

Coming to Terms with Ocean Literacy

Sarah MacNeil, Canadian Ocean Literacy Coalition, University of Ottawa; Carie Hoover, Canadian Ocean Literacy Coalition, Trent University; Julia Ostertag, Canadian Ocean Literacy Coalition, Dalhousie University; Lilia Yumagulova, Canadian Ocean Literacy Coalition, Simon Fraser University & Lisa [Diz] Glithero, Canadian Ocean Literacy Coalition, Dalhousie University

Abstract

The term “ocean literacy” originated in the early 2000s from American ocean science researchers and educators to strengthen ocean science education in the national curriculum. Worldwide, it has been adapted to reflect a more multidisciplinary approach to understanding humans’ relationships with the ocean. Research from the Understanding Ocean Literacy in Canada national study (2019-2020) (Ammendolia et al., 2020; Glithero, 2020; Hoover, 2020; MacNeil, 2020; Ostertag & Ammendolia, 2020; Yumagulova, 2020) identified ocean literacy as a limiting term, unable to capture the scope of Canadian experiences with the ocean continuum (land, freshwater, coastal areas, sea ice, open ocean), and inadequate in encapsulating different worldviews and across different linguistic communities. We discuss the challenges of contextualizing an international term within Canada and present ideas to move toward more inclusive terminology, examining the challenges still ahead in developing relevant terminology and bridging with international initiatives.

Résumé

Le terme « connaissance de l’océan » (ocean literacy en anglais) a été utilisé pour la première fois au début des années 2000 dans le programme scolaire américain, par des chercheurs et des éducateurs du domaine des sciences marines. Il a ensuite été adapté à l’international pour rendre compte d’une approche multidisciplinaire de la compréhension des relations entre les humains et l’océan. Selon les recherches menées dans le cadre de l’étude nationale Comprendre la connaissance de l’océan au Canada (2019-2020) (Ammendolia et al., 2020; Glithero, 2020; Hoover, 2020; MacNeil, 2020; Ostertag et Ammendolia, 2020; Yumagulova, 2020), le terme « connaissance de l’océan » est restreint et incapable de rendre toute la portée de l’expérience canadienne du continuum océanique (qui comprend la terre, l’eau douce, les régions côtières, la glace de mer, la haute mer); il n’intègre pas non plus l’essence des différentes visions du monde et communautés linguistiques. Nous abordons donc la difficulté d’adapter un terme international à la réalité canadienne et présentons des idées de termes inclusifs tout en examinant les défis qui restent à venir pour trouver une terminologie pertinente et faire le pont avec les initiatives internationales.

Keywords: ocean literacy, ocean continuum, terminology, translation challenges, connaissance de l’océan, French, Inuktitut

Mots-clés : connaissance de l’océan, ocean literacy, continuum océanique, terminologie, problèmes de traduction, l’océan, français, inuktitut

Coming to Terms with Ocean Literacy

In preparation for the launch of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), the Canadian Ocean Literacy Coalition (COLC) undertook an ambitious year-long study of ocean literacy across five regions (Pacific, Inuit Nunangat, Atlantic, St. Lawrence/Great Lakes, and Inland Canada) with the goal of creating a national ocean literacy strategy. The concept of ocean literacy that had rippled out from the United States in the early 2000s (Cava et al., 2005) was clearly growing into an international movement across an increasingly broad range of society (Santoro et al., 2017). However, the vast knowledge systems, values, and experiences that shape diverse peoples' relationships with the ocean are as fluid and complex as the ocean itself (Te Punga Somerville, 2017). The widely accepted international definition of ocean literacy is understanding “the ocean’s influence on us and our influence on the ocean” (National Oceanic and Atmospheric Administration, 2013, p. 1); however, in attempting to reach beyond ocean educators, we (the COLC research team) proposed a starting definition of ocean literacy that was broader than international framing and included diverse ocean knowledge systems, ocean values, and ocean actions.

Throughout the course of COLC’s year-long study, participants shared with us a rich tapestry of stories, experiences, and perspectives. While the *Understanding Ocean Literacy in Canada* study (2019–2020) (Ammendolia et al., 2020; Glithero, 2020; Hoover, 2020; MacNeil, 2020; Ostertag & Ammendolia, 2020; Yumagulova, 2020) highlighted exceptional work being undertaken across the country, we also identified that a major roadblock to advancing ocean literacy in Canada was the term itself. When the term ocean literacy was known at all (something that varied by and within regions), it was often found to be narrow and limiting. The Western, science-based, English-language dominant roots of ocean literacy were an additional barrier to creating an inclusive movement that draws on the lived experiences and distinct worldviews and practices of diverse cultural, linguistic, and geographic communities across Canada. The struggle with the term “ocean literacy” itself became a central conversation within the research team and with the hundreds of participants who engaged in the research from diverse regions, cultures, linguistic communities, and sectors (Glithero, 2020). While the *intent* behind the term resonated with participants and clearly galvanized remarkable interest in the project, notable sticking points consistently created tensions in collectively coming to terms with ocean literacy terminology.

In this paper, we reflect on the emerging ocean literacy terminology in the Canadian context by drawing on findings from the *Understanding Ocean Literacy in Canada* regional reports (Ammendolia et al., 2020; Hoover, 2020; MacNeil, 2020; Ostertag & Ammendolia, 2020; Yumagulova, 2020). In particular, we consider a number of challenges with ocean literacy terminology in the Canadian context. To begin, we consider how the “ocean” is in itself both a fluid

word and highly dynamic and complex physical entity, better understood as an “ocean continuum.” Second, we consider whether the concept of “literacy” itself (whether ocean literacy, climate literacy, or environmental literacy) creates barriers to a broad-based, multi-sectoral engagement with ocean literacy. Third, since ocean literacy is a term that reflects Western scientific understandings of and relationships with the ocean and education (primarily formal, school-based education), it is a term that is particularly problematic in Indigenous contexts as it risks perpetuating a settler colonial appropriation of Indigenous knowledges, practices, pedagogies, and relationships with land/water. Finally, we dive into issues of translation and language since ocean literacy is a term that emerges from Anglophone institutions and is now being applied to and translated into different linguistic and cultural contexts.

This article brings together theoretical frameworks from translation studies (Conway, 2012), literacy education (Fransman, 2006), environmental literacy (Stibbe, 2009), and Indigenous studies (Reid et al., 2020) to help us reflect on the tensions that are at play when we uncritically call for “ocean literacy for all” (Santoro et al., 2017). We conclude with considerations for pathways that can help us move through these critiques by continuing to build on the energy and sense of urgency that has driven the ocean literacy movement while still ensuring that we actively listen and respond to more marginalized voices to truly co-create culturally and linguistically relevant ocean literacy across Canada. If we want and need to move toward a more sustainable future, including ocean sustainability, we need to adopt a “more ecological culture and participative worldview” (Sterling, 2009, p. 77).

Reflecting on Language: Our Methodology

As the researchers conducting the *Understanding Ocean Literacy in Canada* study, we utilized mixed-method, multi-regional, and multi-sectoral collaborative research approaches, including literature reviews, interviews, and case studies to identify the scope of ocean literacy in Canada (full research process and results available here: <http://www.colcoalition.ca>). Five regional coordinators, one national coordinator, and two research assistants developed an evidence-based approach to identifying the current state of ocean literacy and the diversity of practitioners across the country. At the national level, a random public national survey (Nanos Poll, 1,010 respondents; see Glithero & Zandvliet, 2020), a national survey of ocean literacy providers (Canadian Ocean Literacy Survey, 1,359 respondents; see Glithero & Zandvliet, 2020), a media and social media scan (1,253 news articles, 77 influential twitter accounts; see Shiffman et al., 2020), and a series of youth focus groups (three university focus groups; see Roy, 2020) were used to inform how ocean literacy is used and perceived nationally. At the regional level, five regional coordinators employed standardized methods of literature reviews (322 documents), organizational-level asset mapping survey (136 respondents and 418 total identified assets), arts-based engagements (five

total), and one-on-one interviews (188 total) published across the five regional reports: Pacific (Yumagulova, 2020), Inuit Nunangat (Hoover, 2020), Inland Canada (Ammendolia et al. 2020), St. Lawrence/Great Lakes (MacNeil, 2020), and Atlantic (Ostertag & Ammendolia, 2020).

Throughout this extensive research, discussions about ocean literacy terminology and language emerged as cross-cutting themes within each regional and national analysis, necessitating a critical reflection on the use of the term and the limitations of using “ocean literacy” at the local, national, and international levels. This critical, reflective methodology, combined with our individual positionalities and blind spots to areas outside our spheres of lived experiences and research domains, impacted our views on the terminology. Despite the diverse experiences and perspectives we bring to our collective understanding of ocean literacy, our understandings remain limited by our dominant worldviews, particularly as settler academics working predominantly within English-language communities and Western knowledge systems.

The Emergence of Ocean Literacy in Canada

Within Canada, the Canadian Network for Ocean Education (CaNOE) is credited as one of the first champions of ocean literacy in English-speaking Canada. This volunteer-based, non-profit organization engages formal and non-formal marine educators in bringing ocean literacy to classrooms and communities across Canada. Through ongoing work, the CaNOE community has co-created a living document in answer to the question, “What is Canadian ocean literacy?” (Stewart, 2019). The document touches on many issues highlighted in this paper, such as Indigenous knowledges as well as ecological, jurisdictional, educational, cultural, spiritual, and emotional considerations (among others). This document also serves to highlight various and distinct knowledge systems, as well as freshwater connections. Like the COLC research team, CaNOE recognizes that Canadians support expanding the term ocean literacy to include more than ocean science knowledge.

While ocean literacy has become the predominant term in Canada over the past few years, other terminology continues to emerge. For example, unique to Newfoundland and Labrador, and in particular, Fogo Island, is the New Ocean Ethic (Shorefast Foundation, 2016), which is rooted in the understanding that “if we are to continue to benefit from our relationship with the sea, we must rethink the way we use its resources and exist responsibly on its shores” (p. 3). The New Ocean Ethic places ocean literacy as one of 10 major initiatives to promote and work toward ocean sustainability on Fogo Island. Nationally and internationally, the terms “ocean education” and “marine education” resonate widely in formal and non-formal educational contexts (Fielding et al., 2019; Guest et al., 2015; Scully, 2018). By way of further example internationally, the work of Emma McKinley and colleagues in marine policy in the United Kingdom centres around the use of the term “marine citizenship” (McKinley et al., 2019;

McKinley & Fletcher, 2010) and the potential implications of an enhanced sense of marine citizenship in the management of the marine environment.

As these English-language examples indicate (continue reading for French-language discussion), ocean literacy terminology in Canada is emerging at a time when ocean-specific terms are beginning to proliferate. This suggests that robust interest and a sense of urgency are increasingly driving commitments to improve human–ocean relationships. As a result, diverse terms are being created to reflect and encapsulate these movements.

In the following sections, we turn to findings from COLC’s *Understanding Ocean Literacy in Canada* study (Ammendolia et al., 2020; Hoover, 2020; MacNeil, 2020; Ostertag & Ammendolia, 2020; Yumagulova, 2020) to consider limitations of ocean literacy terminology. We begin with the word “ocean” itself, recognizing that an “ocean continuum” is a more inclusive term for this vast and dynamic Earth system, and we work toward expanding on the term “literacy” in the future.

Why the Term Ocean?

Roughly seven million people in Canada live in coastal zones (Fisheries and Oceans Canada, 2021, including numerous First Nations and the majority of communities across Inuit Nunangat (Inuit homeland in Canada; Inuit Tapiriit Kanatami [ITK], 2004). What is more, 78% of Canadians recognize Canada as “an ocean nation” (Nanos, 2019). There are innumerable types of interactions and lived experiences tied to the ocean that take place across the country every day. Yet, conversations about ocean literacy primarily occur between academics and ocean literacy providers, resulting in difficulties in understanding its role in and significance to society (Glithero et al., 2020; Kopke et al., 2019). This perception of ocean literacy as an elitist, high-level or “ivory tower” framing was confirmed by our study participants across Canada. The COLC research team conducted 188 interviews (roughly 168 of which were conducted in English) across five regions: Atlantic (Ostertag & Ammendolia, 2020), Inland Canada (Ammendolia et al., 2020), Inuit Nunangat (Hoover, 2020), Pacific (Yumagulova, 2020), and St. Lawrence/Great Lakes (MacNeil, 2020). Across these regions, ocean literacy was found to be the following: limiting, requiring a broader and more inclusive framing; disconnected from Indigenous ways of knowing and ineffective at capturing relationships with the ocean; a new or unfamiliar term; and exclusive of freshwater and land-based efforts that are also ultimately connected to ocean health.

Interviews with participants from Inuit Nunangat, along the St. Lawrence River, and throughout Inland Canada in particular suggested that the term “ocean” itself is a barrier for many since the ocean is a dynamic, interconnected system that includes relationships between land, climate, coasts, sea ice, glaciers, wetlands, lakes, and rivers. Etymologically, the word ocean is derived from the Greek *ōkeanos* and the Latin *oceanus*. These terms refer to the great river or

sea that flows around a single land mass, reflecting historical understandings of the earth's shape (Online Etymology Dictionary, 2021). It was not until the 14th century that individual ocean basins began to be distinguished; however, as Te Punga Somerville (2017) reminds us, oceans do not name themselves, and this Eurocentric etymological lineage erases the many languages that have named the ocean(s) to reflect distinct human relationships with these bodies of water. Lynn Jacobs, Director of Environment Protection with the Kahnawà:ke Environment Protection Office, discusses this limitation: "Why the term ocean? It feels disconnected from our reality. For us everything is interconnected: saltwater, freshwater, all the way down to the smallest stream" (MacNeil, 2020, p. 8). Connections to freshwater, local waterways, and watersheds were prevalent in conversations within Inland Canada and the St. Lawrence Region, as they provided a source of transportation, food, employment, recreation, and spirituality akin to how coastal communities experienced the ocean. It quickly became clear that freshwater and watershed issues were fundamentally a part of what ocean literacy *should* encompass. If all water leads to the ocean, dialogue related to the ocean must include all water that will flow into it.

Within Inuit Nunangat, the ocean mostly exists in a frozen state, used for travel and as a platform for hunting. Sea ice is intimately tied to Inuit culture and the historically nomadic way of life (Inuit Circumpolar Council Canada, 2008). In its frozen state, the ocean serves as an extension of the land, and, as noted in the Inuit Nunangat regional discussions and interviews, the terms "ocean," "ice," and "land" are often used interchangeably. Douglas Esagok, an Inuit hunter from the community of Inuvik, shared the following:

One thing I always tell people about the ocean is how important it is to keep our ocean clean, because everything depends on it. [...] The salts the ocean has for your caribou in the wintertime, they go out on the sea ice and they dig down for ice and they lick the salt from the surface of the ice. Our people are originally from the ocean, and everything—our culture—is what we learn from living in the ocean or on the coast. (As cited in Hoover, 2020, p. 7)

For Inuit and many coastal peoples, these relationships with ocean, land, water, and especially sea ice are increasingly destabilized because of the climate crisis and its uneven impacts on vulnerable communities around the world.

In each of the five regions, recommendations moving forward highlighted a more integrated, holistic approach to understanding the ocean. They included bridging inland and coastal perspectives (Pacific), providing space for dialogue and collaboration between ocean and water experts (Inland Canada), adopting a watershed and/or a systems approach to making the ocean visible and accessible (Atlantic), emphasizing the interconnectedness of waters (St. Lawrence/ Great Lakes), and reframing terminology to include land, water, coasts, and sea ice (Inuit Nunangat). These conversations highlight the need to expand our use of the word "ocean" to include coastal and inland Canadians' connections to the

ocean and honour the diverse ways in which Canadians experience the ocean. The use of “ocean continuum” in Canada has been put forward as an initial first step in building a more inclusive “ocean” community as our definition of the ocean expands to include more geographic and cultural perspectives. This recommendation is also connected to a growing awareness among Canadians of a changing ocean due to climate change, biodiversity loss, and other anthropogenic changes that are resulting in fundamental shifts in human relationships with the very idea of the ocean (Lubchenco & Gaines, 2019).

However, we recognize that putting forth the term “ocean continuum” adds to the already jumbled lexicon of ocean terminology, and in so doing, risks the same limitations and potential liabilities of lingering in a conceptualization that is rooted in language alone. This is a key point that we will return to in the article.

The Baggage of Literacy

In the world of education, literacy is a concept largely used in Anglophone discourses to describe four components: “Literacy as a set of skills, literacy as applied and socially situated, literacy as a learning process, and literacy as text” (Fransman, 2006, p. 3). Often, the term “literacy” is used broadly as a metaphor for any skill or competence, including media literacy, computer literacy, cultural literacy, etc. Most relevant for our discussion is the term “environmental literacy,” considered to be one of the oldest non-textual usages of the concept. Coined by Charles E. Roth in 1968, “environmental literacy is essentially the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems” (Disinger & Roth, 1992, p. 3). Similarly, the term “ecoliteracy” continues to circulate in environmental education discourses. Its definition as “understanding how people and societies relate to each other and natural systems in a sustainable way” (Kwauk, 2020, p. 11) closely parallels that of ocean literacy. Equally, the term “sustainability literacy,” which is often defined as becoming “empowered to read society critically, discovering insights into the unsustainable trajectory that society is on and the social structures that underpin this trajectory... [and] become empowered to engage with those social structures” (Stibbe & Luna, 2009, p. 11), confers a threshold of knowledge and critical action to the term literacy.

In this light, it might seem logical to apply the concept of “literacy” to describe diverse processes that can help people learn about their relationship with the ocean. Desired outcomes of these processes include increasing the stewardship, civic engagement, and justice actions required to minimize human impacts on the ocean, restore ocean health, ensure equitable access to ocean benefits, and increase protection from ocean risks. However, although literacy can be used to describe a wide range of educational contexts, criticisms levelled at the term “have started to perceive literacy as an instrument of power and oppression, legitimating dominant discourses and endangering languages, cultures, and

local knowledge” (Fransman, 2006, p.3). In addition to this critique of literacy as instrumentalist and imperial in low- and middle-income educational contexts and countries, “ecoliteracy is low on the to-do list when basic literacy is still an unmet global goal” (Kwauk, 2020, p. 9). Outside of education researchers and practitioners (and validated by our study participants), the term literacy often conjures an association with school-based reading and writing, which in turn underestimates the out-of-school knowledge that learners bring to their literacy skills and undermines the importance of oral discourse. Although literacy has arguably evolved to be understood in the context of multiple literacies and one’s ability to “participate in society” (UNESCO, n.d., para. 1), it remains a deficit-based term, implying the need to address a gap in society and raising the following questions: Whose literacy? For what purposes? To what end?

From conversations across Canada with interview participants, the research team confirmed a mixed connection to the term “literacy.” Many participants considered the term appropriate and saw a direct correlation with the common understanding of literacies as skills or competencies; for these participants, a high-level term was considered useful in uniting practices that might not otherwise have a common label. Most participants, however, voiced some form of concern about the term “literacy.” Participants in Inland Canada highlighted its negative connotations, including the implied deficit of knowledge as well as the binary opposition with the stigmatizing term “illiteracy.” In Atlantic Canada, Shannon Harding, Director of Programs, Clean Foundation, expressed that “the term ‘literacy’ comes with a lot of baggage,” noting that “we often use ‘ocean knowledge’ or ‘ocean understanding’ whenever we’re working with the public [...]. Ocean literacy is the formal term, it’s the suit that all the other less formal terms fit within” (Ostertag & Ammendolia, 2020, p.8). In the Pacific Region, Joachim Carolsfeld, Executive Director, World Fisheries Trust, commented that “literacy does not express the importance of empathy and emotional connection that we see as key elements of policy decisions and individual behaviour” (Yumagulova, 2020, p.6). Within Inuit Nunangat, 77% of interview participants had never heard the term “ocean literacy” (Hoover, 2020), and many expressed concerns that the term limits one’s connection to and negates cultural interactions with the ocean. These tensions surrounding the term, although ultimately unresolved, were often mitigated by alternative words and phrases that embodied ocean literacy regionally and culturally, as discussed in the section below.

Ocean Literacy in Relation to Indigenous Knowledges

Beyond the limitations of the words “ocean” and “literacy,” the combined term is equally insufficient for encompassing distinct worldviews and lived experiences. The overwhelming international focus on education and formal learning was found to poorly represent the broad perspectives and diversity of knowledge and relationships to the ocean within Canada. The term “ocean literacy” was

most notably found to be misplaced among Indigenous communities, as it was inadequate in capturing different ways of knowing. Stewart (2019) writes that “a vital difference between American, European, and other international versions of ocean literacy is that Canadians are working to responsively value and respect Traditional Indigenous Knowledge and Inuit Qaujimajatuqangit,” though the success of this is only beginning to be reflected in the ocean literacy lexicon.

For example, Hailhzaqv (Heiltsuk) of the central Pacific coast are in the process of developing the *Heiltsuk Ocean Act*, bearing the title *Hailkilaxsi ci slá w áw áxtusa gáyáqla qñts dm̄xsāxv*, or “to respect and take care of our ocean relatives” (West Coast Environmental Law, 2019a, 2019b). Hillistis Pauline Waterfall describes this document as “an integral part of our Gvi’las (traditional laws) and our Heiltsuk Constitution. Th[is] Ocean Act encompasses the principles of respecting and taking care of our living ocean and our marine waa-waaxtoos (family)” (Glithero et al., 2020, p.8). The principle of “our ocean relatives” speaks to a deeper, inherent bond existing between humans and the ocean, shaping lived experiences that have impact beyond being ocean “literate.”

For Inuit, ocean literacy was also found to be insufficient within the frame of Inuit Qaujimajatuqangit (IQ), a term to describe Inuit epistemology, which translates as “that which Inuit have always known” (Karetak et al., 2017). More broadly, ocean literacy was found to be inadequate in expressing the ways people learn through culture and other non-education-based methods. As renowned Inuit leader Mary Simon noted,

over millennia, there has been little need for any formal discussion of “ocean literacy” as Inuit lived, breathed, and ate near or from the ocean and lived in relative harmony with animals and seasons. Inuit language interweaves values and numerous words for elements of the ocean that are based on thousands of years of experience, knowledge, and observations. (Glithero et al., 2020, p.13)

IQ instead directly relates to Inuit understanding of, and relationship with the ocean, which includes ice, land, and coasts, and which encompasses the entire realm of Inuit experience in the world and the values, principles, beliefs, and skills that have evolved as a result of that experience (Karetak et al., 2017).

In the Atlantic Region, Mi’kmaq participants pointed to the practice of *Etuaptmunk* (Two-Eyed Seeing) as shared by Elder Albert Marshall (Institute for Integrative Science and Health, n.d. para. 3; Reid et al., 2020). *Etuaptmunk* expresses how Indigenous, Western, and local knowledge systems can be brought together “to better understand the natural world. [*Etuaptmunk*] governs what Mi’kmaw do and why” (Apoqñmatulti’k, n.d., para. 2). In turn, the concept of *Etuaptmunk* furthers *Netukulimk*, which relates to “the use of the natural bounty provided by the creator for the self-support and well-being of the individual and the community [...] achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment” (Unama’ki Institute of Natural Resources,

n.d., para. 1). These concepts and practices acknowledge that there are “reciprocal responsibilities” between those humans and nature who share a given territory.

The current international understanding of ocean literacy centres around seven scientific principles as originally defined in the United States-based framework, “Ocean Literacy: The Essential Principles and Fundamental Concepts of Ocean Sciences for Learners of All Ages” (National Oceanic and Atmospheric Administration, 2013). As noted in the introduction of the framework, this definition fails to account for the vast, diverse, and meaningful contributions that Indigenous perspectives bring to the term ocean literacy. What is more evident is how the international usage of ocean literacy lacks Indigenous embodiments of human relationships with the ocean and the natural world. If Canada is to adopt approaches to ocean literacy that are nationally, regionally, linguistically, and culturally relevant, then Indigenous knowledges, languages, and rights must be at the forefront of these conversations. From our collective perspective, this is to be achieved through “reciprocal responsibilities” as named above, meaning the broader ocean literacy community must ensure that inclusion of Indigenous worldviews is not extractive or tokenistic, but is rather reciprocal and mutually beneficial, first and foremost for Indigenous peoples.

Into Murky Waters: Translating Ocean Literacy

The complexity of human relationships with a changing ocean reveals how understanding ocean literacy in Canada cannot be fully realized through the lens of English alone. In this officially bilingual country, there are nearly eight million Francophones spread across all 13 provinces and territories (Statistics Canada, 2017). In addition, there are roughly 70 living Indigenous languages, and at least 22 other significant language communities (100,000+ speakers) have been identified outside of English, French, and Indigenous languages (Statistics Canada, 2017). These diverse linguistic communities have distinct relationships and associations with the ocean, necessitating culturally and linguistically relevant ocean literacy terminology.

From its inception, COLC has operated as a bilingual English-French organization, reflecting the need, as a national entity, to honour both official language communities in Canada. In French, COLC exists as the *Coalition canadienne de la connaissance de l'océan*. The English and French titles, however, are not entirely equivalent: Each word of the name of the Canadian Ocean Literacy Coalition was chosen with deliberate care and forethought by the founding partners of COLC and based on widely accepted international terminology; *Coalition canadienne de la connaissance de l'océan* is the French translation of this decision in English.

In the process of translation, the task of the translator is to spin words from one language into another, typically with the goal of making text read as though it were never written in another language to begin with. From outside

this field, translation might appear to be an exercise of swapping a word in one language for its direct equivalent in another, following a literal translation approach (Nabokov, 1958/1995). However, what is often more important is the notion of equivalency or finding equivalent *concepts* or *referents* (Vinay & Darbelnet, 1995). In adopting a localized approach to translation, in which the translation is rooted in the conceptual realities of the target audience (the destined readers), the reader does not feel displaced or as though they are reading a foreign text. Localization includes translation and other factors, such as interpretation, cultural references, idioms, and local linguistic issues, requiring translators to serve as “cultural interpreters” (Katan, 2014). Without this cultural mediation, many conversations and nuances are missed and text is replaced rather than co-created (Conway 2012). Even more challenging is translating a term that does not already exist in a target language (the language being translated into) or benefit from a robust body of resources and examples of usage. This asymmetrical prevalence of translation from English into more “peripheral” (Conway, 2012) languages accentuates the power imbalances between sociolinguistic communities as well as the decline of linguistic diversity globally (‘Utoikamanu, n.d.). Such is the case of ocean literacy in French, Indigenous, and other languages (addressed in next section).

While COLC in English benefited from discussion, deliberation, and internationally recognized terminology, the *Coalition canadienne de la connaissance de l’océan* was chosen as the best equivalent by the translator, or translation team, at the time of COLC’s launch in 2018. *Connaissance de l’océan* was the term carried into COLC’s broader consultation and engagement efforts in 2019 and used throughout the data collection in the *Understanding Ocean Literacy in Canada* study. However, in what is an otherwise slim repertoire of ocean literacy resources in French, there are at least two other versions of the term in use, including *alphabétisation des océans*, as seen in the Intergovernmental Oceanographic Commission of UNESCO’s Ocean Literacy Portal (<https://oceanliteracy.unesco.org/>), and *littératie océanique*, as appears on the Ocean School platform that was developed by the National Film Board and Dalhousie University (<https://oceanschool.nfb.ca/>). In UNESCO’s French version of the *Ocean Literacy for All: A Toolkit*, *connaissance des océans* and *littératie océanique* are used interchangeably.

Of the 20 French interviews (of 188 total), all conducted within the St. Lawrence and Atlantic Regions, few interview participants were familiar with either ocean literacy or *connaissance de l’océan*, and none of these respondents indicated using the term within the context of their work. Neither term garnered strong opposition, but nor was there any strong interest. It was, however, noted that *connaissance* is much less emotionally charged than “literacy” and overwhelmingly associated with scientific knowledge. In the St. Lawrence Region, a holistic approach was preferred, one that recognizes an ecosystem continuum rather than an ocean-specific expression. This could arguably be

attributed to the prominence of the St. Lawrence River as a freshwater system that flows into a saltwater estuary before opening into the Gulf of St. Lawrence and draining into the Atlantic. In fact, in French, there are two words for river: *rivière* for an inland waterway and *fleuve* for the waterways that connect directly to an ocean basin. In understanding that it is, *bel et bien*, the *fleuve Saint-Laurent* (and not *rivière!*), it is perhaps no wonder that an ecosystem literacy is closer to communicating “ocean literacy” related work in this dynamic region.

While these findings begin to uncover how to unite ocean literacy work in Canada across official languages, they do not yet point to any satisfying conclusion in the search for “ocean literacy” in French. Throughout the process of co-developing the Canadian Ocean Literacy Strategy, conversations regarding terminology in French have been carried forward, with initial research findings supplemented by workshops and intentional conversation circles. Although those engaged in this work so far are predominantly Québécoise, actively holding space and setting aside resources for the development of localized resources across the country can hopefully serve as small steps toward finding language that conveys ocean literacy to Canadian Francophonie at large.

Wading Deeper: Translating into Inuktitut

As a primarily Anglophone and settler research team, wading into the complexity of ocean literacy terminology was extremely challenging in the context of Indigenous languages. Across the country, it was clearly voiced that further time and resources need to be allocated to the co-creation of opportunities that bridge the term ocean literacy across language communities and build the understanding in a culturally appropriate manner.

Issues of language, power, and colonialism are deeply intertwined in understanding and naming the global ocean; attempts to translate between dominant languages and Indigenous languages only accentuate the tensions and power imbalances inherent in these human–ocean relationships. The recent proliferation of interest in writing about the “ocean” continues to centre European languages, thus perpetuating the colonial erasure of Indigenous Peoples who, as Te Punga Somerville (2017) writes, “have already been here” (p. 28). In considering the linguistic challenges of naming the ocean(s), particularly Oceania/the Pacific Ocean/Te Moananui-a-Kiwa, Te Punga Somerville suggests that “It is a truth universally acknowledged that there is no singular name for our ocean” (p. 25). For people throughout this region, Te Punga Somerville continues, “We can say that communities across the region collectively name the ocean through these specific names, but we can equally say there are as many oceans as there are languages here. How many is that? Over 1200 at last count” (p. 27). This notion that there are as many oceans as there are languages to name the ocean centres Indigenous knowledges, languages, and rights while also countering the North Atlantic/Anglophone/Eurocentric conceptualizations that recommend naming only one global ocean.

In an ideal world, all texts and resources would be given the space and means to be developed within the target language community, ensuring maximum relevance and community ownership of terms and concepts. However, in reality, with our resources and capacity, translation becomes a vital tool for moving toward sharing data more equitably, creating inclusive research, and ensuring materials reach the relevant audiences. Although we acknowledge the limited nature of ocean literacy in encompassing Indigenous worldviews, this perceived failing is also based on conversations that are taking place largely in English, which therefore do not take into consideration the numerous potential phrasings and nuances in another language. Although COLC has thus far only been able to lead ocean literacy exchanges and dialogues in English and French, perhaps the success of this translation lies in Inuktitut speakers' opportunity to give space to new words or ideas beyond the trappings of English.

Learning to Listen to Many Ocean Stories

Ocean literacy is a broad, internationally recognizable term, situated within an established community of practice and growing body of research (Borja et al., 2020). However, it is also, at least in a Canadian context and depending on the audience, an imperfect, problematic, narrow, irrelevant, exclusive, and/or unexciting term. The *Understanding Ocean Literacy in Canada* study, which directly informed the co-development of *Land, Water, Ocean, Us: A Canadian Ocean Literacy Strategy* (COLC, 2021b), was led by a small, all-female research team, with limited time and resources, while dealing with the additional challenges imposed by a global public health pandemic. And yet, of all the challenges faced in co-building an evidence-based, community-driven national strategy, the most persistent and significant sticking point has been the very term around which the project itself is built.

Such a situation leaves us with something of a paradox. After two years of research and engagement that has received input from over 3,000 Canadians, ocean literacy remains a dissatisfactory term. And yet, to break away from ocean literacy would be to remove the only label that has, as of yet, been able to unite the breadth of work that Canadians believe it should include. To continue with ocean literacy is, in many ways, contradictory to what we heard and, some would argue, harmful. And yet, to scrap ocean literacy would remove the scaffolding of the community and momentum that has propelled this project to where it is now and distance Canadian efforts from ongoing international dialogues and communities of practice. This dilemma is not new to the field of environmental education, which has struggled for decades with the proliferation of terminology that includes Education for Sustainable Development, Sustainability Education, and place-based education, among many others (Jickling & Sterling, 2017). With this in mind, Jickling and Sterling (2017) caution that “we think that endless pursuit of new signifiers will be dissatisfying and ultimately empty” (p. 6). As an alternative, the authors recommend a “fundamental re-thinking of education

and its purposes in a rapidly changing global context” (p. 6). If we are to heed this advice, where do we go from here?

To begin with, advancing ocean literacy in Canada will only be achieved by broadening our current understanding of what the ocean means for people in diverse contexts. Fostering strong relationships to land, freshwater, coastal areas, sea ice, and the open ocean—broadly understood as an ocean continuum—can be helpful for better expressing the interconnection of all “ocean features.” These relationships can also be strengthened by revitalizing Indigenous languages and creating space for linguistic diversity that allows us to engage with the thousands of oceans as they are known within distinct linguistic, cultural, and regional contexts. We suggest that Te Punga Somerville’s (2017) recommendation for her field of Ocean Studies is apt for this discussion on ocean literacy terminology: “I want to ask whether Ocean Studies might be better understood as if it were itself an ocean: without a singular starting point or origin; endlessly circulating. Not beyond genealogy, because nothing is, but possessed of a genealogy that is impossibly and beautifully wide” (p. 28). Rather than defining ocean literacy narrowly, that is according to Western, Anglophone, scientific ways of knowing that are deeply embedded in colonial practices of dispossession, erasure, and conquest, how might our relationship with the ocean change if dominant discourses stepped aside to allow other voices to emerge?

In addition to opening up the word “ocean” to include marginalized and silenced relationships with the ocean, reconceptualizing “literacy” as listening and storytelling practices that include oral and other naming practices (e.g., art, food, ceremony, dance) connected to land, water, and the ocean moves us beyond the deficit-based, instrumentalist, and narrowly-defined textual understandings of literacy without moving beyond the term itself. In fact, this reconceptualization opens up the term to multimodal, embodied, justice-oriented literacies (Schroeter, 2019) and the diverse ways in which ocean knowledges, ocean values, and ocean actions are at the heart of ocean literacy. While conceptualizing the ocean as a continuum is a first step in reframing this mindset, we acknowledge that as Canada moves into implementing a national strategy, we open the door for more conversations and progress in the next few years.

There are very real challenges that confront us in efforts to reconceptualize ocean literacy to include lived experiences and varied ways of knowing—ones that are outside of textual understandings of “literacy” and which may not always be adequately shared or understood in the conventional Western Anglophone paradigm (including the paradox of this very article that attempts to explore these tensions from within the written English language). Reserving space and time to collectively develop words and phrases that more fully represent the concept of ocean literacy is critical to ensuring greater relevance and inclusivity. Yet, there is an urgency to this work, as, with or without the perfect words, the national and international community is moving quickly and the crises facing the ocean require immediate action. The United Nations Decade of Ocean Science for Sustainable Development has launched, as has the first phase of

the Canadian Ocean Literacy Strategy and Implementation Plan (COLC, 2021a). Nevertheless, amidst these intense and important activities both nationally and internationally, questions about terminology cannot be sidelined by the urgent need for concrete ocean actions. Instead of shying away from the problematics of ocean literacy terminology, we can actively commit to creating spaces at the table for diverse perspectives to be shared and, more importantly, to be heard. For instance, the National Strategy's *Implementation Plan: Pathways for Collaboration* (COLC, 2021a) commits to supporting French and Indigenous language communities in the development of, and continued access to, multi-language resources and program offerings. It is important to continue funding translation efforts that enable materials to be available within and across diverse linguistic communities. Creating the time, space, and expertise to provide COLC research reports and the National Strategy and Implementation Plan in English, French, and Inuktitut was undeniably challenging for a small team to achieve in the context of the national study and National Strategy efforts. However, the importance of this commitment cannot be underestimated.

If we can learn anything from ocean literacy terminology, it is that literacy is an invitation into complicated conversations. Rather than moving *beyond* the term by definitively accepting or rejecting "ocean literacy," whereby we risk denying both the valid critiques and the merits of the term, we suggest that staying "beside" (Sedgwick, 2003) the term creates space for marginalized voices to redefine both ocean(s) and literacy in generative ways. As Kosofsky Sedgwick (2003) writes, "the irreducibly spatial positionality of beside also seems to offer some useful resistance to the ease with which beneath and beyond turn from spatial descriptors into implicit narratives of, respectively, origin and telos" (p. 8). From this position of *beside* the dominant narratives of the ocean, we reimagine inclusive, more fluid storytelling practices based on relationships that create space for all voices to be heard and, most importantly, we learn new ways to listen and take action for the common good. In recognition of these central tensions to this work, there is also a central truth to which we can always return: The ocean has a place in all our stories. We just might each have a different way of telling them.

Acknowledgements

The authors would like to thank the contributions and support of our extended research team, including Justine Ammendolia, Noémie Roy, Shannon Monk, David Shiffman, Boris Worm, Chris Milley, Claudia Aporta, David Zandvliet, Sonia Wesche, Whitney Lackenbauer, and our anonymous reviewers.

We are grateful for the financial support from Fisheries and Oceans Canada, Ocean Frontier Institute, Mitacs, Marine Environmental Observation, Prediction and Response Network (MEOPAR), NIVA Inc., Students on Ice, Marine Institute, Ocean Wise, Clean Foundation, Stratos Inc., JASCO Applied Sciences, Ocean Networks Canada, and Environment and Climate Change Canada.

Notes

Research ethics for this study was approved by the following: Dalhousie University (REB# 2019-4891) for National, Atlantic and Inland research protocols; Simon Fraser University (REB# 2019s0334) for Pacific research protocols; University of Ottawa (# S-09-19-5040) for St. Lawrence research protocols; and Trent University (IEC/DERC Ethics #25944) for Inuit Nunangat research protocols, with further approvals granted by Aurora Research Institute (#16679) and the Nunatsiavut Government Research Advisory Committee (#10269769). Inuit Nunangat research exemptions were granted by the Nunavut Research Institute and Nunavik Research Centre as research did not take place on territorial lands.

References

- Ammendolia, J., Glithero, L., MacNeil, S., & Monk, S. (2020). *Understanding Ocean Literacy in Canada: Inland Canada Regional Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/07/COLC_Inland-Canada-Regional-Report_Final.pdf
- Apoqnmatliti'k. (n.d.). *Indigenous and local knowledge*. Retrieved January 4, 2021, from <https://www.apoqnmatlitik.ca/ways-of-knowing>
- Borja, A., Santoro, F., Scowcroft, G., Fletcher, S., & Strosser, P. (2020). Editorial: Connecting people to their oceans: Issues and options for effective Ocean Literacy. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2019.00837>
- Canadian Ocean Literacy Coalition. (2021a). *Implementation Plan: Pathways for Collaboration*. Retrieved from: https://colcoalition.ca/wp-content/uploads/2021/03/Implementation_Plan_Pathways_for_Collaboration_March_2021.pdf
- Canadian Ocean Literacy Coalition. (2021b). *Land, Water, Ocean, Us: A Canadian Ocean Literacy Strategy*. Retrieved from: https://colcoalition.ca/wp-content/uploads/2021/03/Land-Water-Ocean-Us_A-Canadian-Ocean-Literacy-Strategy_March-2021.pdf
- Cava, F., Schoedinger, S., Strang, C., & Tuddenham, P. (2005). *Science Content and Standards for Ocean Literacy: A Report on Ocean Literacy*. Retrieved May 2020 from https://coexploration.org/oceanliteracy/documents/OLit2004-05_Final_Report.pdf
- Conway, K. (2012). Cultural translation. In Y. Gambier & L. van Doorslaer (Eds.), *Handbook of Translation Studies* (4th ed., pp. 21–25). John Benjamins Publishing.
- Disinger, J. F., & Roth, C. E. (1992). Environmental literacy. *ERIC Clearinghouse for Science Mathematics and Environmental Education*. ERIC/CSMEE Digest. <https://files.eric.ed.gov/fulltext/ED351201.pdf>
- Fielding, S., Copley, J. T., & Mills, R. A. (2019). Exploring our oceans: Using the global classroom to develop Ocean Literacy. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2019.00340>
- Fisheries and Oceans Canada. (2021). *Canada's oceans agenda*. Retrieved January 2021 from: <https://dfo-mpo.gc.ca/campaign-campagne/oceans/index-eng.html>

- Fisheries and Oceans Canada. (2011). *Canada's state of the oceans report, 2012*. <https://waves-vagues.dfo-mpo.gc.ca/Library/346701.pdf>
- Fisheries and Oceans Canada. (2002). *Canada's oceans strategy: Our oceans, our future*. <https://waves-vagues.dfo-mpo.gc.ca/Library/264675.pdf>
- Fransman, J. (2006). *Understanding literacy: A concept paper* (Paper commissioned for the EFA Global Monitoring Report 2006, Literacy for Life). <https://unesdoc.unesco.org/ark:/48223/pf0000145986>
- Glithero, L. (2020). *Understanding Ocean Literacy in Canada: National Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/08/COLC_National-Report_Final_2020.pdf
- Glithero, L., Simon, M., Waterfall, P., & Watson-Wright, W. (2020). *The heart of our biosphere: Exploring our civic relationship with the ocean in Canada*. Canadian Commission for UNESCO's IdeaLab.
- Glithero, L., & Zandvliet, D. (2020, June). *Canadian ocean literacy survey: Highlight Report*. Canadian Ocean Literacy Coalition. <https://colcoalition.ca/wp-content/uploads/2020/06/COLSurvey-Highlights-Report-FINAL-1.pdf>
- Guest, H., Lotze, H. K., & Wallace, D. (2015). Youth and the sea: Ocean literacy in Nova Scotia, Canada. *Marine Policy*, 58, 98-107. <https://doi.org/10.1016/j.marpol.2015.04.007>
- Hoover, C. (2020) *Understanding Ocean Literacy in Canada: Inuit Nunangat Regional Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/07/COLC_Inuit-Nunangat-Regional-Report_EN_Final_July-2020.pdf
- Institute for Integrative Science and Health, n.d. *Two-eyed seeing*. Retrieved January 4, 2021, from <http://www.integrativescience.ca/Principles/TwoEyedSeeing/>
- Inuit Circumpolar Council Canada. (2008). *The sea ice is our highway An Inuit perspective on transportation in the Arctic*.
- Inuit Tapiriit Kanatami. (2020). *Inuit Nunangat map*. <https://www.itk.ca/inuit-nunangat-map/>
- Inuit Tapiriit Kanatami. (2019). *ITK Board Of Directors adopts Inuktitut Qaliujaaqpait as unified orthography for Inuktitut*. <https://www.itk.ca/itk-board-of-directors-adopts-inuktitut-qaliujaaqpait-as-unified-orthography-for-inuktitut/>
- Inuit Tapiriit Kanatami. (2018). *National Inuit Strategy on Research*. <https://www.itk.ca/wp-content/uploads/2020/10/ITK-National-Inuit-Strategy-on-Research.pdf>
- Inuit Tapiriit Kanatami. (2004). *Inuit History and Heritage*. http://www.itk.ca/sites/default/files/5000YearHeritage_0.pdf
- Jickling, B., & Sterling, S. (2017). Post-sustainability and environmental education: Framing issues. In: B. Jickling & S. Sterling (Eds.), *Post-sustainability and environmental education: Remaking Education for the Future* (pp. 1-11). Palgrave MacMillan. https://doi-org.proxy.lib.sfu.ca/10.1007/978-3-319-51322-5_1
- Karetak, J., Tester, F., & Tagalik, S. (2017). *Inuit Qaujimagatuqangit: What Inuit have always known to be true*. Fernwood Publishing.
- Katan, D. (2014) *Translating cultures: An introduction for translators, interpreters and mediators* (2nd ed.). Routledge. https://books.google.com/books?hl=en&lr=&id=OpK3AwAAQBAJ&oi=fnd&pg=PP1&dq=translation+localization+worldview&ots=eCHwhLDxC&sig=KdjGfQ0dHiPKuT9N2JCyrrn_vt5k#v=onepage&q&f=false

- Kopke, K., Black, J., & Dozier, A. (2019, February 19). Stepping out of the ivory tower for Ocean Literacy. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2019.00060>
- Kwauk, C. (2020). *Roadblocks to quality education in a time of climate change*. Center for Universal Education at Brookings. <https://www.brookings.edu/wp-content/uploads/2020/02/Roadblocks-to-quality-education-in-a-time-of-climate-change-FINALpdf?fbclid=IwAR1JEURYgyZJeiY7K5rbLjYGbswu8mAz2HkpxwspVjprRFohqvL8eQDCfXM>
- Lubchenco, J. and Gaines, S. (2019). A new narrative for the ocean. *Science*, 364, pp. 991. Retrieved from: <https://science.sciencemag.org/content/364/6444/911.abstract>
- MacNeil, S. (2020) *Understanding Ocean Literacy in Canada: St. Lawrence Regional Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/07/COLC_St.-Lawrence-Regional-Report_Final.pdf
- McKinley, E., Acott, T., & Stojanovic, T. (2019). Socio-cultural dimensions of marine spatial planning. In J. Zaucha & K. Gee (Eds.), *Maritime spatial planning: Past, present, future* (pp. 151-174). Springer International Publishing. https://doi.org/10.1007/978-3-319-98696-8_7
- McKinley, E., & Fletcher, S. (2010). Individual responsibility for the oceans? An evaluation of marine citizenship by UK marine practitioners. *Ocean & Coastal Management* 53(7), 379-384
- Nabokov, V. (1992). Problems of translation: Onegin in English. In R. Schulte & J. Biguenet, (Eds.), *Theories of translation: An anthology of essays from Dryden to Derrida* (pp. 127-143). University of Chicago Press. (Reprinted from *Partisan Review*, 1955, Fall, 22[4], 498-512.)
- Nanos. (2019, December). *Large majority of Canadians agree that the ocean plays an important role in Canada's economy and would like Canada to be an international leader in ocean protection: COLC survey summary*. (Submission 2019-1512). <https://colcoalition.ca/colc-publications/national-reports/national-survey/>
- National Oceanic and Atmospheric Administration. (2013, March). Ocean Literacy: The essential principles and fundamental concepts of Ocean Sciences for learners of all ages (version 2). <https://www.coexploration.org/oceanliteracy/documents/OceanLitChart.pdf>
- Online Etymology Dictionary. (2021). Ocean. In *Online Etymology Dictionary*. Retrieved March 10, 2021, from <https://www.etymonline.com/search?q=ocean>
- Ostertag, J., & Ammendolia, J. (2020). *Understanding Ocean Literacy in Canada: Atlantic Regional Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/07/Atlantic-Regional-Report_Final.pdf
- Rasmussen, D., & Akulukjuk, T. (2009). "My father was told to talk to the environment first before anything else": Arctic environmental education in the language of the land. In M. McKenzie, P. Hart, H. Bai, & B. Jickling (Eds.), *Fields of Green: Restoring culture, environment, and education* (pp. 279-294). Hampton Press.
- Reid, A. J., Eckert, L. E., Lane, J.-F., Young, N., Hinch, S. G., Darimont, C. T., Cooke, S. J., Ban, N. C., & Marshall, A. (2020). "Two-Eyed Seeing": An Indigenous framework to transform fisheries research and management. *Fish and Fisheries*, 22(2), 243-261 <https://doi.org/10.1111/faf.12516>
- Roy, N. (2020). *Youth and Ocean Literacy in Canada: Key findings and recommendations*. Canadian Ocean Literacy Coalition.
- Santoro, F., Santin, S., Scowcroft, G., Fauville, G., & Tuddenham, P. (2017). *Ocean Literacy for all: A toolkit* (IOC Manuals and Guides, 80). IOC/UNESCO & UNESCO Venice Office. <https://unesdoc.unesco.org/ark:/48223/pf0000260721>

- Schroeter, S. (2019). Embodying difference: A case for anti-racist and decolonizing approaches to multiliteracies. *Studies in Social Justice*, 13(1), 142–158.
- Scully, S. (2018). *Ocean Literacy in Canada: Literature review*. Canadian Ocean Literacy Coalition. <https://colcoalition.ca/wp-content/uploads/2020/02/literature-review-web.pdf>
- Sedgwick, E. K. (2003). *Touching feeling: Affect, pedagogy, performativity*. Duke University Press.
- Shiffman, D., Yumagulova, L., & Glithero, L. (2020) *Ocean Literacy in the Canadian media: Highlights report*. Canadian Ocean Literacy Coalition.
- Shorefast Foundation (2016) *The New Ocean Ethic 2016*. <https://www.shorefast.org/perch/resources/shorefast-foundation-new-ocean-ethic-booklet-2016.pdf>
- Statistics Canada. (2017). *Linguistic diversity and multilingualism in Canadian homes: Census of Population, 2016*. <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016010/98-200-x2016010-eng.pdf>
- Stewart, A. (2019). *What is Canadian Ocean Literacy?* http://oceanliteracy.ca/wp-content/uploads/What-is-Canadian-Ocean-Literacy-Nov_19.pdf
- Sterling, S. (2009). Ecological intelligence: Viewing the world relationally. In A. Stibbe (Ed.), *The handbook of sustainability literacy: Skills for a changing world* (pp. 77-83). Green Books Ltd.
- Stibbe, A. and Luna, H. (2009). Introduction. In A. Stibbe (Ed.), *The handbook of sustainability literacy: Skills for a changing world* (pp. 9-16). Green Books Ltd.
- Te Punga Somerville, A. (2017). Where oceans come from. *Comparative Literature*; 69(1), 25-31. <https://doi.org/10.1215/00104124-3794579>
- Unama'ki Institute of Natural Resources. (n.d.). *Netukulimk*. Retrieved January 4, 2020, from <https://www.uinr.ca/programs/netukulimk/>
- UNESCO. (n.d.). *Literacy*. Retrieved January 10, 2021, from <https://en.unesco.org/themes/literacy>
- Utoikamanu, F. (n.d.). Safeguarding cultural and linguistic diversity in the context of global citizenship. *UN Chronicle*. <https://www.un.org/en/chronicle/article/safeguarding-cultural-and-linguistic-diversity-context-global-citizenship>
- Vinay, J.-P., & Darbelnet, J. (1995). *Comparative stylistics of French and English: A methodology for translation* (J. C. Sager & M.-J. Hamel, Trans.). John Benjamins. (Original work published 1958). <https://doi.org/10.1075/btl.11>
- West Coast Environmental Law. (2019a, February 13). Respecting and taking care of our ocean relatives: The creation of the Hailzaqv Nation Oceans Act. *West Coast Environmental Law* <https://www.wcel.org/blog/respecting-and-taking-care-our-ocean-relatives-creation-hailzaqv-nation-oceans-act>
- West Coast Environmental Law [WCELAW]. (2019b, February 13). *Respecting and taking care of our ocean relatives: The creation of the Hailzaqv Nation Oceans Act* [Video]. YouTube. <https://www.youtube.com/watch?v=hho410njyXM>
- Yumagulova, L. (2020). *Understanding Ocean Literacy in Canada: Pacific Regional Report*. Canadian Ocean Literacy Coalition. https://colcoalition.ca/wp-content/uploads/2020/07/COLC_Pacific-Regional-Report_Final.pdf