Eastern Provinces

For the sake of organization, we chose to include Newfoundland and Labrador, New Brunswick, Nova Scotia, and Prince Edward Island in the Eastern provinces.

Newfoundland and Labrador

Newfoundland & Labrador's curriculum is extensive; some curricular documents are very lengthy and include detailed appendices such as assessment rubrics as well as teaching tools and exemplars for teachers. Newfoundland's curriculum aligns with the other Atlantic provinces in some ways such as through Essential Graduation Learnings (2015); the Western and Northern Canadian Protocol for Collaboration in Education (WNCP) (1993) is also credited in their Mathematics program.

The front matter for each curricular area reviewed is consistent in format and of particular note to this review, is that Education for Sustainable Development (ESD) appears in the front matter for each grade divided into three areas: economy, environment, and society and teachers interested in including environmental education can tie into this area even though specific learning outcomes do not explicitly address environmental issues. There is also a general emphasis on local connections, especially in Science. It is also important to note that the approach to ESD espoused seems to encourage not only teaching *about* sustainable development as a topic of interest, but also fostering students' understanding of how to meet their needs without compromising the needs of generations of people that will follow them. However, as debated in environmental education literature, the concept of sustainable development itself is not without controversy as it may be used to superficially justify making status quo societal development practices more efficient rather than promoting deep structural and existential changes (Jickling, 1992).

The Essential Graduation Learnings, knowledge areas deemed needed for success after high school, which are common across all the Atlantic provinces, could also be used to connect environmental education to the front matter curricula, specifically with the Citizenship essential graduation learning strand as it is focused on environmental interdependence in both local and global contexts.

English

English curricula were being revised in Newfoundland and Labrador when last reviewed; they currently range in original date of publication from 2013 to 2016. Key learning outcomes common to the Atlantic provinces also offer flexibility to teachers; for example, Grade 6 students are encouraged to detect examples of bias and the impact bias has on cultures, while in Grade 9 and 12 students consider the power of language and how it can be used to shape and manipulate values. General curriculum outcomes also provide teachers room to use the curriculum to teach about Indigenous environmental issues through student choice in selecting resources, responding to texts, and expressing their experiences through writing.

Within the Kindergarten-Grade 9 English specific curricular outcomes, there are no outcomes that specifically mention engaging with Indigenous environmental issues nor are there in the high school grade levels. However, in Grade 12 in both English Language Arts (ELA) 3201 and ELA 3202 there is a possibility for students interested in critical Indigenous

environmental issues to conduct a research project wherein they advocate for a particular position on a given topic.

Math

Newfoundland and Labrador's math curriculum guidelines not only offer explicit methods to teach the curriculum, they also make direct connections to textbooks used in the region. The original date of release for math curricula range from 2009 to 2016. Grades 1 through 4 do not offer explicit connections to Indigenous environmental issuess; however, beginning in Grade 5, specific learning outcomes could be used to teach about related topics with appropriate resources. For example, within the statistics and probability, and shape and space strands, a teacher could employ reading and graphing data that is locally relevant. The patterns and relations strand focuses on dimensional shapes using diagrams to scale which could be used as well for students to explore environmental issues such as pipelines through their communities. High school math courses continue to provide moments for teachers using data in environmental contexts as well in Math 2201, students could do an inquiry-based research project that connects concepts in math to Indigenous environmental issues. While there are no explicit connections to Indigenous environmental content, teachers have flexibility to use data and themes that connect to local and global issues.

Science

Newfoundland and Labrador's Science curriculum was being redesigned when last reviewed, despite the relatively recent publication date of most documents which ranges from 2010 to 2015.

Most grade levels already offer specific learning outcomes that connect with environmental education. For example, in first grade, students learn about seasons, connections between technology and science, social and environmental contexts, and the characteristics of living things and there are suggestions for teachers to take students outside to explore their living environments. While there are no direct mentions of Indigenous knowledge or content, teachers could make simultaneous connections with environmental topics, especially when supported by knowledgeable colleagues, community members, and possibly resources. Grade 2 continues the trend but with a focus on air and water, and animal growth and changes. The animal growth and changes unit is intentionally left to the end of the year to encourage teachers to take students outside and explore in an outdoor context.

Grade 3 specific learning outcomes are devoted to life and plant science and outcomes related to the Pan-Canadian Science outcomes are referenced. Of particular relevance to this inquiry are outcomes related to Science, Technology, Society, Environment (STSE) that are incorporated throughout the Science curriculum. Grade 4 specific learning outcomes explore rocks, minerals, and erosion as well as habitats and communities. These outcomes can be connected more generally to environmental topics and, again, there is encouragement for teachers to engage students through outdoor experiential approaches. The Grade 5 Science curriculum does not offer much room other than general STSE outcomes, but there is a focus in Grade 6 on life sciences and diversity in living things, including local habitats, which could be linked to environmental education and local Indigenous knowledge. Similarly, Grade 7 focuses

on interactions with ecosystems while grade 8 explores water cycles; the Grade 9 Science curriculum offers less obvious opportunities for connection.

Newfoundland and Labrador's high school Science curriculum has consistent outcomes for Grades 10-12 that could be connected to Indigenous environmental topics, specifically under a stewardship outcome and a focus on maintaining a sustainable environment. As high school Science curricula are streamed into more explicit areas, some courses have less obvious, but not absolutely incommensurable, connections to Indigenous environmental topics such as Physics and Chemistry.

One general science course, Introduction to Science 1206, has some specific learning outcomes that relate to environmental education such as within the life sciences, weather, and chemical reactions units. While not explicitly linked to Indigenous environmental topics, students could be encouraged to make connections through expectations related to considering different perspectives on scientific issues, as well as specific topics such as weather and heat cycles.

The Grade 11 Biology curriculum encourages exploration of biodiversity, dynamic equilibriums, interactions among living things; it also includes outcomes related to students gathering data. Biology 12 has more of a body systems focus, somewhat reducing the ability of teachers to make links to Indigenous environmental topics; however, if approached from a health justice perspective, such connections could still be made.

Additional science courses do relate explicitly to environmental education including Earth Systems 3209 and Environmental Science 3205. Earth Systems 3209 examines the physical earth and Environmental Science 3205 relates directly to this inquiry by offering teachers and students opportunities to learn about environmental education and Indigenous knowledge specifically:

- 1.03 describe the Newfoundland and Labrador transition, from aboriginals[sic], European settlers, to present day, in terms of how they impacted the land (p. 6)

Many other outcomes within Environmental Science support the aims of this project and offer more spaces for teachers to tie into Indigenous knowledge and environmental issues.

Social Studies

Newfoundland and Labrador's Social Studies curriculum focuses on using social studies as a means to empower students to engage in issues-based educational experiences and follows the same structure as the previous subjects with publication dates ranging from 2004 to 2012. Kindergarten to Grade 3 generally focuses on students learning about identity and place, with Grades 1 and 2 having specific outcomes that connect to environmental education through understanding interactions with the environment with an explicit connection in Grade 1:

- 1.3.3 Students will be expected to demonstrate an understanding that Aboriginal peoples' relationship with place has changed over time (p. 133)

In Grade 4, students begin to learn about exploration of places, and ideas such as the relationships between humans and the physical environment, and the political landscape; teachers could link work in this area to Indigenous environmental issues, but there is nothing

explicitly mentioned. Grade 5 explores societies—there are specific outcomes that relate to Indigenous people, however there are also places where further knowledge could be explored, but is left out. For example, in a "Learning about the Past" unit there is no mention of Indigenous people (not to suggest that Indigenous peoples only existed in the past, mind you), while the environment unit focuses on an ancient society in Africa as well as environmental changes over time. Social structures are also studied, but from the inevitably biased singular perspective of the colonizers. However, a unit focused on decision making includes outcomes related to Indigenous cultures such as:

- 4.0 Students are expected to explain the diversity of First Nation and Inuit societies in what later became Canada (c. 1000-1400ce) (p. 72)
- 5.0 Students are expected to explain the decision-making practices used by First Nation and Inuit societies in the Atlantic region (c. 1000-1400ce) (p. 72)
- 6.0 Students are expected to analyse interactions between British and French settlers and First Nation and Inuit societies in the Atlantic region (c. 1650-1800ce) (p. 82)

Grade 6 Social Studies revolves around world cultures, including the relationship between culture and the environment. There is content related to human rights, however there is no specific mention of Indigenous rights or Indigenous cultures. Grade 7 focuses on empowerment and offers one outcome that could be tied to this inquiry:

- 7.3.1 Evaluate the conditions of everyday life for diverse peoples living in British North America in the mid-1800s, including Aboriginal peoples, African-Canadians, and Acadians (p. 66)
- 7.4.3 Analyse the degree of empowerment and disempowerment for Aboriginal peoples in present day Atlantic Canada during this period: Identify the various Aboriginal groups in present day Atlantic Canada during this period; Explore how national policies, treaties and the Indian Act had an impact on the Aboriginal peoples of present day Atlantic Canada (p. 92)

Within Grade 7, there is space for a teacher to tie into concepts related to Indigenous environmental topics as there is an exploration of future trends of economic empowerment and the connection between land resources and economic commodities. Grade 8 looks at the history of Newfoundland and Labrador beginning in the 19th century and offers many connections to Indigenous cultures and room for teachers to look at connections between Indigenous peoples and land. There are also explicit expectations linked to Indigenous relationships with the Land and contemporary issues such as:

- 4.5.10 Identify the basic issues related to Aboriginal land claims in the province (p. 135)
- 4.5.11 Evaluate the impact of non-Aboriginal activities on Aboriginal peoples (p. 135)

Grade 9 focuses on Canadian identity with a geography focus, however, there is no mention of Indigenous people within the topic of Canadian Identity.

Newfoundland and Labrador's high school social studies programs are streamed into history, geography, economy, law, and Newfoundland and Labrador studies. Geography in Grade 10 centres on the relationship between natural and human systems, providing opportunities for teachers to link to content related to Indigenous environmental topics and, more specifically, within the final unit of economic issues. Students need to understand the economic significance of Canada's resources as well as the impact of globalization. History explores Canada's story beginning in 1900, but does have some outcomes directly tied to Indigenous people, including contributions to WWI, but also specifically related to this inquiry such as:

- 7.1 Aboriginal rights: Legislation, women's rights, land claims, self-government (p. 108)
- 7.5 International issues: Peacekeeping, terrorism, environmental issues, humanitarian issues, any other contemporary issues (p. 116)

The Grade 11 unit Canadian Economy focuses on fundamental economic and environmental concepts and offers outcomes that could be linked to Indigenous environmental topics with expectations. For example, a teacher could consider the United Nations' Declaration on the Rights of Indigenous People (2007) in light of:

- 5.2.5 Evaluate the effectiveness of international agreements intended to promote sustainability, e.g., Kyoto Protocol, 1987 Bruntland Report, and United Nations Convention on the Law of the Sea (UNCLOS) (p. 80)

The Law curriculum for Grade 11 mentions Aboriginal people and the law and Newfoundland and Labrador (NFLD) Studies explores culture and local and regional histories with some content related to First Nations and Inuit people, while World Geography in Grade 12 continues the exploration of the relationship between humans and natural systems but also looks at world climate patterns and ecosystems. A unit on economic geography centres on resources including oil, gas, farming, and forests as well as manufacturing. While there is little mention of green industries, the environmental issues related to the previous industries is mentioned. World History in Grade 12 does not explore content related to Indigenous environmental topics.

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