Maritime Air Command (Air Commodore W.I. Clements):

404 (MR) Squadron: Greenwood, NS – 4 x CL-28 Argus (W/C A.J. Ireland)
405 (MR) Squadron: Greenwood, NS– 4 x CL-28 Argus (W/C D.F. Drake)
407 (MR) Squadron: Comox, BC – 4 x P2V-6 Neptune (W/C L.H. Croft)
415 (MR) Squadron: Summerside, PEI – 4 x CL-28 Argus (W/C E.D. Kelly)



Atlantic Command OP Areas Map