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Canada's Silent Service: The Cultural Evolution and Operational Success of the Canadian Submarine Service (1965–1995)

A Thesis Submitted to the Department of Military and Strategic Studies of the Royal Military
College of Canada by

Fiona Nesbit
Officer Cadet

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Strategic Studies (with Honours)

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DOLPHIN 26A

Abstract

From 1965 to 1995, the Canadian Submarine Service developed a distinct culture shaped by international influences of the Royal Navy and the United States Navy. This thesis argues that this evolving culture played a pivotal role in the service's operational success. Through an analysis of historical records and firsthand accounts, this study examines how cultural factors contributed to the operational effectiveness of the service. The first chapter explores the establishment of the Canadian Submarine Service, tracing its early reliance on foreign training and the subsequent effects on culture. The second chapter explores the symbols and shared values that shaped the service's culture, including common beliefs and the perception of submariners as an elite force. The third chapter investigates the role of leadership in shaping and reinforcing this culture, assessing two case studies. The first case study highlighted the effects of exemplary leadership whereas the second case showed the effects of poor leadership on board Canadian submarines. Finally, the fourth chapter analyzes the transition to greater operational autonomy, highlighting how cultural foundations enabled the Canadian Submarine Service to assert its independence while maintaining high standards of performance. Ultimately, the findings support the hypothesis that culture was a decisive factor in the service's success. The study underscores the importance of organizational culture in military effectiveness and offers insight into how cultural identity can influence operational outcomes.

Introduction

On April 22nd, 1966, the First Canadian Submarine Squadron was commissioned, marking the beginning of a new era for the Royal Canadian Navy (RCN).¹ During the Cold War, anti-submarine warfare (ASW) was the RCN's primary focus, making the creation of the First Canadian Submarine Squadron a cornerstone of Canada's commitment to Western security in the face of a Soviet naval presence. The First Canadian Submarine Squadron was made up of three Canadian Oberon class submarines; the HMCS *Ojibwa*, which commissioned on September 23, 1965; the HMCS *Onondaga* which commissioned on June 22, 1967; and the HMCS *Okanagan* which was commissioned on June 22, 1968. The ship characteristics of the Oberon Class submarine, as highlighted in the acquisition memo to the Canadian Naval Technical Services (CNTS) included a primary mission of destroying enemy submarines. The secondary objective was to be fully operational and self-supporting for long periods of time, and being capable of carrying out a war patrol continuously submerged in any part of the world.² The speed while surfaced and using the main engine was fifteen knots, whereas the speed submerged using the main batteries was sixteen knots for thirty minutes, twelve knots for one-hundred-ninety-two minutes, four knots for forty hours and while snorkelling (when the submarine extends a snorkel mast above the water's surface while remaining mostly submerged. This process allows the submarine to take in fresh air for its diesel engines and for ventilation while avoiding full exposure on the surface), a maximum of fourteen knots.³ The operational depth of the Oberon was a maximum of 625 ft.⁴ The operable torpedoes for Oberons at the time of their acquisition

¹ Julia Ferguson, *Through a Periscope: The Story of the Canadian Submarine Service* (Toronto: Dundurn Press, 2014), 293.

² Captain (N) H.A Winnet to Canadian Naval Technical Services, 02 February 1961.

³ Captain (N) H.A Winnet to Canadian Naval Technical Services, 02 February 1961.

⁴ Captain (N) H.A Winnet to Canadian Naval Technical Services, 02 February 196.

included the MK 8, MK 20, MK12, MK 23, and the MK 16-6 and MK 37 (both operated by the United States Navy (USN)).⁵ Lastly, the complement for the Oberons at the time of acquisition was seven officers and sixty-five men.⁶

Dubbed Canada's 'Silent Service', many aspects of First Canadian Submarine Squadron's work remain classified and unbeknownst to the general public, making it challenging to address in historical discourse. Although little is known about the service, it made an important contribution to our naval role in the North Atlantic Treaty Organization (NATO), contributing significantly to Allied ASW efforts through achievements such as developing the Dolphin Code and conducting numerous successful Operational Surveillance Patrols (OSPs).⁷ While the Canadian Oberons, operating under Maritime Command (MARCOM), undoubtedly contributed to the NATO naval presence in the world's oceans, what is often forgotten are the crews who manned and facilitated the success of the vessels. The sailors and officers on board the new Canadian Oberons worked tirelessly to support Western security against the Soviet threat, transforming the new submarines from training vessels to an operational force. While many factors fueled this evolution, the unique culture on board the Canadian Oberons undoubtedly contributed to their success.

This thesis intends to unravel the story of Canada's 'Silent Service', answering the questions: How did the newly reformed Submarines Force of Canadian Maritime Command develop under the influence of the USN and RN on culture, training and leadership from 1965 to 1975? How did the culture impact the Service's operational effectiveness from 1965 to 1995? This thesis will argue that the culture of the Canadian Submarine Service, which evolved under

⁵ Captain (N) H.A Winnet to Canadian Naval Technical Services, 02 February 1961.

⁶ Captain (N) H.A Winnet to Canadian Naval Technical Services, 02 February 1961.

⁷ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," in Bernd Horn (ed.), *Fortune Favours the Brave: Tales of Courage and Tenacity in Canadian Military History* (Toronto:Dundurn, 2009), 297.

the influence of international navies, played an instrumental role in the success of the Canadian Submarine Service from 1965 to 1995. This thesis will be broken into four chapters: the first chapter will discuss the re-establishment of the Canadian Submarine Service, highlighting the birth of the First Canadian Submarine Squadron under MARCOM. It will highlight the considerable influence of the Royal Navy (RN) and the United States Navy in shaping the Royal Canadian Navy's submarine force after a period of negligible submarine capability. This influence fostered strong international connections among the RN, USN, and RCN, which became deeply embedded in Canadian submarine culture.

The next chapter will explore the shared values and beliefs along with the symbols and artifacts that characterized Canadian submarine culture. These aspects encompass the perception of the Canadian Submarine Service as an elite military force, the shared values and collective identity among submariners, and the symbols and artifacts that emerged between 1965 and 1995. Together, these elements provide valuable insights into the distinctive characteristics of Canadian submarine culture. This chapter will highlight the stories and memories of former submariners that were collected in a series of interviews to reflect the culture of the Canadian Submarine Service from the perspective of those who experienced it.

The third chapter will analyze the role of leadership in establishing Canadian submarine culture during the Cold War. This chapter will analyze two case studies: an example of exemplary leadership and an example of poor leadership, and how each influenced Canadian submarine culture. Furthermore, this chapter will highlight the unique leadership qualities possessed by submarine commanders and how they contributed to operational effectiveness.

The final chapter will discuss the First Canadian Submarine Squadron's transition from a training support platform to an autonomous operational force. Upon its establishment, the First

Canadian Submarine Service was initially restricted to participation in Allied anti-submarine warfare (ASW) training exercises. However, various factors underscored its potential to operate as an independent force, leading to expanded continental responsibilities and increased operational and cultural autonomy. As a result, Maritime Command decided to refit the Oberon-class submarines under the Submarine Operational Update Program (SOUP). Moreover, this chapter will identify some of the many successful Operational Surveillance Patrols (OSPs) that followed the SOUP refits.

Culture is malleable and often hard to quantify, therefore, to study the effects of culture on board Oberon class submarines, it is imperative to identify the parameters by which it is defined. This paper will analyze culture using Edgar Schein's definition of culture in that it is:

*A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.*⁸

Some specific aspects of culture that will be explored in this paper include: observed behavioural regularities, such as language; group norms such as evolving standards and values; espoused values such as common goals; shared meanings primarily through group interaction; and 'root metaphors' and 'integrating symbols' otherwise known as artifacts.⁹ As identified in Clark's article, artifacts facilitate basic assumptions overtime in any culture, particularly in the Canadian Submarine Service.¹⁰

⁸ Edgar H. Schein, *Organizational Culture and Leadership*. 3rd ed. San Francisco: John Wiley & Sons, Inc., 2004, 225, 245.

⁹ Cdr M. E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF" (Canadian Forces College: 2007), 15.

¹⁰ Cdr M. E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF", 20.

Historiography

While literature exists on the technological development and strategic roles of Canada's naval forces, the cultural dimensions of the submarine service have received comparatively less attention. Scholars and historians have focused extensively on surface fleet operations and technological advancements, leaving the unique environment and social structures of the submarine service relatively unexplored. By comparison, the submarine services of the RN, USN, and Soviet Navy during the Cold War have been widely documented through books, scholarly articles, and popular media. These works have highlighted operational doctrines, crew experiences, and cultural elements within their respective submarine forces, contributing to a richer understanding of their operational effectiveness. In contrast, the Canadian Submarine Service remains shrouded in secrecy and, as a result, significantly underrepresented in Canadian naval history, despite its vital role in Cold War maritime strategy.

The Canadian Submarine Squadron's contributions to NATO maritime operations, ASW training, and surveillance missions during the Cold War played a pivotal role in Canada's defence posture. Yet, scholarly attention has disproportionately focused on technological aspects, such as the Submarine Operational Update Program (SOUP) and platform capabilities, rather than the lived experiences of submariners or the cultural factors influencing operational effectiveness. Literature addressing these operational upgrades to the submarines often overlooks the human element—how leadership styles, training regimens, and interpersonal dynamics aboard submarines shaped mission outcomes and overall readiness. This oversight has left a significant gap in understanding the interconnectedness between culture and effectiveness in the Canadian Submarine Service. To address this gap, this section examines scholarly interpretations

across three key themes: the establishment of the Canadian Submarine Service, cultural aspects of the service, and operational performance. By exploring how these elements are related to the operational history of the Canadian Submarine Service from 1965 to 1995, the historiography contextualizes broader trends within naval scholarship.

Given the thematic focus prevalent in the literature, this historiography is organized around central themes rather than a chronological progression. The thematic structure allows for an in-depth analysis of how various aspects of culture—such as morale, camaraderie, stress management, and communication—have been portrayed or neglected in existing scholarship. By synthesizing these perspectives, this section provides a comprehensive foundation for understanding how culture influenced the operational effectiveness of the Canadian Oberons during the Cold War.

In the context of the establishment of the Canadian Submarine Service, Julie Ferguson's book "Through A Canadian Periscope: A Story of the Canadian Submarine Service" offers the most comprehensive overview of the establishment of the service.¹¹ Ferguson's 408-page book encompasses the history of the Canadian Submarine Service from 1914 to 2014 with ten pages discussing the rebirth of the service beginning in 1961. Furthermore, Cdr M. E Clark's article "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF" has a brief section of roughly four pages that discusses the re-establishment of the Canadian Submarine service.¹² Though both sources discuss establishing the Canadian Submarine Service, it is not the focal point of either article.

¹¹ Julia Ferguson, *Through a Periscope: The Story of the Canadian Submarine Service* (Toronto: Dundurn Press, 2014).

¹² Cdr M. E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF".

Transitioning to the culture of the Canadian Submarine Service, Keith Nesbit's contribution to *Salty Dips* - a collected volume on Canadian Oberons - "Those !@? \$#! Submariners!" is the only article that directly addresses Canadian submarine culture.¹³ Nesbit does so by identifying how submariners approached their works, including the general attitudes and demeanours of submariners. Furthermore, while Cdr M. E Clark's article "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF" briefly touches on the establishment of the Canadian Submarine Service, it uses the Court Martial of Dean Marsaw, a former submarine commander, to highlight the role of leadership in influencing culture.¹⁴ While this paper is a psychological study of organizational culture and leadership, its application to the Canadian Submarine Service creates a topic overlap that undoubtedly contributed to the historiography of the Canadian Submarine Service.

As previously mentioned, the Canadian Submarine Service is shrouded in secrecy; the records of their operational surveillance patrols (OSP) against the Soviets remain highly classified, with submarine crews required to sign nondisclosure agreements prohibiting them from discussing their missions. As a result, literature on the operational performance of Oberon-class submarines is extremely limited. However, with level three security clearance and a signed authorization from Vice Admiral Robertson allowing submariners to discuss their service with him, Michael Whitby authored two articles:¹⁵ *"Boomers, Draggers, and Black Boxes: The Operational Legacy of Canada's Oberon Class Submarines, 1983–1998"* and *"Doin' the Bizz: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983–1987."*¹⁶ These

¹³ Keith Nesbit "Those !@? \$#! Submariners !" (Ottawa: The Naval Association of Canada, 2014).

¹⁴ Cdr M. E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF".

¹⁵ Michael Whitby to Author, February 11 2025.

¹⁶ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," in Bernd Horn (ed.), *Fortune Favours the Brave: Tales of Courage and Tenacity in Canadian Military History* (Toronto:Dundurn, 2009), 297-330.

two articles from Whitby are invaluable to supporting research on the topic. Each of these articles discusses the operational aspect of the Canadian submarine service. However, the sources for Whitby's work remain classified, further limiting the historiography of the Canadian Oberon's operational success.

Aside from the works of Nesbit and Clark, the culture of the Canadian Submarine Service remains underexplored. This gap in the historiography presents an opportunity for this thesis to delve into a largely overlooked yet fundamental aspect of naval history, providing an unexplored perspective on the Canadian submarine service. Building upon Michael Whitby's research, which highlights the operational performance of the Canadian Oberons, or "O-Boats" as they were commonly referred to, this thesis seeks to provide a pioneering analysis of the factors that contributed to their operational success. In doing so, it aims to enrich the historiography of the Royal Canadian Navy and its successor, Maritime Command, during the Cold War.

Concerning primary sources on the Canadian Submarine Service from 1965 to 1996, publicly available primary documents are scarce. As previously mentioned, the Canadian Submarine Service during the Cold War remains highly confidential. However, those that are publicly available were crucial in the development of this thesis. The primary sources used in this thesis can be divided into two categories. The first is personal testimony, and the second is government documents. Personal testimonies were collected from retired submariners who served on board Oberon Class Submarines from 1965 to 1995 through a series of interviews. The interviews were used to collect imperative data relevant to investigating the culture on board submarines from 1965 to 1995. All interviews were conducted following the Royal Military

Michael Whitby, "Boomers, Draggers and Black Boxes: The Operational Legacy of Canada's Oberon Class Submarines, 1983- 1998" (*The Northern Mariner*: 2013), 367-398.

College of Canada's (RMC) Research Ethics Board approved policy. All participants have provided informed consent to participate in this study. Moreover, this study analyzed a journal kept by Captain Navy retired (Capt (N)) (ret'd) Keith Nesbit, from his time in command of the HMCS Okanagan. This journal offered valuable insight into the role of a commander on board Canadian submarines. Moreover, it provided insight into how commanders managed the morale on board submarines during allied exercises.

The second category of primary sources include relevant government documents about the Canadian Submarine Service from 1965 to 1995. Although limited, relevant government documents were utilized to provide insight into both submarine operations and the technical aspects of the vessels. These documents offer essential context for understanding the conditions that contributed to the evolution of the culture aboard Canadian submarines. One such document was a memorandum written to the CNTS to acquire Canadian Oberons on February 02 1961. This memorandum stated all the technical aspects of the Oberon submarines, as well as the justification for their acquisition by the Department of National Defence and Maritime Command. Moreover, transcripts from the court martial of Dean Marsaw were relevant in highlighting the effects of poor leadership on crew morale and in turn on the operational effectiveness of the ship.

Methodology

Given the limited availability of publicly accessible sources on the Canadian Submarine Service, this study adopted a unique research approach, generating original primary sources by conducting interviews with former submariners. This methodology outlines the research strategies used to examine the culture of the Canadian Submarine Service from 1965 to 1995. By using a combination of primary and secondary sources, this study seeks to analyze the culture on

board Canadian Oberons and its impacts on operational effectiveness. Considering the scarcity of publicly available primary documents, this thesis adopted an oral history approach, conducting original research through interviews with former submariners. Culture is inherently personal; it encompasses the nature of social behaviour and combines shared beliefs, values and attitudes. Therefore, to accurately illustrate the culture of the Canadian Submarine Service from 1965 to 1995, personal testimonies from submariners played an invaluable role in supporting this thesis. The interview process in support of this thesis was initiated by submitting a detailed application to the RMC Research Ethics Board. Following their approval, the author contacted former submariners inviting them to participate in this study, providing them with a letter of information that included a list of twenty-seven potential questions across three key themes: submarine culture and identity; effects of leadership on operational effectiveness and morale; and personal experience and service reflection. Although a list of twenty-seven potential questions was prepared, the author introduced alternative questions related to the three primary themes throughout the interview. These questions were deemed relevant to the research scope and adapted based on the responses from the interviewees. The interviews were conducted either through video call or in person in the Kingston area.

Following the interviews, the author analyzed the transcripts, categorizing the data into three categories: the establishment of the Canadian Submarine Service; symbols and artifacts of the Canadian Submarine Service; and the role of leadership in managing morale. The interviews were subsequently used as the primary data in this study; however, auxiliary primary and secondary sources were used in complement to the data collected through the interviews. By adopting an oral history approach, supported by auxiliary primary and secondary sources, this

study was able to identify and articulate what the Canadian submarine culture was from 1965 to 1995 and why it was an integral aspect of their operational effectiveness.

Chapter One: The Birth of the Canadian Submarine Service

As the Second World War concluded, resulting in the Allied Victory in 1945, peace began to settle over the world's oceans. In this context, Canada sought to expand its global influence by contributing to the defense of Western Europe, embracing the North Atlantic Treaty Organizations' (NATO) goals. The Royal Canadian Navy (RCN) specialized in anti-submarine warfare (ASW) to bolster collective security, including efforts to re-establish their dormant submarine service. However, post-war threat assessments revealed the Soviet Union's relative naval weakness and a low probability of immediate conflict. This analysis underscored the long-term need for enhanced air defence and economic stability rather than an urgent

requirement for submarines.¹⁷ The Canadian government and the Department of National Defence's (DND) demand for a strong peacetime economy and enhanced air defences led to suspending efforts to re-establish the Canadian Submarine Service. This status would change however, and this chapter will examine the re-establishment of the Canadian Submarine Service from 1949 to 1965 and the significant influence of the Royal Navy (RN) and United States Navy (USN) on Canadian submarine culture. It will analyze how both navies facilitated the training of Royal Canadian Navy (RCN) personnel and played an essential role in shaping the evolution of Canadian submarine culture. Their contributions were pivotal in the development of the service during this period, and the integration of RN and USN cultural and operational doctrines into the RCN provided the foundational framework from which the Canadian Submarine Service ultimately evolved into an autonomous force.

Canada's Shift in Submarine Policy (1949-1965)

Canada's posture on submarine policy suddenly changed in 1949 after announcing their commitment to NATO. Along with their commitment to NATO, Canada acknowledged the emerging threat of the Soviet Union (USSR).¹⁸ The growing aggressiveness of the USSR, coupled with the appearance of Soviet submarines in the Atlantic, underscored the need for Canada to enhance its naval capabilities to fulfill its NATO defence commitments. To support the expansion of the RCN's role in ASW, the government allocated 19 percent of the defence budget to the RCN and approved a force of up to 9,047 personnel. However, despite the increasing necessity for a Canadian Submarine Service, financial and political support for its re-establishment remained insufficient.¹⁹

¹⁷ Richard Mayne, "The Canadian Navy in the 1960s," in *The Naval Service of Canada, 1910-2010: The Centennial Story*, ed. Richard Gimblett (Dundurn: 2009), 143-148.

¹⁸ Julie Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service* (Durdun Press: 2014), 260.

¹⁹ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 260.

Overcoming the challenge of limited government funding, the RCN pursued the matter independently. In April 1953, a committee was formed to present a case for establishing a Canadian Submarine Service to the Minister of National Defence.²⁰ By July 1953, the committee's findings revealed there was a shortfall of 700 submarine days - days spent at sea aboard a submarine for training, operations, or qualifications - that year, which was projected to rise to 910 days by 1955.²¹ In response, it was recommended that Canada acquire two U-boats - captured from the Germans during the Second World War - initially manned by RN personnel, until sufficient Canadian submarine crews were trained.²² In 1954, this proposal was presented to Minister of National Defence, Brooke Claxton, who after initial hesitation, supported it. However, despite Claxton's endorsement, the Cabinet of Defence - who advised the Prime Minister on defense matters, security policies, military operations and priorities - rejected the plan, leaving the RCN without its submarine fleet.²³

The RCN Path to Re-Establishing a Submarine Force

Despite these setbacks, the demand for submarines on Canada's coasts continued to grow. Recognizing this, the RCN turned to their British allies to determine a suitable solution; this led to an agreement known as the Heads of Agreement.²⁴ Announced on November 12, 1954, this agreement resulted in the creation of the RN's Sixth Submarine Squadron, to be based at the RCN dockyard in Halifax. Under its terms, the RCN received operational control of two-and-a-half A-class submarines—larger, faster, and capable of deeper dives than older

²⁰ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service* 260.

²¹ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service* 261.

²² Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 260.

²³ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 260.

²⁴ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 262.

U-boats.²⁵ The Sixth Submarine Squadron's annual cost was \$645,000, subject to inflation.²⁶ In exchange for the Squadron, Canada was to provide the RN with 200 personnel to crew these submarines.²⁷ Canadian personnel were sent to Basic Submarine training at the British Submarine School at HMS *Dolphin* in Gosport, England. The long-awaited Sixth Submarine Squadron was officially established in Halifax on April 14, 1955.²⁸

Although the RCN had submarines operating out of Halifax through the Sixth Submarine Squadron by 1955, it aspired to develop an independent submarine force. With the election of a new Conservative government in 1957, alongside the influx of trained Canadian submariners returning from HMS *Dolphin*, the creation of a Canadian Submarine Force became more feasible. Major-General (Retired (Ret'd)) George Pearkes, the new Minister of National Defence, recognized the necessity of a Canadian submarine force. The necessity became of particular importance after the RN indicated it could not guarantee the future of the three submarines for the Sixth Submarine Squadron.²⁹ With Pearkes' support, the RCN moved towards acquiring submarines. In 1961, Canada leased the USN's USS *Burrfish*. The USS *Burrfish* was commissioned to the RCN as HMCS *Grilse* in New London, Connecticut, on May 11, 1956.³⁰ The HMCS *Grilse* became the first Canadian-operated submarine, marking the re-establishment of a Canadian Submarine Service since the end of the Second World War. The HMCS *Grilse* was first Commanded by LCdr E.G. Giggs, a former RN officer who transferred to the RCN in 1957.³¹

²⁵ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 262.

²⁶ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 262.

²⁷ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 263-264.

²⁸ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 262.

²⁹ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 268.

³⁰ HMCS *Grilse*, *The Commissioning of the HMCS Grilse at the United States Naval Submarine Base, 1961*. <http://www.forposterityssake.ca/RCN-DOCS/RCND0207.pdf>

³¹ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 268-269.

HMCS *Grilse*, a former American Balao-class submarine, was considerably more advanced than the A-class submarines used by the RN on Canada's East Coast. Measuring 311 feet long with a 27-foot beam, it accommodated 72 personnel.³² Unlike any of the British submarines, the HMCS *Grilse* featured an all-electric galley with a cafeteria-style mess.³³ The galley included an ice cream maker and cold storage for a 60-day supply of provisions. In addition to the remarkable mess facilities and advanced technology, the lease of HMCS *Grilse* also broadened training opportunities for Canadian submarine personnel.³⁴

Expansion of the Canadian Submarine Service

Despite acquiring HMCS *Grilse*, the RCN remained bound by the Heads of Agreement, resulting in two distinct submarine forces with separate training paths: aspiring west coast Canadian submarine personnel trained with the USN at its submarine base in New London, Connecticut. At the same time, aspiring east coast submariners continued training with the RN at HMS *Dolphin*. Meanwhile, discussions about acquiring new submarines for Canada continued, and on November 5th, 1963, the Canadian Submarine Service received promising news regarding their expansion: the Cabinet approved the purchase of three Oberon class submarines (O-Boats) from the British.³⁵ The RCN bought three Oberons for \$40 million, excluding the cost of torpedoes.³⁶ Though the purchase of the three Oberons was a pivotal moment for the Canadian Submarine Service's autonomy, the Minister of National Defence emphasized that the submarines would be used strictly for training purposes, despite having the capacity to operate as

³² HMCS *Grilse*, *The Commissioning of the HMCS Grilse at the United States Naval Submarine Base*, 1961.

³³ Ed Murry, interview by Author, January 17, 2025, audio recording, Royal Military College of Canada.

³⁴ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 268-269.

³⁵ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 285.

³⁶ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 286.

ASW weapons systems.³⁷ Moreover, he announced that the Canadian O-boats would become an integral aspect of Canadian NATO contributions, continuing the Canadian Submarine Service's international ties.³⁸ Upon the announcement of the purchase of the three Oberons, the RCN sent a small team to Chatham dockyards in July 1964 to oversee the construction of the three O-Boats; the HMCS *Ojibwa*, HMCS *Onondaga* and HMCS *Okanagan*. The first O-boat to be commissioned into the RCN was the HMCS *Ojibwa*, HMCS *Onondaga*, and the HMCS *Okanagan* respectively.

With the acquisition of the British Oberons by the RCN, the RN's Sixth Submarine Squadron was succeeded by the First Canadian Submarine Squadron (CANSUBRON) on April 22, 1966. CANSUBRON comprised the three Oberon class submarines and operated under RCN's Maritime Command (MARCOM), after unification in 1968. In 1968, the RCN expanded its West Coast submarine fleet by acquiring the USS *Argonaut* from the USN. The USS *Argonaut* was commissioned into the RCN on December 2, 1968, becoming the HMCS *Rainbow*. The HMCS *Grilse* was subsequently decommissioned in 1969. By this time, the RCN was operating four submarines, divided between two coasts and as a result, the distinct training programs for submariners on each coast continued. This multinational training arrangement continued until HMCS *Rainbow* was decommissioned in 1974, and all training was moved to HMS *Dolphin* in the UK.³⁹

Diverging British and American Submarine Training Approaches

The American and British training methods were vastly different from one another, and to reflect the influence that each training system had on the culture of the Canadian Submarine

³⁷ Michael Whitby, "Boomers, Draggars and Black Boxes: The Operational Legacy of Canada's Oberon Class Submarines, 1983- 1998." (The Northern Mariner: 2013), 368.

³⁸ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 285.

³⁹ Ferguson, *Through a Canadian Periscope: The Story of the Canadian Submarine Service*, 309.

Service, it is imperative to reveal key differences between the two. To begin, the USN training for the Canadian personnel consisted of a six-month basic training course for officers with a diesel and SSBN curriculum.⁴⁰ A distinct characteristic of American submarine training was the heavy emphasis placed on the technical and engineering aspects of the submarines. While Canadians underwent American Submarine training, the American Submarine Service did not have a classification for their engineers. For example, the operations officer would often assume the responsibility of an engineer. Therefore, all submariner trainees undergoing the USN Basic Submarine course for officers were required to have an extremely detailed understanding of the submarine's technical features.⁴¹

Conversely, the British training system comprised an 11-week basic submarine course at HMS Dolphin in Gosport, England.⁴² After which, Canadian submariners returned to Canada for final qualification aboard one of the three Oberon-class submarines. Unlike the USN, the RN held distinct classifications for maritime engineers and maritime surface and subsurface officers, which was reflected in their training.⁴³ Consequently, the British training model emphasized tactical and operational proficiency rather than culminating it with an engineering specialization.

Submarine Command Training

Another significant difference between the RN and USN was their submarine command courses. For Submariners to achieve command of a submarine, they had to complete a variation of the submarine command school. The USN's program was known as the Prospective

⁴⁰ Captain (N) W. J Ruhe, *The Submarine Review* (Naval Submarine League: 1984), 52.

⁴¹David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

⁴²John Shank, Frank Lacroix, Robert Murphy, Mark Arena, and Gordon Lee, "History of British Submarine Programs." In *Learning from Experience: Volume III: Lessons from the United Kingdom's Astute Submarine Program* (RAND Corporation: 2011), 5-18.

⁴³ Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

Commanding Officer (CO) Course, while the RN's equivalent was the rigorous Perisher course.⁴⁴ Though the American course functioned as a submarine command course for the USN, the RCN viewed the course as a complement to the Perisher course. In other words, the RCN identified that the USN course should be taken before or after the Perisher course, not in its place. Since nearly every Canadian submarine commander completed the Perisher course, it had a major impact on the culture of the Canadian Submarine Service, instilling a deep emphasis on intensive training and professionalism.

The Perisher Course was created in the early years of the First World War, and was renowned for its difficulty and high failure rates, a reputation reflected in its name.⁴⁵ The name Perisher originated from the RN Periscope School at Portsmouth, England, where the program was introduced; however, due to the high failure rates and difficulty, Perisher adopted a cynical connotation - "pass or perish".⁴⁶ The Perisher Course had three intentions. The first and most important was to weed out candidates who were deemed to be unsafe. In *Salty Dips Vol 10*, a collected work contributed to by former Canadian Submarines, Larry Hickey identified those deemed unsafe were those who:

*Fail to display an ability to consistently make sound decisions, and thus prevent internal disaster, collision, or grounding their submarine.*⁴⁷

The second objective of Perisher was to ensure that officers developed a comprehensive understanding of submarine tactics, equipping them with the skills necessary to lead a submarine in combat. Lastly, the course rigorously assessed candidates' leadership abilities, with a particular focus on their capacity to inspire and motivate their crew.⁴⁸ Given its intensity and

⁴⁴ Larry Hickey "PERISHER: the Submarine Driver's License" in *Salty Dips: An All Around Look*, edited by Michael Young, 147-172, Chapter 17, Ottawa: The Naval Association of Canada, 2014 pg 147.

⁴⁵ David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

⁴⁶ Larry Hickey "PERISHER: the Submarine Driver's License", 147.

⁴⁷ Larry Hickey "PERISHER: the Submarine Driver's License", 147.

⁴⁸ Larry Hickey "PERISHER: the Submarine Driver's License" 147.

prestige, the Perisher course played a crucial role in shaping Canadian submarine commanders' leadership and operational capacity, leaving a lasting impact on the RCN's Submarine Service.

Early Influence on Canadian Culture

The two distinct training paths played a significant role in shaping Canadian submarine culture. As American-trained submariners began integrating with their British-trained counterparts aboard the Oberon-class submarines, the international influences of the USN and RN permeated Canadian Submarine Culture. As highlighted in an interview with Commodore Ed Murray, one notable cultural difference between the two international navies was how meals were provisioned and organized for military personnel. The British practiced broadside messing, in which there was no cafeteria to dine in, but rather, there would be one representative who would collect the food on a tray and bring it back to the mess to be eaten, though the mess was often one of the torpedo rooms.⁴⁹ On the other hand, before the Second World War, Americans began incorporating cafeterias into their submarines, creating a common place for submariners to enjoy their food. The Canadians much preferred the American way of messing, incorporating a cafeteria into the HMCS *Okanagan*. Though the other two O-boats did not have a designated cafeteria, they had small galleys and a mess where meals were eaten.⁵⁰

Moreover, Ed Murray noted from his time training with the Americans that they emphasized providing good food aboard their submarines to maintain crew morale—a practice less commonly prioritized by the British. What stood out was the extraordinary effort the American crews made to ensure the quality of the food on board, highlighting significantly different command relationships compared to the British. Commodore (ret'd) Murray highlighted

⁴⁹ Ed Murry, interview by Author, January 17, 2025, audio recording, Royal Military College of Canada.

⁵⁰ Ed Murry, interview by Author, January 17, 2025, audio recording, Royal Military College of Canada.

a memory from his time on his first American submarines: “[Commodore (ret’d) Murray] went off to lunch and [he] got up to the cafeteria, there was a Chief Petty Officer peeling potatoes”.⁵¹ This type of behaviour was less common onboard British submarines, particularly because a class system still dominated Britain following the Second World War, which saturated their navy. The class system in both America and Canada was far less polarizing, fostering different command relationships between non-commissioned members and Officers.

In conclusion, each of these aspects of the USN and RN was pivotal in the creation of Cold War Canadian submarine culture. Though Chapter Two will expand on the distinction between aspects of Canadian Submarine culture in contrast to their international influences, what initiated a unique Canadian Submarine culture was the integration of the USN trained submariners and the RCN trained submariners into one distinct navy. The USN and RN had a remarkably powerful influence on the establishment of the Canadian submarine service, leaving their mark on Canadian submariners; however, while these roots remained prevalent, the Canadian Submarine Service established much of their own culture that deviated from the initial international influence. Ultimately, the influence of two international navies, and the subsequent integration of both cultures on Canadian Oberons, laid the groundwork for what would become the Canadian Submarine Service.

⁵¹ Ed Murry, interview by Author, January 17, 2025, audio recording, Royal Military College of Canada.

Chapter Two: Artifacts, Symbols and Shared Values of Canadian Submarine Culture

With the re-establishment of the Canadian Submarine Service underway, the RCN began developing a unique culture in conjunction with the influence of their international ties. The culture of a group, and particularly the evolution of said culture, is often hard to identify; however, through personal accounts from former Canadian submariners, it becomes evident that the culture on board Canadian submarines was unique and instrumental in their success. This chapter explores the culture of the Canadian Submarine Service from 1965 to 1995 through the

stories, memories, and experiences of those who served. Rather than presenting this cultural development chronologically—since culture does not emerge at a single point in time but evolves gradually—this chapter examines it thematically. It highlights the shared values, identity, and traditions that defined the Canadian submarine community, as well as the symbols and artifacts that reflected these values. By analyzing these elements, this chapter provides a deeper understanding of the distinct and evolving culture within Canadian submarines during this period.

The Dolphin Patch

One of the most distinguishing aspects of the international submarine community was pride. The pride that existed within the community was represented by the most widespread symbol of submarine service - the dolphin badge.⁵² Upon completion of submarine training, the dolphin badge was presented to Canadian submariners. While the dolphin patch held significant symbolism within the Canadian Submarine Service, its symbolism was shared by many navies around the world. The patch originated in the American submarine division after being designed by Captain (Navy) (ret'd) Ernest King in 1923; however, it was later adopted by navies around the world, including the RN, Royal Australian Navy (RAN) and the Royal Netherlands Navy (RNN).⁵³ In the context of the Canadian Submarine Service, the American influence in its establishment led to the dolphin patch becoming a cherished Canadian symbol. As Canadian submariners on the West Coast trained with the Americans, they earned the American submarine badge. However, after Lieutenant-Commander (LCdr) Giggs took command of the HMCS Grilse in 1961, he wanted a distinctive Canadian Submarine insignia, so he sat down with civilian naval artist, Doug Baker, and within ten minutes, the design of the Canadian submarine badge was

⁵² Keith Nesbit "Those !@? \$#! Submariners !" in *Salty Dips: An All Around Look*, edited by Michael Young, 173-179, Chapter 18, (Ottawa: The Naval Association of Canada, 2014).

⁵³"Dolphin History," *For Posterity's Sake*, accessed March 3, 2025.

prepared.⁵⁴ The Canadian dolphin patch was designed as a clean-lined dolphin with its tail flippant in the air.⁵⁵

The dolphin patch symbolized the completion of the rigorous submarine training, distinguishing those who wore it from the rest of the RCN. While the dolphin patch symbolized the submarine service, it encompassed a shared identity between submariners of all nationalities. The shared identity between submariners, reflected by the dolphin patch, was highlighted in interviews with former submariners. When asked about the significance of the dolphin patch, Christopher Robinson identified that by having your dolphins,

*“You are all instantly connected and treated as peers. This virtue was a part of an international fraternity.”*⁵⁶

Furthermore, Robinson identified that his dolphin patch

*“Was the only one that mattered to [him].”*⁵⁷

Similarly, Bruce Maclean said

*“[The] dolphin badge is a symbol of that level of proficiency. So it's a very important part. I wore that with great pride on my uniform because that signified you were a submariner. And on that note, I was the head of the navy for Canada as a Vice-Admiral. At the end of the day, I was always a submariner first.”*⁵⁸

This quote reflects the unwavering solidarity between submariners on a domestic and international level, while highlighting the pride that came with being a submariner.

Pride on Canadian Oberons

⁵⁴ "Dolphin History," *For Posterity's Sake*, accessed March 3, 2025.

⁵⁵ "Dolphin History," *For Posterity's Sake*, accessed March 3, 2025.

⁵⁶ Christopher Robinson, interview by Author, January 28, 2025, transcript, Royal Military College of Canada.

⁵⁷ Christopher Robinson, interview by Author, January 28, 2025, transcript, Royal Military College of Canada.

⁵⁸ Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

While pride was undoubtedly a defining characteristic of submarine service internationally, there also existed a level of pride specific to the three Canadian O-boats: HMCS *Ojibwa*, HMCS *Onondaga* and the HMCS *Okanagan*.⁵⁹ In *Salty Dips* Volume 10, Keith Nesbit identified that the size of the O-boats was a significant contributor to the sense of pride held by crew members.⁶⁰ O-boats, like all submarines, offered both unique and challenging living conditions due to their small size, requiring the crew to adapt to long periods of confinement. Whether engaged in training exercises or operational surveillance patrols (OSP), submariners often spent weeks at a time submerged with no contact from the outside world. The combination of limited space, isolation, and close quarters living created significant challenges fostering a sense of cohesion and pride amongst the crew. Former submariner, David Soule, described living on board submarines to be like:

*“Camping for 30 days with your family, including all the people you don’t really like. And every family has, ‘I really don’t get along with this cousin’ or ‘Uncle Joe drives me nuts.’ And it rains for 30 days and you don’t go outside.”*⁶¹

Similarly, Bruce Maclean reflected on the impact of these conditions, noting that:

*“When you are on a long voyage or you’re in a foreign port, you do things which you wouldn’t actually ever see anywhere else.”*⁶²

The unique challenges of submarine life, as described by Soule and MacLean, required crew members to develop unconventional means of maintaining morale and passing time. In response,

⁵⁹ Keith Nesbit “Those !@? \$#! Submariners !” (Ottawa: The Naval Association of Canada, 2014), 175.

⁶⁰ Keith Nesbit “Those !@? \$#! Submariners !” (Ottawa: The Naval Association of Canada, 2014), 175.

⁶¹ David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

⁶² Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

Canadian submariners cultivated a distinctive onboard culture emphasizing ingenuity, humour, and camaraderie. This environment not only reinforced their professional pride but also contributed to the development of traditions that set Canadian submariners apart.

Considering the unyielding sense of pride maintained by Canadian submariners alongside the high level of cohesiveness, it becomes apparent that the Canadian Submarine Service was classifiable as an elite force. Though, in a military context, what constitutes an elite force can vary, characteristics of an elite force include stringent selection criteria, specialty training and special privilege such as extra pay, benefits, badges and insignias.⁶³ In the case of the Canadian Submarine Service from 1965-1995, each of these characteristics were met: selection and training required the completion of the basic submarine course and as aforementioned, submariners received a badge upon completing submarine training. The perception of the Canadian Submarine Service as an elite force serves as further evidence of the strong cohesiveness of the crew. In his book “Military Elites”, Colonel (ret’d) Bernd Horn asserts that:

*“Elite units are extremely cohesive and they foster unquestioned solidarity among their membership. Normally within elites, officers and men undergo identical training, and they are faced with the same tests of courage, endurance, and strength.”*⁶⁴

Elite military units exhibit a high degree of cohesion, fostering unwavering solidarity among their members. Typically, within such units, both officers and enlisted personnel undergo identical training and are subjected to the same rigorous tests of courage, endurance, and strength. Horn's assertion regarding elite forces aligns with the characteristics of the Canadian Submarine Service. The deep pride in being part of the submarine community, symbolized by the

⁶³ Bernd Horn, *Military Elites* (17 Wing Winnipeg Publishing Office, 2020) 9-10.

⁶⁴ Bernd Horn, *Military Elites*, 16-17.

dolphin badge, reflects the strong cohesion among submariners and reinforces their perception as an elite unit.

While pride and cohesion were prevalent within the Canadian Submarine Service as a whole, there was a level of pride that existed within the individual submarines, causing a sense of healthy rivalry between the three O-boats. This rivalry was highlighted in a sarcastic message sent by HMCS *Okanagan* to HMCS *Ojibwa* following the *Ojibwa*'s unduly long maintenance period at Roosevelt Roads (a major U.S. Navy base in Puerto Rico used for logistics, training, and Atlantic operations). As *Ojibwa* was undergoing their 10-day maintenance, the *Okanagan* parked alongside her for a few days, and as they departed, they sent the following message, dated February 16 1976:

1. Thank you for your hospitality and kind assistance during our recent short visit at Roosevelt Roads. Your cooperation, determination and spirit are a credit to the service.

*2. Get fucked.*⁶⁵

Furthermore, 'inter-submarine' rivalry was enacted through lighthearted "challenges," such as an instance where two O-boats and a Bermudan merchant ship raced each other home to Halifax. In the following transcript of messages, *Okanagan* is shown to be negotiating with the *Ojibwa* to find a fair start time and a subsequent finish line - the 44th Parallel.

From: Okanagan

To: Ojibwa

Subject: Bermuda Classic

1. Suggest finish line 44N, otherwise I will be in Bedford Basin for breakfast.

⁶⁵ Keith Nesbit, Command Log Journal, 45.

2. *Consider because earliest we can get customs is 1000 we stick to ETA. Will warm the bell (so to speak) so that you can be alongside me by 1000.*
3. *My bets are on Federal Bermuda.*
4. *What say you*

From: Ojibwa

To: Okanagan

Subject: Bermuda Classic

1. *Concur with adjustments of the finish line*
2. *Agree with maintaining present ETA.*
3. *See you at the finish line (if the fog clears)*

LCdr Nesbit noted in his Logbook that the HMCS *Okanagan* won. The rivalry between the three Canadian O-boats further instilled a sense of pride within the Canadian Submarine Service, while also underscoring the role of humour, ingenuity and fun in Canadian submarine culture.

Pranks as Means of Raising Morale

As identified above, despite the seriousness of their duties, O-boat crew members embraced humour and camaraderie as vital components of submarine culture. While the expectation was that all personnel would take their work seriously, the absence of amenities such as gyms or recreational spaces necessitated creative ways to pass the time.⁶⁶ As a result, submariners frequently played games, shared stories, and engaged in pranks—an informal but integral aspect of life below the surface.⁶⁷ As previously mentioned, the small size of submarines contributed to the unique culture established on board. As a result, the crew often slept, ate and worked in the same places, creating a unique interplay between work and personal time.⁶⁸

⁶⁶ Keith Nesbit “Those !@? \$#! Submariners !” (Ottawa: The Naval Association of Canada, 2014), 173.

⁶⁷ Christopher Robinson, interview by Author, January 28, 2025, transcript, Royal Military College of Canada.

⁶⁸ Larry Hickey, interview by Author, January 17, 2025, transcript, Royal Military College of Canada.

One such prank was recalled by Larry Hickey in an interview with the author. Hickey recounted that the crew often slept in the torpedo room, which, alongside bunks, had escape compartments and escape suits in case of serious emergency at sea and the crew had to escape.⁶⁹ While, ideally, if a submarine found herself stuck on the bottom of the ocean or in a dire situation, the crew would opt for a rescue, when not possible the crew would have to escape the ship and reach the surface safely. Escaping a submerged vessel required a highly coordinated sequence: one crew member would enter the escape tower, the hatch would close, and the crew member would plug in their breathing apparatus. The chamber would then flood to equalize pressure, opening another hatch, allowing the individual to ascend to the surface.⁷⁰ Given the potential for high-stress scenarios, understanding this drill was crucial for appreciating the significance of a particular prank recalled by Hickey.

According to Hickey, a spare escape suit was left accessible in the torpedo room. Seizing the opportunity, a crew member put the suit on, turned off all the lights, and used a flashlight to wake the sleeping after-torpedo room watchkeeper. The crew member, fully suited, whispered, “Hey, are you coming or what?”—leading the watchkeeper to believe he had been left behind while the crew evacuated.⁷¹ Though short-lived, the resulting moment of panic underscored the role of humour in easing the strain of submarine life. While seemingly trivial, this anecdote highlights how humour served as a coping mechanism in the high-pressure environment of a submarine. In a setting where personal time and professional responsibilities were deeply intertwined, pranks and shared jokes reinforced bonds between crew members, sustaining morale

⁶⁹ Larry Hickey, interview by Author, January 17, 2025, transcript, Royal Military College of Canada.

⁷⁰ Larry Hickey, interview by Author, January 17, 2025, transcript, Royal Military College of Canada.

⁷¹ Larry Hickey, interview by Author, January 17, 2025, transcript, Royal Military College of Canada.

in an otherwise monotonous and demanding environment. Ultimately, such traditions exemplified the resilience and adaptability that defined Canadian O-boat culture.

The Pink Panther

Humour and pranks aboard Canadian O-boats were more than just entertainment—it was a means of fostering camaraderie and resilience in an environment where personal and professional lives were closely connected. Just as these lighthearted moments helped ease the pressures of submarine life, certain traditions and symbols emerged to further solidify the crew's sense of identity. One such artifact was the Pink Panther, an enduring emblem of the Canadian Submarine Service, particularly aboard HMCS *Okanagan*. The Pink Panther emerged in late 1975 when one of the crew members received a stuffed pink panther toy from a friend.⁷² The toy quickly became a welcomed and permanent member of the *Okanagan*'s crew. The Pink Panther was listed as a crew member of the boat in many official communications, including in a message sent from the *Okanagan* to the Naval Reserve Center Savannah, Georgia (NAVRESCEN) in which LCdr Nesbit identified the crew to be made up of the following:

1. LCdr KG Nesbit

*2. 8 officers, 55 men and the Pink Panther.*⁷³

Further illustrating the deep integration of this artifact into the submarine's culture, a Pink Panther was painted on the fin of the *Okanagan*. While becoming an unofficial mascot of the *Okanagan*, the Pink Panther became a source of amusement for the crew. Bruce Maclean recalled that the crew managed to find a six to seven-foot costume of the pink panther, which

⁷² Keith Nesbit "Those !@? \$#! Submariners !" 241.

⁷³ Keith Nesbit, Command Log Journal, 55.

was worn in the boat. Moreover, he recalled that one day, the Pink Panther had suffered a neck injury, and the crew brought him to the hospital to receive a splint.⁷⁴ Due to this, the Pink Panther became a highly valued symbol of Canadian submarines.

While the Pink Panther emerged as a clear identifier on the HMCS *Okanagan*, it made its way to the other Canadian O-boats. Not only was the Pink Panther kidnapped by members of other Canadian Oberons on numerous occasions, but Bob Bush identified that the Pink Panther ‘visited’ the other ships.⁷⁵ Bush highlighted that while he was the executive officer of HMCS *Onondaga*, one morning upon return to the submarine, there were pink paw prints painted around the inside to simulate the Pink Panther paying a visit to the submarine.⁷⁶ In this case, the crew of *Okanagan* had visited the *Onondaga*, leaving behind evidence of their visit. This reflected not only the widespread artifact of the Pink Panther but also the pride and playfulness among Canadian submariners, and the rivalry that existed between the three O-boats.

Food and Morale

The Pink Panther was just one example of how humour and traditions helped create a strong sense of identity among Canadian submariners. However, beyond jokes and pranks, other aspects of the daily routine played a crucial role in maintaining morale. One of the most important aspects of daily routine were meals.⁷⁷ In a submarine's confined and often isolating environment, food was more than just sustenance—it provided comfort, routine, and a connection to home. Life aboard Canadian submarines was often demanding, as crew members endured weeks at sea with limited contact with their families and the outside world. Food played

⁷⁴ Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

⁷⁵ Bob Bush, interview by Author, January 10, 2025, recording, Royal Canadian Legion Branch 560.

⁷⁶ Bob Bush, interview by Author, January 10, 2025, recording, Royal Canadian Legion Branch 560.

⁷⁷ David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

a vital role in sustaining morale in this environment, becoming an integral component of Canadian submarine culture. Unlike their British and American counterparts, Canadian submarines developed a distinct culinary identity that reinforced national traditions and provided comfort to the crew.⁷⁸ The consistent meal schedule contributed to a sense of stability and camaraderie, as recalled by Chris Robinson, who noted that Thursday nights featured Surf and Turf, Fridays were dedicated to Fish and Chips, and Saturdays were reserved for Pizza.⁷⁹ While the menu rotated, the emphasis on familiar, domestically sourced food prepared by Canadian naval chefs was what set Canadian submarines apart. MacLean further highlighted that staples such as milk, cereal, and peanut butter—everyday commodities in Canadian households but less available on British vessels—were essential provisions.⁸⁰ The significance of food extended beyond sustenance; it fostered a shared cultural identity and provided a psychological anchor in the otherwise demanding conditions of submarine life. As a result, cooks were not only responsible for preparing meals but were also indispensable to maintaining the crew's well-being and cohesion.

The Significance of Culture

The experience of serving aboard Canada's Oberon-class submarines was shaped by unique challenges, requiring resilience, adaptability, and an unwavering sense of camaraderie. While pride was a defining trait of submariners globally, Canadian O-boats developed a distinct identity aboard *HMCS Ojibwa*, *HMCS Onondaga*, and *HMCS Okanagan*.⁸¹ Through the

⁷⁸ Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

⁷⁹ Christopher Robinson, interview by Author, January 28, 2025, transcript, Royal Military College of Canada.

⁸⁰ Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

⁸¹ Keith Nesbit "Those !@?#! Submariners !" 147.

evidence collected through the testimonies of former Canadian submariners, such pride was not merely rooted in the technical proficiency required to operate submarines but also in the ability to endure the physical and psychological demands of life below the ocean's surface. The O-boats' confined spaces, prolonged deployments, and isolation from the outside world fostered an unbreakable bond among crew members, who relied on each other not only for operational success but also for emotional support and companionship.

In conclusion, the extreme conditions aboard O-boats made morale a critical factor in sustaining the crew's effectiveness. Unlike surface ships, which offered more space, submariners lived in an environment where personal time and professional duties took place in the same areas. In such an atmosphere, maintaining a sense of normalcy required humour and camaraderie. The absence of recreational facilities meant that submariners had to create their own forms of entertainment, leading to the emergence of traditions that defined Canadian submarine culture.

As illustrated by Larry Hickey's recollection of the torpedo room prank, humour was not merely a diversion but a fundamental part of the submarine experience. While such pranks may seem trivial, they played an essential role in strengthening social bonds and reinforcing the shared identity of submariners. The same was true for the Pink Panther and the food on board Canadian Oberons; they had an invaluable role in fostering cohesiveness and bolstering a shared submariner identity. These moments of levity helped balance the intensity of submarine life, ensuring morale remained high even in the most demanding conditions. Ultimately, the culture aboard Canadian Oberons was defined by a combination of professionalism, resilience, and an enduring sense of pride for their community.⁸² The pride of serving in the submarine force

⁸² Keith Nesbit "Those !@? \$#! Submariners !" 147.

extended beyond technical expertise. Through humour, teamwork, and shared experiences, Canadian submariners forged an identity distinct from their counterparts in other navies, creating a legacy integral to their operational success.

Chapter Three: The Role of Leadership in Canadian Submarine Culture

Throughout history, leadership has played a pivotal role in shaping the culture of any military organization, and this influence was particularly pronounced within the confined and high-pressure environment of the Canadian submarine service. Given the unique challenges of operating in isolation for extended periods, often in hostile or austere environments, effective leadership was essential to maintaining operational effectiveness, crew cohesion, and morale.⁸³ Through case studies of both exemplary and poor leadership, this chapter will show the vital link between leadership, submarine culture, and operational performance.

Good Leadership

Beyond formal training, the daily realities of submarine life required leaders to actively manage morale. Physical confinement, prolonged isolation, and operational stress placed significant emotional demands on submariners, making leadership's human element crucial.

⁸³Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership and Accountability for the CF", (Canadian Forces College, 2007), 30.

Submarine Commanders played a vital role in maintaining morale on board submarines.⁸⁴ The crucial and influential role of a Submarine Captain was highlighted in Michael Whitby's article *Doin' the Bizz*, by a quote from Larry Hickey explaining that:

*A submarine Captain is subjected to a considerably more stressful environment in day-to-day business than is the surface ship Commanding Officer. Unlike his destroyer counterpart, the submarine skipper operates his vessel for protracted periods in traditional fashion as the lone wolf, without the support of other ships in company. He also lacks the backup of a command qualified Executive Officer, his Second-In-Command. Cramped conditions, bad air, and continual physical discomfort make concentration and decision making difficult. And always lurking in the back of the Submarine Captain's mind is the grim understanding of his vessel's vulnerability.*⁸⁵

Given the essential role of a submarine Captain, as described by Hickey, they had to be individuals of particular caliber.

To begin, leaders on board submarines required unique skills that pertained to the operations of a submarine and managing the crew. The unique skills and qualities required of a submarine officer were reflected by former commander of HMCS *Okanagan*, Keith Nesbit, in the description of the qualities required for a submarine officer of the watch (OOW), who were responsible for the safe operations and navigation of the ship, as well as the crew's safety⁸⁶:

⁸⁴ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 30.

⁸⁵ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," in Bernd Horn (ed.), *Fortune Favours the Brave: Tales of Courage and Tenacity in Canadian Military History* (Toronto:Dundurn, 2009), 292-293.

⁸⁶ Keith Nesbit, Command Log Journal, 89.

[OOW] is that which tests an officer's talents and provides an indicator by which his selection for command is made in relation to others. For many reasons, not the least of which is safety, a submarine's OOW bears unusual responsibility. He must be markedly technically proficient, abnormally flexible and fast-thinking and able to control a team of multi-trained professionals under frequently difficult conditions.⁸⁷

Controlling a team of multi-trained professionals, often under challenging conditions, required officers to be creative, particularly with managing the crew's morale and motivation in lieu of the difficult living conditions associated with submarines. This required an intricate balance of operational needs and the crew's personal considerations. In his time commanding the HMCS *Okanagan*, LCdr Nesbit's leadership reflected this balance, a notable characteristic of the Canadian Submarine service. Many examples of this balance were reflected through communications between the HMCS *Okanagan* and National Defence Headquarters (NDHQ) Ottawa, Maritime Command Headquarters (MARCOMHQ) and other Canadian Forces (CF) bases. The first example was reflected in a series of messages sent from the *Okanagan* to CFS Mill Cove on April 13 1976. The messages were as follows:

Subject: Hockey Semi Finals

1. Due to the vast interest in hockey, request periodic message showing latest scores and standings on C31L BDCST.

2. Peter Puck Sends.⁸⁸

This message was followed by another message to CFS Mill Cove on April 25 1976:

Subject: Hockey Finals

REF: My 132203Z ARP 76

⁸⁷ Keith Nesbit, Command Log Journal, 89.

⁸⁸ HMCS *Okanagan* to CFS Mill Cove, *Hockey Semi Finals*, April 03, 1976.

1. *Your previous efforts much appreciated however no reports received this week*
2. *Request SITREP on winners of quarter finals and up to date standings*
3. *Concerned Peter Puck Sends.*⁸⁹

Moreover, this type of message was sent on multiple occasions, even during operations.

Evidence of this was seen in a message sent from the HMCS *Okanagan* to NDHQ Ottawa on July 15 1976:

Subject: Entertainment Films

2. *On arrival Halifax 27 Jul of nine films held six will have been held for 39 days and three for 33 days. Consider number and caliber of films less than desirable, particularly for Cabot Strait patrol. One third of movies were of Kung Fu variety: ships company now excellent at martial arts although rapidly losing sense of humour.*
3. *Request consideration be given to supplying three additional films. Okanagan at Quebec City 12-22 Jul. On arrival 17 Jul will gladly return all films presently held if you wish.*⁹⁰

Although these messages are not directly related to submarine operations or anti-submarine warfare strategy, they reflect the importance of maintaining crew morale on board the submarine. The emphasis on maintaining morale through small but meaningful actions highlights the unique leadership required in submarine service. These messages demonstrate how commanders needed to be attuned to their crew's psychological and emotional well-being, recognizing that factors such as access to entertainment and connection to the outside world were vital for fostering and sustaining a positive culture on board.

⁸⁹ HMCS *Okanagan* to CFS Mill Cove, *Hockey Semi Finals*, April 25, 1976.

⁹⁰ HMCS *Okanagan* to NDHQ Ottawa, *Entertainment Films*, July 15, 1976.

As former Canadian submariner David Soule noted, ensuring access to something as seemingly simple as hockey scores held immense significance for the crew:

*That was a big deal. To get the crews the scores.*⁹¹

Similarly, Maclean reflected on the impact the above messages, stating:

*Those are very significant morale boosters.*⁹²

These firsthand accounts reinforce the idea that effective submarine leadership extended beyond tactical and operational expertise—commanders needed to be deeply invested in the well-being of their crews to maintain effectiveness in the high-stress environment of underwater operations. Moreover, the firsthand accounts from Soule and Maclean elucidate a values-based leadership style adopted by Nesbit. Values-based leadership is a style of leadership that is based on the shared values between a leader and their team, and in this case, Nesbit identified and capitalized on shared values amongst his crew to inspire motivation and improve morale.⁹³

In Clark's article *The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF*, the author identified that

*A key factor in submarine operations is the effective teamwork fostered by the Captain that is grounded in the crew's implicit trust and confidence in his ability to lead.*⁹⁴

In this context, the above messages were directly related to the culture of the Canadian Submarine Service, of which humour was a highly valued characteristic. Humour as an

⁹¹ David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

⁹² Bruce MacLean, interview by Author, February 02, 2025, transcript, Royal Military College of Canada.

⁹³ J. Frost, "Values based leadership" (Emerald Group Publishing Limited: 2014), 124-129.

⁹⁴ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 28.

important characteristic of submarine leadership was highlighted in an interview with Larry Hickey:

But, you know, most of the guys, probably half the COs, had decent senses of humour. And so they would often, depending upon where the message was going, would inject humour. Inside the boat, for the most part, if you didn't have a sense of humour, you weren't going to last in submarines very long. For the most part you know if you're stuck in a 20 foot diameter for 30 days at a stretch, let's say, The pressure hole inside which the people are located was only 245 feet long in an Oberon. So it's 20 feet in diameter. 245 feet long you got about 65 to 70 people inside. If you don't have a sense of humour, it's going to be very difficult for you to survive.⁹⁵

This reliance on humour as a coping mechanism and a leadership tool was not merely incidental but was deeply embedded in the culture of the Canadian Submarine Service. The ability of commanders to inject humour into official communications reflects an understanding of its strategic role in maintaining cohesion, which was a key factor in submarine operations.⁹⁶ As Clark noted in “The Court Martial of Lieutenant-Commander Dean Marsaw: Lessons on Culture, Leadership, and Accountability for the CF,”

Morale is a force multiplier of military effectiveness and directly relates to culture.⁹⁷

In this context, humour was integral to the submarine culture, reinforcing camaraderie and resilience. Additionally, humour as a leadership characteristic was not unique to the Canadian Submarine Service but was shared with other Commonwealth submarine services,

⁹⁵ Larry Hickey, interview by Author, January 17, 2025, transcript, Royal Military College of Canada.

⁹⁶ Cdr M.E Clark, “The Court Martial of Lieutenant-Commander Dean Marsaw,” 28.

⁹⁷ Cdr M.E Clark, “The Court Martial of Lieutenant-Commander Dean Marsaw,” 33.

including the Royal Navy (RN) and the Royal Australian Navy (RAN). As former submariner David Soule observed: *“I think humour is incredibly important. And I certainly observe that in all three services.”*⁹⁸

The shared use of humour highlights the international interconnectedness of submarine culture, particularly through training programs such as the Perisher course. While Canada developed its own distinct naval identity, humour remained a common thread linking it to its allies, serving as a vital mechanism for maintaining morale and operational effectiveness in the challenging underwater environment.

The Court Martial of Dean Marsaw

While good leadership, characterized by morale considerations and the injection of humour into day-to-day operations, was prevalent in the Canadian Submarine Service, it was not always the case. To illustrate the consequences of leadership failures, this section will analyze the aforementioned case study of Dean Marsaw, whose tenure as a Canadian submarine commander became a jarring example of consequences of poor leadership. Marsaw’s approach to command—marked by autocratic decision-making, disregard for crew welfare, and abusive behaviour—had a detrimental effect on crew morale and operational safety.⁹⁹ Examining this case study provides insight into how negative leadership can erode the cultural foundations necessary for submarine effectiveness, reinforcing the critical role of competent, empathetic, and adaptable leaders.

⁹⁸ David Soule, interview by Author, January 10, 2025, transcript, Royal Military College of Canada.

⁹⁹ Cdr M.E Clark, “The Court Martial of Lieutenant-Commander Dean Marsaw,” 34.

Marsaw was the Commanding Officer (CO) of HMCS *Ojibwa* from 1990-1993, and in 1994, he was charged with seven counts of misconduct by court martial.¹⁰⁰ While commanding the HMCS *Ojibwa*, Marsaw's leadership was characterized by an obsession with perfectionism, which was significantly harmful to his crew.¹⁰¹ Members from Marsaw's crew testified during his court martial that he would often modify the operational status of the control room by adjusting the volume of the radio and altering switches, which terrified them.¹⁰² Many crew members testified to witnessing Marsaw alter the state of the submarine, causing them to become increasingly fearful for the safety of ship.¹⁰³ When crew members failed to react to the sudden changes in the altered state of the submarine, Marsaw would lose his temper, with many members recounting his vilification in such instances.¹⁰⁴

Furthermore, Marsaw often exerted total control over the decision-making on board the ship, undermining the authority of watch-team leaders who had the responsibility to run the watch in the submarine.¹⁰⁵ The responsibilities of watch-team leaders included making decisions on the CO's behalf in accordance with their standing orders, allowing them to develop their leadership capabilities, and helping prepare them for future command opportunities.¹⁰⁶ However, Marsaw did not allow them to fulfil such responsibilities.¹⁰⁷ Overall, Marsaw's leadership style was characterized as offensive, harmful, and detrimental to the operational success of the HMCS *Ojibwa*.

¹⁰⁰ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 78.

¹⁰¹ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 33.

¹⁰² Canada, Court Martial Transcripts, *Her Majesty the Queen v. Lieutenant-Commander Dean C. Marsaw, Standing Court Martial Canada* . . . , 844.

¹⁰³ Canada, Court Martial Transcripts, *Her Majesty the Queen v. Lieutenant-Commander Dean C. Marsaw, Standing Court Martial Canada* . . . , 1423-1449.

¹⁰⁴ Canada, Court Martial Transcripts, *Her Majesty the Queen v. Lieutenant-Commander Dean C. Marsaw, Standing Court Martial Canada* . . . , 1423-1449.

¹⁰⁵ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 35.

¹⁰⁶ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 35.

¹⁰⁷ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 35.

Overall influence

After analyzing both positive and negative examples of leadership, it is apparent that the CO played a pivotal role in establishing Canadian submarine culture. Although both of these case studies don't necessarily depict major leadership decisions, it is imperative to identify how and why the aforementioned factors influenced culture. Clark identified that in organizations like the CF, culture becomes embedded through the socialization process, which takes place from the beginning of a member's career, throughout training, and through working relationships, which ultimately assimilates members into the military culture.¹⁰⁸ The socialization process refers to the process in which individuals acquire the values, beliefs, attitudes and behaviors deemed appropriate for a specific culture.¹⁰⁹ In the case of the Canadian Submarine Service, the socialization process refers to how crew members would assimilate to Canadian submarine culture. Clark asserted that leaders could embed culture through factors they control regularly and what they pay attention to.¹¹⁰ Through the socialization process, followers pick up on what leaders value and emphasize. In the case of LCdr Nesbit, where values-based leadership was observed, his particular attention to accessing hockey scores and new movies was noticed by his crew, emphasizing to them the importance of such behaviour. The same is true for LCdr Nesbit's injection of humour into his work; his crew noticed such attention to humour, fostering humour as a key characteristic in the Canadian Submarine Service.

Conversely, Marsaw's particular attention to perfectionism and frequent outbursts when this standard was not achieved, alongside his delivery of derogatory and harassing remarks

¹⁰⁸ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 30.

¹⁰⁹ Awwad, M.S. Awwad, A.N. Abuzaid, and Y.M. Alqatamin "The supportive side of organisational socialisation: how it boosts employee commitment", (Emerald Publishing Limited: 2023) 1739-1768.

¹¹⁰ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 32.

negatively impacted the culture of the Canadian Submarine Service.¹¹¹ As described, the shortcomings in Marsaw's leadership, while in command of the HMCS *Ojibwa*, negatively affected his crew's ability to operate effectively and efficiently. Many of his crew members testified that when their performance fell short of his expectations, despite making concerted efforts to increase their performance, the high stress levels caused by his frequent outbursts led to a decrease in their performance.¹¹²

Through the process of socialization, it becomes evident that the CO's on-board Canadian Submarines acted as the key agents who either upheld or undermined these shared values, directly influencing the effectiveness of their units and the overall institution.¹¹³ Leaders embedded values that directly influenced the behaviors and attitudes of their crews. Positive leadership examples, such as LCdr Nesbit's emphasis on morale and humour, reinforced a culture prioritizing psychological resilience and cohesion, ultimately enhancing operational effectiveness. In contrast, Marsaw's leadership failures demonstrated how a toxic command climate could undermine crew performance and morale. These contrasting cases highlight that leadership in the submarine service extended beyond technical proficiency—commanders were instrumental in fostering the cultural dynamics that determined their crews' overall success and effectiveness.

¹¹¹ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 33-38.

¹¹² Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 34-35.

¹¹³ Cdr M.E Clark, "The Court Martial of Lieutenant-Commander Dean Marsaw," 34-35.

Chapter Four: The Road to Operational Autonomy

From the Canadian Submarine Service's establishment in 1965, it underwent a significant cultural shift. As the service began creating a unique culture characterized by professionalism, humour and camaraderie, it experienced a significant change in its operational responsibilities. As mentioned in Chapter One, the Canadian Oberons were initially procured strictly for training purposes; however, as the Canadian Submarine Service evolved, they assumed an operational role in allied anti-submarine warfare (ASW) efforts. This chapter will chronicle the Canadian Oberon's transformation from training to operational vessels, highlighting the role of leadership, the creation of the Dolphin Code and Canadian Oberon deployments on operational surveillance patrols (OSP). This chapter will demonstrate how the culture of the Canadian Submarine Service that evolved from 1965-1995 significantly contributed to its operational autonomy and success.

Oberons as Training Vessels

The establishment of the Canadian submarine force in 1960 marked the beginning of a unique evolution within the Royal Canadian Navy (RCN). As previously mentioned, upon their procurement beginning in 1965, the Canadian Oberons were employed strictly as training assets, taking part in ASW exercises alongside the nation's NATO allies. They were employed as "clockwork mice" and were responsible for acting as targets in ASW training for allied forces.¹¹⁴ The Canadian Oberons participated in many international exercises, in which their professionalism, leadership and efficiency were acknowledged, setting them on a trajectory for

¹¹⁴ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," in Bernd Horn (ed.), *Fortune Favours the Brave: Tales of Courage and Tenacity in Canadian Military History* (Toronto:Dundurn, 2009).

operational autonomy. The high standards of professionalism, leadership and efficiency on board the HMCS *Okanagan* were observed in a training exercise in 1977.

The 1977 exercise was an advanced anti-submarine training exercise in which the very latest sensing devices were used.¹¹⁵ Sensing devices refer to sonar, periscopes and other technology that detect submarines. Under the command of Lieutenant Commander (LCdr) Keith Nesbit, the HMCS *Okanagan* was the only foreign participant, therefore the sole Canadian representation. In his orders, LCdr Nesbit identified *Okanagan's* objectives to be:

- a. To prove to the USN that they should have stayed in the diesel business.*
- b. To exercise war routine on board.*¹¹⁶

With these two objectives in mind, the HMCS *Okanagan* embarked on Operation Clean Sweep.

In the Captain's War Orders, LCdr Nesbit included the following:

7. Battery Conservation. Every effort will be made to eliminate unnecessary drains on the battery. Following to be noted:

- e. Only one hot meal is to be prepared daily. This is to be a different meal each day.*
- j. Movie projectors are essential equipment and may be operated quietly.*
- k. The coffee machine is considered to be essential.*¹¹⁷

These orders reflect many of the topics discussed throughout this paper, reinforcing the prevalence of maintaining morale for effective operations. Firstly, as previously discussed in Chapter Two, food was a significant shared value within the Canadian submarine community, and its importance was highlighted in these orders. As identified in section 7e, despite the

¹¹⁵ Keith Nesbit, Command Log Journal, 195.

¹¹⁶ Keith Nesbit, Command Log Journal, 195.

¹¹⁷ Keith Nesbit, Command Log Journal, 195.

submarine's battery conservation efforts, one hot meal would be provided each day. Furthermore, the meal was to be changed daily, to provide the crew with a variety of meals to avoid repetition and maintain morale. Similarly, as identified in 7k, the coffee machine was also considered an essential equipment, reflecting the importance of food and morale on operations. Furthermore, as discussed in Chapter Three, movies played a significant role in maintaining crew morale on board submarines, and their role can be observed by the classification of movie projectors as essential equipment during training exercises, even one in which war conditions were simulated. The inclusion of hot food, coffee and movie equipment in the Captain's orders reflects the significant consideration that went into maintaining morale on board submarines, during simulated war conditions, signifying its imperative role in the success of Submarine operations.

Though the specific details of the exercise including tactics and simulated attacks remain confidential, preventing success from being measured in that way, the success of the HMCS *Okanagan* was recorded in the following communication from Commander, US 2nd fleet:

From: COMSECONDFLT

To: HMCS OKANAGAN

UNCLASS

OP Clean Sweep

- 1. Your enthusiastic and effective participation much appreciated. Aggressive tactics contributed greatly to conduct of operation clean sweep*
- 2. Looking forward to your participation Hot Washup and future ops*
- 3. Dolphin 72A. Shan an an (72A - Very well done)¹¹⁸*

The above message from the COMSECONDFLT proved the HMCS *Okanagan*'s operational success in the US training exercise, significantly contributing to the Canadian Oberon's future transition to operational autonomy. As the Canadian Oberon's, such as HMCS the *Okanagan*,

¹¹⁸ Keith Nesbit, Command Log Journal, 218.

participated in allied training exercises, they conveyed their tactical potential, proving their capacity to serve as operational vessels that could conduct NATO surveillance cruises. More significantly, through successful training operations with USN forces, they displayed their capacity to take on a larger NATO ASW role in the Atlantic.

The Dolphin Code

While their successful contribution to NATO and allied training efforts was crucial in the Canadian Oberon's transition to fully operational status, creating the Dolphin Code was another aspect of the Canadian Submarine Service that helped establish their reputation as an effective and capable force. This code was specifically designed to facilitate coordination between Canadian submarines and the units or authorities they operated under.¹¹⁹ The Dolphin Code was loosely based on the infamous Falcon Code, a network communication system designed for tactical operations, allowing high-capacity voice, data, and video transmission over a wide area network. On July 2, 1976, LCdr Nesbit formally introduced the Dolphin Code in a letter addressed to the Commander of the First Canadian Submarine Squadron, HMCS *Ojibwa* and HMCS *Onondaga*:

DOLPHIN CODE

1. *Forwarded for use is the long-awaited DOLPHIN CODE*
2. *This code is designed to cover all aspects of submarine operations and administration, and should put the FALCON Code in its proper place. It is the result of months of intensive study and research by OKANAGAN officers.*

¹¹⁹ Keith Nesbit, Command Log Journal, 96.

3. *DOLPHIN 35 (Deep down you know it makes sense)*¹²⁰

Following its distribution, the first recorded use of the Dolphin Code was by The First Canadian Submarine Squadron in a message to HMCS *Okanagan*.¹²¹ From there, its adoption quickly expanded. The code gained significant traction among allied navies, underscoring its utility and effectiveness in international submarine operations.

Following the first recorded message, the Dolphin Code gained popularity and was used by navies around the world.¹²² The proliferation of the Dolphin Code across allied western naval forces was evident through the aforementioned message sent by *COMSECONDFLT* to the HMCS *Okanagan* in which the message was concluded with:

*Dolphin 72A. Shan an an (72A - Very well done).*¹²³

The widespread use of the Dolphin Code, both in training exercises and daily submarine operations, demonstrated its impact beyond Canada's fleet. *COMSECONDFLT*'s use of the code highlighted its adoption by foreign naval forces, reinforcing the Canadian Submarine Service's growing influence on the global stage, and further enhancing their operational autonomy.

Challenges to Achieving Autonomy

With the Canadian Oberon's impressive contributions to allied training efforts and the proliferation of the famous Dolphin Code, their operational proficiencies were undeniable. However, there remained challenges for Maritime Command in deploying a fully operational and independent submarine force within NATO. One significant challenge was Canada's relative lack

¹²⁰ Keith Nesbit, Command Log Journal, 96.

¹²¹ Keith Nesbit, Command Log Journal, 97.

¹²² Michael Whitby, "Boomers, Draggars and Black Boxes: The Operational Legacy of Canada's Oberon Class Submarines, 1983- 1998," 372.

¹²³ Keith Nesbit, Command Log Journal, 97.

of experience in these types of operations in the 1960s. Although many Canadian submariners participated in allied training exercises, they often acted as the targets rather than the hunters. Moreover, Canadian submarines had yet to deploy on an operational patrol, although some Canadian submarines had had the previous opportunity to deploy under British Operational control (OPCON). In an initial planning memo, Nesbit identified that:

*Because of our boats' somewhat limited experience in this regard (most of which has been obtained from tasking when under British OPCON) and because of MARCOM headquarter's lack of practice at directing/controlling submarines in a fully 'operational' sense, there should be a lot to learn.*¹²⁴

Another challenge that the Canadian Oberons faced, as Whitby identified in *Doin' the Bizz*, was that despite the improvement of their sonar capabilities, their risk of counter-detection remained relatively high. O-boats were not able to cover distance quickly while remaining covert.¹²⁵ As they increased speed, the amount of noise emitted from the submarine increased, and so did their chance of detection.¹²⁶ Moreover, Oberon's needed to snort (the running of either one or both diesel generators while the submarine was submerged to a depth of 60 feet or above) every six to eight hours which impaired search capabilities and sonar performance.¹²⁷

Despite these challenges, Nesbit was critical of the assertion that the Canadian Oberons should operate strictly as training vessels, and he wanted to prove to the USN that Canada could

¹²⁴ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 297.

¹²⁵ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹²⁶ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹²⁷ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

patrol their area of responsibility (North Atlantic).¹²⁸ With these ambitions, and internal support from the Canadian submarine community, the Canadian Oberons were set on a trajectory to operational autonomy. The first factor that contributed to the implementation of OSP's was that the Canadian O-boats were undergoing the Submarine Operational Update Program (SOUP).¹²⁹ The SOUP refits transformed the three Canadian Oberons from

*A semi-passive ASW training vessel, to a fully capable offensive undersea weapon platform.*¹³⁰

The SOUP reforms increased the surveillance capacity of the quiet and long-enduring Canadian Oberons, solidifying their ability to effectively serve as operational vessels. The Oberon's surveillance capacities were strengthened by fitting them with TAN/BQG 501 MicroPUFFS passive ranging sonar and digital Singer-Librascope Submarine Fire Control System. The introduction of these systems alongside their preexisting 2007 fixed linear array and 187c attack sonar facilitated Target Motion Analysis (TMA - a process of estimating a target's position, course, and speed using passive sonar data) up to four targets simultaneously. In his paper "Doin' the Bizz", Micheal Whitby highlighted that:

*Using automatic TMA on multiple targets, a submarine commander could form a picture of the underwater surface activity around the submarine, a sort of equivalent of a radar picture, without giving the submarine's position away by pinging with sonar.*¹³¹

¹²⁸ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹²⁹ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹³⁰ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 295.

¹³¹ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 295.

Another significant factor that led to the implementation of OSP's was the acquisition of the Lockheed CP-140 Aurora (a maritime patrol aircraft) by Canadian Forces Air Command, which became operational in early 1980.¹³² The technical features of the Aurora included relatively high speed, long endurance, extensive sensor and weapons suites, and their crew was made up of four tactical navigators, three electronic sensor operators, two pilots and a flight engineer.¹³³ The ASW surveillance technology operated by the Aurora's crew made them capable of tracking Soviet submarines over long periods.¹³⁴ Although the Auroras were capable of tracking Soviet Submarines, they were equipped with Mk 46 ASW torpedoes, of which there was much debate surrounding their ability to destroy Soviet Nuclear submarines.¹³⁵ In contrast, the Canadian Oberons were equipped with Mk 47 ASW torpedoes, which were powerful enough to easily destroy a Soviet submarine if they found their target.¹³⁶ In response to the obvious potential ASW effectiveness of the Oberon fleet working in tandem with Air Command CP-140 Auroras, LCdr Nesbit, working in the early 1980s as Senior Staff Officer to Maritime Command Commander Vice-Admiral Andrew Fulton, made a compelling proposal to his commander. He proposed that these forces be operationally employed as a combined ASW force in the North Atlantic.¹³⁷

Canadian Oberons as an Operational Force

¹³²Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹³³Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹³⁴Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 296.

¹³⁵Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 297.

¹³⁶ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 297.

¹³⁷ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 297.

Amidst the SOUP modernizations and the acquisition of the Auroras, the HMCS *Okanagan* deployed on the first OSP in the summer of 1983.¹³⁸ Under the patrol order, the Commanding Officer, LCdr Bruce MacLean, was tasked with conducting a 19-day patrol to the southeast portion of the Canadian Atlantic (CANLANT) zone (900 miles from Halifax). The *Okanagan* had two objectives: the primary objective was:

*The interception/location of a Yankee class SSBN with subsequent shadowing to the extent possible.*¹³⁹

The secondary objective was to “BINT” (gather basic intelligence from their Soviet adversaries relating to visual features, acoustics and electronic emissions; and their final objective was to investigate the oil platform *Vinland*).¹⁴⁰ At the time of her deployment, the *Okanagan* had not had their SOUP refits, though they were specially fitted with a FAS 1B narrowband sonar analyzer (specialized sonar processing system).¹⁴¹ The *Okanagan*’s OSP resulted in many lessons being learned. To begin, the AS 1B narrowband sonar analysis performed exceptionally well in monitoring the noise emitted from the *Okanagan*, impressing the Canadian Forces Maritime Warfare Centre (CFMWC).¹⁴² Furthermore, LCdr MacLean identified that 19 days to complete a successful OSP was insufficient, and future operations would require more time. Following the completion of the first Canadian OSP, the Commandant of the CFMWC stated:

¹³⁸ Michael Whitby, “‘Doin’ the Biz’: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87,” 299.

¹³⁹ Michael Whitby, “‘Doin’ the Biz’: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87,” 299.

¹⁴⁰ Michael Whitby, “‘Doin’ the Biz’: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87,” 299.

¹⁴¹ Michael Whitby, “‘Doin’ the Biz’: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87,” 299.

¹⁴² Michael Whitby, “‘Doin’ the Biz’: Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87,” 302.

*The only general recommendation made is that we continue these patrols with a view to expanding our experience and ability.*¹⁴³

The second OSP proved, conducted by the HMCS *Ojibwa* from November 14 - December 6 1983, proved to be exceptionally successful for the Canadian Submarine Service.¹⁴⁴ Under the command of LCdr N.P Nicolson, the *Ojibwa's* objectives included intercepting Soviet Yankee-Class SSBNs, gathering electronic information on TU-95 RT "Bear" (a Soviet Maritime reconnaissance aircraft), monitoring the activity of surface vessels and observing two weather ships.¹⁴⁵

The HMCS *Ojibwa's* OSP from November 14 to December 6 1983 proved to be one of the most successful operations conducted by a Canadian Oberon. On November 18 at 0100 hours, the *Ojibwa's* Type 2007 sonar received a contact at a range of approximately 7000 yards.¹⁴⁶ Nicolson followed the possible contact for approximately 15 minutes, ultimately identifying it to possibly be a submarine.¹⁴⁷ As highlighted by Whitby in "Doin' the Bizz", the submarine's Target Motion Analysis identified that the contact was steering at 250 degrees with a speed of eight knots. At 0148 hours, the contact began circling back to ensure it was not being followed by another submarine.¹⁴⁸ The *Ojibiwa* ultimately lost contact at 0158 hours. As

¹⁴³ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 303.

¹⁴⁴ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 303.

¹⁴⁵ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 303.

¹⁴⁶ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 304.

¹⁴⁷ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 304

¹⁴⁸ Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 304.

highlighted by Whitby, Nicolson identified the situation as a definite contact based on the following data:

A quiet, high bearing rate; A short detection range (approximately 7,000 yards); biological noise on the contact bearing (common around submarines); course alterations; no visual contacts in condition of good visibility; intermittent 187 high channel contact; and whine audible on the stern aspect.

The HMCS *Ojibwa*'s success continued on November 29 1983, when she spotted the AGOR *Musson* - a Soviet oceanographic research vessel.¹⁴⁹ The *Ojibwa* attempted to monitor the *Musson*; however, at 0725 hours heavy smoke permeated the ship's motor room causing a complete loss of propulsion. As described by Whitby,

*This left the boat in an 'unpleasant ship control situation'. The boat was submerged, apparently on fire, close to Soviet Units.*¹⁵⁰

Despite the ship's dire situation, the crew of the HMCS *Ojibwa* reacted with professionalism and proficiency, identifying the cause of the smoke while Nicolson made efforts to remain covert and undetected by the Soviet research ship.¹⁵¹ The formidable situation continued for less than an hour when the electronic support measures (ESM) -passive detection, interception, and analysis of electromagnetic signals- identified the presence of a Soviet ship (the *Passat*).¹⁵² Nicolson suspected that *Musson* and *Passat* had detected the *Ojibwa* on their radar, though they may not

¹⁴⁹ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 304.

¹⁵⁰ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 306.

¹⁵¹ Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 306.

¹⁵² Michael Whitby, "'Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 306.

have detected it as a NATO submarine due to the range, high sea state and lack of light.¹⁵³ Due to the challenging tactical situation, Nicolson withdrew from the area. Overall, on its patrol, the *Ojibwa* had surveyed a Soviet Maritime Patrol Aircraft (MPA), potentially a Soviet Ballistic Missile Submarine (SSBN), an unidentified Nuclear-Powered Fast Attack Submarine (SSN) and two Auxiliary General Purpose Oceanographic Research Vessel (AGOR's).¹⁵⁴

The success of the HMCS *Ojibwa* undoubtedly confirmed that the Canadian Submarine Service under Maritime Command was not only capable of tending to their area of responsibility, but capable of performing as an autonomous operational force. While the HMCS *Ojibwa*'s success from November 15 to December 6 1983 was remarkable, many more OSPs were carried out, further solidifying the Canadian submarine service's position as an effective ASW force. In conclusion, the advent of OSPs was initiated by LCdr Nesbit's propensity to view the Oberon's potential as more than simply a training platform. With support from Maritime Command, the Canadian Submarine Service flourished in the mid 1980s, significantly contributing to the NATO defence of the North Atlantic against the Soviet threat.

¹⁵³Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 306.

¹⁵⁴Michael Whitby, "Doin' the Biz': Canadian Submarine Patrol Operations Against Soviet SSBNs, 1983-87," 307.

Conclusion

Between 1965-1995, the Canadian Submarine Service underwent a significant shift; initially procured to serve as anti-submarine warfare training platforms, they transformed into an operational force that deployed on several successful operational surveillance patrols. Such a drastic change cannot be expounded by a single factor; however as highlighted throughout this paper, it is evident that culture played a crucial role in the change. The culture of the Canadian Submarine Service, which developed under the influence of international navies, was a key factor in its operational success between 1965 and 1995. Initially hindered by financial and political constraints, the Royal Canadian Navy (RCN) pursued international partnerships to address its need for submarines, leading to the establishment of the Royal Navy's Sixth Submarine Squadron in Halifax. Canadian personnel trained under both the RN and USN, resulting in two distinct yet complementary influences on the evolving submarine force. This international influence laid the foundations for them to develop into an autonomous and successful ASW force. Once an independent Canadian service was established in 1965, it was set on a trajectory toward operational autonomy, forging a unique culture that significantly contributed to their operational success.

The distinct culture of the Canadian Submarine Service was built upon shared values, traditions, and symbols that reinforced camaraderie and resilience. The Dolphin Patch, an internationally recognized symbol of submarine service, held particular meaning within the Canadian force, while other symbols like the Pink Panther of HMCS *Okanagan* reflected a uniquely Canadian identity. Humour, pranks, and food were not mere diversions but essential elements of morale, strengthening the bonds among submariners in the isolating and high-stress

submarine environment. Furthermore, leadership played a decisive role in reinforcing this culture. As demonstrated in Chapter Three, commanders who understood and upheld these shared values were able to inspire their crews and maintain morale, directly influencing operational performance. LCdr Nesbit's leadership, which prioritized crew well-being and cohesion, led to a highly effective unit, whereas Dean Marsaw's failure to maintain morale resulted in a decline in performance. These cases underscored the profound link between leadership, culture, and operational success. The submarine environment required not only technical proficiency but also an acute awareness of the human factors that determined mission effectiveness.

The relationship between culture and operational success was further elucidated in Chapter Four, where evidence of their success was highlighted. Initially, the Oberon-class submarines served as ASW training vessels, demonstrating professionalism and effectiveness in international exercises, such as the 1977 Operation Clean Sweep. These successes helped establish credibility and set the stage for an expanded operational role. A key development was the creation of the Dolphin Code, a communication system that gained international recognition, reinforcing Canada's growing naval influence. Despite challenges such as limited ASW experience and detection risks, the modernization of the Oberons through the Submarine Operational Update Program (SOUP) and the integration of CP-140 Aurora maritime patrol aircraft significantly enhanced their capabilities. The first Operational Surveillance Patrols (OSPs) in the 1980s marked a turning point for the service, with the Canadian O-Boats taking on an operational role through conducting successful missions tracking Soviet submarines and gathering intelligence. These patrols proved that Canadian submarines could independently secure Canada's maritime interests, solidifying their role in Cold War ASW operations.

Ultimately, while many factors contributed to the operational success, the culture which evolved throughout 1965-1995 was crucial.

Culture is often overlooked in analyses of military effectiveness, yet in the case of the Canadian Submarine Service, it was indispensable. It shaped the way submariners trained, operated, and interacted, fostering the unity and professionalism necessary for success in high-stakes environments. Beyond its operational contributions, this culture left an enduring legacy. Even after the decommissioning of the last Oberon-class submarine in 2000,, HMCS *Onondaga*, the traditions, memories, and identity of the service continued to resonate with those who served. The shared experiences, stories, and symbols of the Canadian Submarine Service from 1965-1995 illustrated the profound and lasting impact of culture in military organizations. Despite limited resources and political uncertainty surrounding submarine procurement, the culture of the Canadian Submarine Service enabled it to achieve remarkable success, proving the importance of culture in establishing an effective fighting force. In conclusion, this thesis underscores the critical role of culture in the evolution of the Canadian Submarine Service, demonstrating how shared values, traditions, and leadership not only facilitated operational success between 1965 and 1995 but also provide valuable insights into the lasting significance of a strong organizational culture in a military context.

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Bob Bush retired as a Commander in the Royal Canadian Navy. Cmdr Bush's first submarine posting was with the RN in the UK, followed by an exchange with the Royal Australian Navy on board HMAS *OXLEY*. He later passed the infamous perisher course and went on to command the HCS *Onondaga* from July 17 1988 - Feb 02 1989 and the HMCS *Ojibwa* from Feb 02 1989 - Aug 05 1989. He later moved to the West Coast to command HMCS *Calgary* from Jul 09 1996 - Oct 18 1997. Following this, he moved to Ottawa where he served as Submarine Program Director until his retirement in 2005.

Hickey, Larry. Interview by author. January 17 2025.

Military Service: Appointed Officer Cadet (OCTP) in 1974, he completed basic officer training at the Canadian Forces Officer Candidate School in Chilliwack and further training at Canadian Forces Fleet School Esquimalt. He served in various ships including HMCS Miramichi, Cowichan, Terra Nova, Yukon, and Kootenay. He trained at HMS Dolphin in 1977 and served as Electrical Officer and Navigating Officer on HMCS *Ojibwa*. Promoted to Lieutenant (N) in 1979, he served as Operations Officer and later Executive Officer on HMCS *Onondaga*. He attended the Royal Australian Navy Executive Officer Course in 1984 and completed the Royal Navy Submarine Commanding Officer's Course in 1986. He commanded HMCS *Onondaga* before transferring to the Primary Reserve in 1987, then enrolled in the RCMP in 1990. He rejoined the Canadian Forces in 1992 as a Lieutenant-Commander, serving in the First Canadian Submarine Squadron and commanding HMCS *Okanagan*. He later served as Officer-in-Charge of Submarine Sea Training, and attended the Canadian Forces Command and Staff College. Promoted to Commander in 1996, he served in various key roles, including NATO Plans, Policy, and Exercises Officer at COMSUBLANT and Commander of HMCS *Toronto*. Promoted to Captain (N) in 2001, he served as Assistant Chief of Staff at MARLANTHQ and Director of Strategic Studies at the Canadian Forces Staff College. Appointed Commodore in 2008, he served as Director-General of Maritime Personnel and Readiness and later as Commander of Canadian Fleet Atlantic. He retired in 2012.

Jolin, Norman. Interview by author. January 10th 2025.

Captain (N) [Ret'd] Norman Jolin served 37 years in the Royal Canadian Navy, spending the majority of his career at sea aboard both ships and submarines, including a command role with HMCS *Montréal*. He was part of the Directing Staff at the Canadian Forces College and later served as the Branch Head for Exercises at NATO's Strategic Transformation Command in Norfolk, Virginia. He then went on to serve as the Naval Adviser to the UK and Defence Attaché to Denmark. His final military appointment was with NATO's International Military Staff in

Brussels, Belgium. After retiring, he established a private consulting firm and, in 2017, joined CFN Consultants as an associate specializing in supporting acquisition projects for the Royal Canadian Navy and the Canadian Coast Guard.

MacLean, Bruce. Interview by author. February 02 2025.

Vice-Admiral Bruce MacLean had a distinguished career in the Royal Canadian Navy, retiring in 2006 as Commander of Maritime Command and Chief of the Maritime Staff. He joined the Canadian Armed Forces as a cadet at Dalhousie University in 1970 and began his submarine career at HMS Dolphin in 1973. After training, he was posted to HMCS Okanagan, later completing the Perisher Course in 1982 and assuming command of the Okanagan. In 1983, he served on exchange with the Royal Australian Navy (RAN), overseeing submarine sea training and commanding HMAS Oxley and HMAS Orion. Returning to Canada in 1985, he became Squadron Operations Officer for the First Canadian Submarine Squadron. Promoted to Commander in 1986, he held key roles at National Defence Headquarters (NDHQ), including in the Directorate of Submarine Requirements and later as Director Maritime Force Development. After being promoted to Captain(N) in 1989, he completed language training and took command of HMCS Provider in 1992. He became Chief of Staff to the Commander of Maritime Forces Pacific in 1994 and was promoted to Commodore in 1995, returning to NDHQ as Director General Maritime Development before a Privy Council Office secondment in 1997. Advancing to Rear-Admiral in 1998, he served as Director-General of International Security Policy before assuming command of Maritime Forces Atlantic in 2000. Promoted to Vice-Admiral in 2002, he became Canada's Military Representative to NATO in Brussels. In 2004, he returned to Canada as Commander of Maritime Command and Chief of the Maritime Staff, serving until his retirement in January 2006.

Murry, Edward. Interview by author. January 17 2025.

Commodore Edward Ross Murray began his career in the Royal Canadian Navy (RCN) as an Officer Cadet (E) in 1955, with seniority starting on September 1. He attended Royal Roads Military College in 1955 and later completed an engineering degree at the Royal Military College of Canada and McGill University. Murray was appointed Midshipman RCN in 1957 and promoted to A/Sub-Lieutenant (E) RCN in 1958, and Sub-Lieutenant (E) in 1959. He trained at HMCS Stadacona and served in HMCS Saguenay in 1960. In 1961, he earned his Lieutenant (E) rank and completed the U.S. Navy Submarine Training School in 1962. He then served in HMCS Grilse until resigning in 1965 but rejoined the navy as a Direct Entry Officer in 1966. After being appointed Sub-Lieutenant RCN, he served at HMCS Stadacona and later as Engineering and Operations Officer on HMCS Onondaga. He became Lieutenant-Commander RCN in 1967 and completed post-graduate studies at the University of Toronto. Murray held several key roles, including Section Head at the Defence Research Analysis Establishment, Squadron Technical Officer with the First Canadian Submarine Squadron, and Base Technical Services Officer at

CFB Halifax. Promoted to Commander in 1974, he continued to rise through the ranks, taking on roles such as Commanding Officer Engineering Division at Canadian Forces Fleet School, Senior Evaluation Analyst at NDHQ, and Commanding Officer of the Ship Repair Unit (Pacific) in 1983. He was appointed Commodore in 1986 and served as Director General of Management Services at NDHQ before becoming Commandant of the Royal Military College of Canada in 1987. Commodore Murray retired from the RCN on August 7, 1991.

Robinson, Christopher. Interview by Author. January 28 2025.

Rear-Admiral Robinson began his career as a Naval Warfare Officer, training on patrol craft, mine-sweepers, and destroyers before joining the submarine service. He served on multiple Canadian submarines—Onondaga, Ojibwa, Victoria, Corner Brook, Windsor—as well as the British submarine Unseen. From 2007 to 2009, he commanded HMCS Corner Brook, leading deployments to the Canadian North (Operation Nanook) and the Caribbean (Operation Caribbe) for counter-drug patrols. Under his command, Corner Brook received the Canadian Armed Forces Unit Commendation in 2008 for its contributions to Canadian sovereignty. In 2011, he became the first Commander of Submarine Sea Training, serving until 2014. He later commanded the Canadian Submarine Force and 4th Maritime Operations Group from 2017 to 2019. After leading the Canadian Fleet Atlantic (2021–2022), he was appointed Commander of Maritime Forces Pacific & Joint Task Force Pacific in May 2022.

Soule, David. Interview by author .January 10 2025.

Cdr (ret'd) David Soule served in the Canadian Navy/Royal Canadian Navy for most of his 38 years of Canadian Forces service. He joined HMCS Donnacona in 1976 and transferred to the Regular Force in early 1977. Fascinated with submarines from a young age, he spent nearly 10 years in the submarine service, mainly in HMCS Ojibwa. After leaving submarines in 1988, he served in a number of staff positions including at the Canadian Forces Maritime Warfare Centre, the Fifth Canadian Destroyer Squadron (aka CMOG 5) and as a CPF project sea trials officer for HMCS Montreal during her post-build trials. Posted to Ottawa in 1995 to the naval requirements staff, he was involved in ASW weapon and sensor related projects before attending CAF Staff College in 1999. In 2000, he was appointed executive officer for HMCS Winnipeg, which was deployed with a USN carrier battle group to the Persian Gulf in early 2001. Returning to Ottawa in 2002, he briefly served in the CF naval careers directorate and then with the CAF joint staff, responsible for CAF joint doctrine. In 2006 he was assigned to the staff developing the concept for the proposed joint CAF Standing Contingency Force (SCF). He spent the final 6 years of his career as project director for the Arctic/Offshore Patrol Ship (Harry DeWolf-class) before retiring in early 2014. His post CAF/RCN career, he was a consultant for commercial companies interested in naval projects.

Whitby, Micheal. Letter to author, February 11 2025.

Michael Whitby is a Canadian historian specializing in naval history. He serves as the Senior Naval Historian at the Directorate of History and Heritage within Canada's Department of National Defence. In this role, Whitby co-authored "The Official History of the Royal Canadian Navy in the Second World War," contributing significantly to the documentation of Canada's naval heritage. Whitby's academic background includes studying Classics at Corpus Christi College, Oxford, followed by postgraduate research in Byzantine History. He held various academic positions, including a professorship at the University of Warwick, where he served as Pro-Vice-Chancellor. Beyond his historical writings, Whitby has edited and translated works such as "The Wars of Justinian I," showcasing his expertise in ancient military history. His scholarly contributions provide valuable insights into both classical antiquity and Canada's naval legacy.

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