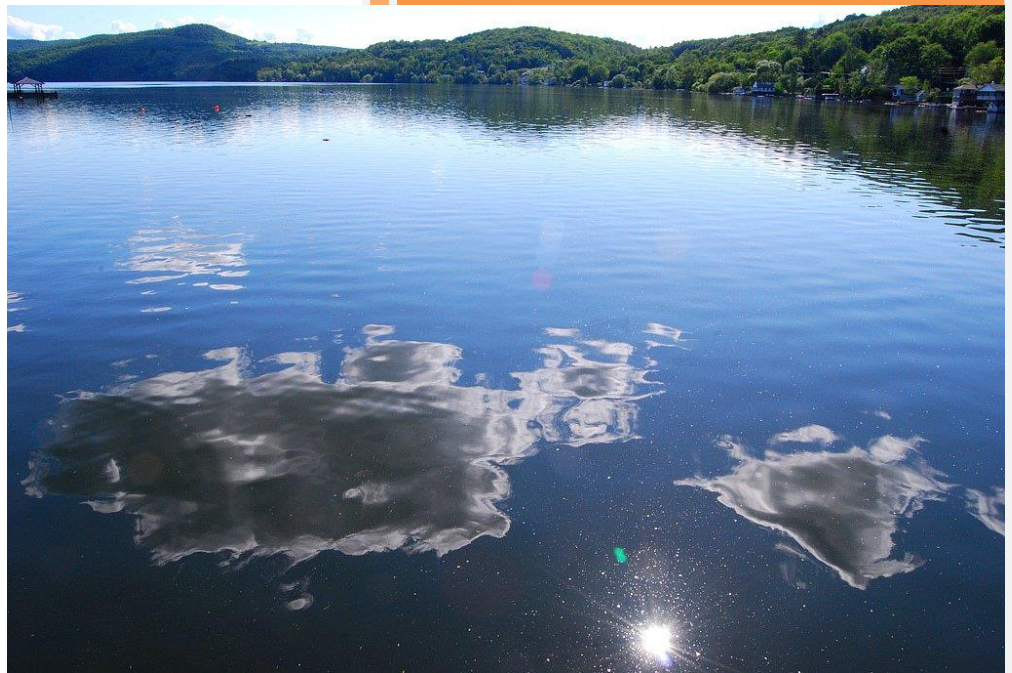




Quebec Lodge Camp Curriculum



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A Curriculum Designed with the Location in Mind

The new Quebec Lodge Camp is located on an unspoiled 70-acre parcel of land, with 185 feet of sandy beachfront on Lake Massawippi, which is located in the Massawippi Valley in the Eastern Townships of Quebec. The Camp occupies a total of 25 acres and the Quebec Lodge Foundation will safeguard the remaining 45 acres of undeveloped woodland in perpetuity by creating a nature preserve. The camp falls within the zone of interest of the Massawippi Conservation Trust (MCT), which reports that the area contains "old growth forest of significant interest... [and] a wide variety of rare or threatened flora and fauna" (MCT, 2014, np). Additionally, it is within an area that is the object of attention of the Appalachian Corridor Organization, a conservation organization. The camp itself is designed to have minimal environmental impact, ranging from structures in place, to land use and practices.

The educational purpose of the camp is to assist campers to acquire dispositions and knowledge leading to commitment to environmental stewardship. The Quebec Lodge Camp Curriculum maximizes the benefits to campers of the particular features of the location. The pedagogical aim of the curriculum is the development of environmental literacy, which is achieved by the camp goals of:

- Teaching about ecological systems and process through experiential learning.
- Developing environmental sensitivity and wonder;
- Fostering healthy interaction with others and the natural world;
- Encouraging a sense of well-being, responsibility, and leadership.

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<https://www.flickr.com/photos/34540842@N08/3634524392/> License:

Foundational Concepts and Structures

The Quebec Lodge Camp Curriculum fosters the development of environmentally conscious citizens; it draws on recent work on environmental literacy carried out in Alberta (ACEE, 2011) and North America (NAAEE, 2010), and incorporates features of the Quebec Education Program (2001, 2004) and the Environmental Education Council of Ohio Guidelines (2000). It draws inspiration from Learning for a Sustainable Future, the Canadian non-profit organization that "promotes perspectives and practices essential to a sustainable future" (LSF, nd). In considering learners' needs, it takes into account the cognitive, (knowledge and thinking), the affective (values and feelings) and the psychomotor (actions and processes).

Considering the Learners

Activities focus on environmental literacy, in keeping with the needs of the campers of different ages. The table below, adapted from the work of Ireland (2013), provides an overview of how knowledge, thinking, values, feelings, actions, and processes are taken into account for the three different age groups that will attend the camp.

| | | <i>Cognitive</i> | <i>Affective</i> | <i>Psychomotor</i> |
|---|-------------|--|---|---|
| Ecological Systems and Processes | 6-8 years | Describing and comparing living and non-living systems | Learning to accept and value the importance of diversity in ecosystems | Discovering, and investigating living and non-living systems and processes |
| | 9-11 years | Describing relationships among fungi, plant animal species and their physical environment | Seeking to discover ecosystems, and learning find a sense of wonder in discoveries | Experientially discovering adaptations, roles and relationships among living being and their environment |
| | 12-15 years | Comparing and contrasting features of terrestrial and aquatic ecosystems | Learning to defend the importance of healthy living systems for all species | Experientially discovering and designing experiments to investigate species and ecosystems |
| | | | | |
| Well-being and Inter-connections | 6-8 years | Explaining one's belonging in the natural world | Becoming aware of how environments affect us; seeking ways to connect to the natural world | Using all senses to explore the natural world individually and with others |
| | 9-11 years | Describing a variety of environments and the sense of connection to them | Expressing concern about socio-ecological issues; finding balance with positive interactions with the natural world | Participating in physical activities in natural environments individually and with others |
| | 12-15 years | Examining ways to improve physical and emotional health through connections to the natural environment | Creating opportunities to inspire others to respond ethically and sensitively to socio-ecological issues | Increasing physical activities in natural environments individually and with others; practicing moments of solitude |
| Adapted from Ireland (2013) | | | | |

Environmental Literacy as the Heart of the Curriculum

The learning activities include exploration, observation, field investigation, experimentation, construction/creation and interaction with field biologists, naturalists and environmental scientists. Activities are complex and interdisciplinary; for example, in exploring habitat and adaptations, campers might replicate birds' nests, which would involve observation, inquiry, sketching, collection of materials, and experimentation.

Making the Best of the Region

Regional locations extend the learning for campers, based on the theme of the particular camp session. Possible sites for field trips include:

Organic and commercial farms, such as Arlington Gardens or the Beurrerie du Patrimoine (Ferme Jean-Noël Groleau),

Orchards, such as at Paradis des Fruits, Dunham;

The Astronomical Observatory at Bishop's University or the Astrolab du Mont-Mégantic;

Parks such as Parc Découverte Nature Baldwin (Mount Pinnacle), Parc de la Gorge de Coaticook, Parc National du Mont Orford, Parc National du Mont Mégantic, Mont Ham, or Mont Gosford;

Social and historical sites such as la Société d'histoire de Sherbrooke or le Musée des Abénakis in Odanak.

Outdoor Ethics at Quebec Lodge Camp

The new Quebec Lodge Camp observes the "Outdoor Ethics" of Leave No Trace Canada, which can be found at www.leavenotrace.ca

The 7 Leave No Trace Principles

1. Plan Ahead and Prepare
2. Travel and Camp on Durable Surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Others

Example of a Theme within the Curriculum

The table below provides one brief example of an overview of how guided activities within the perimeter of the camp will contribute to new knowledge and skills and the development of sensitivity and appreciation for the natural world.

With this particular theme, nature walks, hiking and orienteering would provide opportunities for learning new knowledge, sharing feelings, and carrying out actions contributing to the development of stewardship.

| Exploring Forests and Forest Ecosystems <i>Discovering, and investigating the Undeveloped Woodland at Quebec Lodge Camp</i> | | | | |
|--|-------------|---|---|--|
| | | Cognitive | Affective | Psychomotor |
| Ecological Systems and Processes | 6-8 years | Characteristics of trees, branches, leaves; Species of trees; trees as habitats | Expressing the value the importance of trees to different species | Finding evidence of trees as habitats, using an identification key. |
| | 9-11 years | Characteristics and species of trees; Life cycles; Seed dispersal | Asking questions and identifying new discoveries | Using an identification key; keeping a field journal; finding and sorting seeds; simulating seed dispersal |
| | 12-15 years | Trees as producers of chlorophyll and oxygen; micro-organisms in the forest; threats to forest environments; Ethno-botany | Learning to defend the importance of the forest for all species | Keeping a field journal; extracting chlorophyll; identifying micro-organisms; making tea from spruce twigs |
| Sample Additional Activities Examining bird nests, investigating differences between nests, replicating nests; Field trip to an orchard: Commercial tree growth, trees as food sources. Bark rubbings, papermaking, with used paper and plant fibre. | | | | |

Leadership and Counsellor Qualifications

The camp draws its staff and leadership team from the region to the greatest degree possible, with experience and knowledge of environmental studies and environmental education. Through partnering with the Bishop's University Department of Environmental Science and Bishop's School of Education, Quebec Lodge Camp is able to run orientation sessions on campus to find counsellors who, themselves, demonstrate environmental literacy.

Learning Outcomes of a Sample Camp (Camp Schedule Under Separate Cover)

Understanding Watershed Health: Becoming Stewards of Lake Massawippi

The new Quebec Lodge Camp is located on Lake Massawippi, a freshwater lake located in a section of the Appalachian mountains that straddles the Canada-US border¹. The lake takes its name from the Abenaki word meaning "the big deep lake".² Its main inflow is the Tomifobia River; the only outflow is the Massawippi River. The lake's maximum length is 14.5 km and maximum width is 1.9 km; it is part of a watershed which is 629 sq. km³.

In this week long camp, participating children and youth learn about Lake Massawippi and the watershed. Upon successful completion of fieldwork and exploration, campers are eligible to receive a **Certificate of Lake Stewardship** signed by the Foundation Massawippi Foundation⁴ and Everblue Massawippi⁵ (Lake Massawippi Water Protection Association).

These questions are explored through the week-long camp, Understanding Watershed Health:

- What is a watershed and what are its components?
- What is the watershed of which Lake Massawippi is a part?
- How is the watershed important to people in the area?
- How is the watershed important to other living beings in the area?
- How do people impact the watershed?
- What is the underwater ecosystem?

¹ http://www.corridorappalachien.ca/engl/e3_1geography.html

² http://en.wikipedia.org/wiki/Lake_Massawippi

³ <http://www.lacmassawippi.ca/en/the-ups-and-down-of-lake-massawippi/>

⁴ <http://www.fondationmassawippifoundation.org/cm/about-us/>

⁵ <http://www.lacmassawippi.ca/en/>

- How can we know if the watershed is healthy?
- What kinds of impact does pollutants have on a lake?
- What is the underwater ecosystem?

The following skills are learned through the week-long camp, Understanding Watershed Health, depending on age:

- Keeping a field journal to record observations
- Using guides, charts and indicators to identify organisms and other phenomena
- Using thermometers, vials, pH strips

Campers will:

- Identify features of the watershed through exploration
- Survey the shoreline from canoes
- Identify the flora and fauna along the shoreline
- Identify nonpoint source and point source pollutants
- Visit a local water filtration site
- Work with a limnologist to collect and test water samples, learn about pH and dissolved oxygen indicators
- Create a model of a watershed to explore runoff
- Build simple watershed models
- Build a small wetland model
- Conduct experiments to show effects of rainwater runoff, erosion, sedimentation
- Conduct experiments with filtration

Environmental Literacy in Curriculum Content

The environmental focus of the Quebec Lodge Camp Curriculum intersects with the Science and Technology section of the Quebec Education Program (2001, 2004), in particular, the *Material World and Living Things*. This includes characteristics and organization, classification and reproduction, and energy and its transformation in plants and other living things.

The following section provides a detailed sketch of concepts and an overview of how such concepts might be woven through a camp curriculum. **Vincent Nédélec**, a Bishop's University student supervised by Dr. Darren Bardati of the Environmental Studies and Geography department, explored this question in an independent study. He produced an extensive review of environmental and ecological camp programs and activities, and produced a document for the

Quebec Lodge Foundation, entitled, *Leadership and Environmental Stewardship Curriculum Report*. Nédélec's (2014) findings are synthesized below.

This Curriculum Document has retained the layout and visual appeal that Nédélec provided in the preliminary document. Additionally an inventory of similar camp programs and related activities camps that he prepared is provided in Appendix A.

Spheres of Activities

Wetlands as Ecosystems

Role, characteristics, dynamics, interdependence, water cycle, storing and cleaning, human impact, run off, erosion, ponds, bogs, lakes, streams, aquatic invertebrates, birds, insects, amphibians.

Forests

Tree species, characteristics, life cycles, microbes, bacteria, fungi, soil nutrients, sedimentation, trees as habitats, food webs

Fauna

Habitation, adaptation, movement, reproduction, life cycles, food webs in the forest: herbivore, omnivore, carnivore, foraging, feeding, calls, songs, tracks, scat, soil as habitat for reptiles, amphibians, spiders

Flora

Plants, plant parts, characteristics, reproduction, farming, seed dispersal, harvesting, products, plants in field and forest, edible, soil, gardens

Humans and the Environment

Sustainability, conservation, growth cycles and decomposition, soil ecology, ecological footprints, tracking, survival, tracking, and wilderness survival, stewardship: maintaining birdhouses, tending gardens, or caring for ecosystems, ethics of environmental care, plant uses [natural cordage], shelters using natural materials, uses of binoculars, magnifying glasses and field guides, map and compass reading

Air, Space and Atmosphere

Gravity, planets, moon phases and tides, solar system, telescope use, weather, seasons, cloud formations, weather instruments

References and Resources

Environmental Education Council of Ohio, Best Practices for Environmental Education: Guidelines for Success <https://eeco.wildapricot.org/publications>

Garst, B. A., & White, C. P. (2012). Leadership and environmental stewardship: A curriculum for camps and other youth programs. Monterrey, CA.: Healthy Learning.

Ireland, L. (2013). Environmental Education Framework. Pathways to Environmental Literacy. Prepared for the Alberta Council for Environmental Education (ACEE)

Louv, Richard. (2005) Last child in the woods: saving our children from nature-deficit disorder Chapel Hill, NC : Algonquin Books of Chapel Hill.

Learning for a Sustainable Future <http://www.lsf-ist.ca/>

Leave No Trace Canada (<http://www.leavenotrace.ca/home>)

Massawippi Conservation Trust
<http://www.fondationmassawippifoundation.org/cm/>

Ministère de l'Éducation du Québec (2001). Programme de formation de l'école québécoise. Éducation préscolaire, enseignement primaire, Québec, Gouvernement du Québec.

Ministère de l'Éducation du Québec (2004). Programme de formation de l'école québécoise. Enseignement secondaire, 1er cycle, Québec, Gouvernement du Québec.

Nédélec, V. (2014). *Leadership and Environmental Stewardship Curriculum Report*. Unpublished manuscript for Bishop's University and the Quebec Lodge Foundation.

NAAEE (2010). Environmental Literacy Learner Outcomes. North American Association for Environmental Education.

World Wildlife Foundation (WWF) Schools for a Living Planet
(<http://schools.wwf.ca/lessons>)

Local Sites

Arlington Gardens (<http://arlingtongardens.ca/home/>)

Astrolab du parc national du Mont Mégantic (<http://www.astrolab-parc-national-mont-megantic.org/en/>)

Beurrerie du Patrimoine (Ferme Jean-Noël Groleau) (<http://www.fermegroleau.com/visite.php>)

Bishop's University Observatory (<http://physics.ubishops.ca/observatory/>)

Mont Gosford (<http://www.montgosford.com/>)

Mont Ham (<http://montham.ca/>)

Musée des Abénakis (<http://museedesabenakis.ca/site/?lang=en>)

Paradis des Fruits (http://www.paradisdesfruits.com/index_en.php)

Parc de la gorge de Coaticook (<http://www.gorgedecoaticook.qc.ca/en/home>)

Parc Découverte Nature Baldwin (Mount Pinnacle) (<http://www.decouvertenature.qc.ca/>)

Parc national du Mont-Orford (http://www.sepaq.com/pq/mor/index.dot?language_id=1)

La société d'histoire de Sherbrooke (http://www.histoiresherbrooke.org/en/school_groups/elementary)

Camps

Camp Gray (<http://campgray.com/>)

Camp Kawartha (<http://www.campkawartha.ca/>)

Camp Omega (<http://www.campomega.org/>)

Camp Sealth (<http://www.campsealth.org/>)

Gwynn Valley Camp (<http://www.gwynnvalley.com/>)

Healthy Learning Camp Resources (<https://healthylearning.com/c-187-camp-resources.aspx>)

IslandWood Camp (<http://islandwood.org/>)

Schuylkill Center (<http://www.schuylkillcenter.org/>)

Appendix A

The following is an inventory of camp programs and related activities with goals similar to the Quebec Lodge Camp. The websites leading to the program and activity descriptions are provided in the references and resources section, and can serve as a resource for Camp Leaders in designing specific activities to achieve the goals of the camp.

Wetlands as Ecosystems

- Wetlands (Camp Sealth, Vashon, WA)
- Wetland Wonders (Camp Kawartha)
- Stream Hike, (Camp Gray, Reedsburg, WI)
- Lakes and Wetlands Study (Camp Omega, Waterville, MN)
- Amphibians (Camp Kawartha),

Forests

- Forests Alive (Forests' ecosystem) WWF Lessons – Grade 3 –
- Little Things - Grade 6 – WWF Lessons
- Nature Detectives (IslandWood)
- ABC/Nature Hike (Camp Omega)

Fauna

- Animals (Camp Sealth)
- Adaptation (Camp Kawartha)
- Adaptation and Habitats 8-9 years old (Schuylkill Center)
- Invertebrate Study (Camp Kawartha)
- It's A Bug's Life (Camp Kawartha)
- Mind Your Mammals (Camp Kawartha)
- Be a Bird Brain (Camp Kawartha)
- Habitat Explorers (Schuylkill Center)
- Bird is the Word (Schuylkill Center)
- Predator and Prey (Camp Sealth)
- Web of Life (Camp Kawartha)
- What's in and what is a Habitat (What do animals need to survive?) Grade 4 - WWF Lessons
- Life Connections (what if something is removed from the chain?) - Grade 4 - WWF Lessons

- Wild Ideas/Habitats (Observe the Habitat around you) - Grade 4 - WWF Lessons

Flora

- Flower Power (Schuylkill Center)
- Plants: Parts and Products (Schuylkill Center)
- Seeds and Seed Dispersal (Camp Kawartha)
- Plants and Trees (Camp Kawartha)
- Tree Identification (Camp Omega)
- Nature Chefs - Grade 1-2 (IslandWood)
- Ethnobotany - Camp Sealth
- Soil Sleuths - Grade 1-2 (IslandWood)
- Digging into Dirt - 6-7 years old (Schuylkill Center)
- Nature Rocks! 8-9 years old (Schuylkill Center)

Humans and the Environment

- Sustainability (Camp Sealth)
- Energy (Sources, Sustainable alternatives) Grade 5 - WWF Lessons –
- Soil2Snack (IslandWood)
- Plants: Parts and Products - 8-9 years old (Schuylkill Center)
- Nature’s Laboratory (IslandWood)
- Stewardship Project (Camp Omega)
- Outdoor Living Skills (Camp Sealth)
- Tracking and Trailing (Camp Kawartha)
- Animal Tracks (Camp Omega)
- Outdoor Living Skills (Camp Gwynn)
- Exploration Experts (IslandWood Summer Camp)

Air, Space and Atmosphere

- Weather or Not (Camp Kawartha)
- Astronomy (Camp Kawartha).
- Astronomy (Camp Sealth)
- Air & Space - 6-7 years old (Schuylkill Center)
- Air & Space - 8-9 years old (Schuylkill Center)

Creative Arts in the Environment

- Art Is Your Nature - 6-7 years old (Schuylkill Center)
- Nature Photography - 8-9 years old (Schuylkill Center)

- Eyes of the Forest (IslandWood)
- Expedition: Art (IslandWood)
- Bring Colours to Life through Natural Dyeing (Camp Kawartha)
- Dancing Hands: The Art of Puppetry (Camp Kawartha)
- Drawing Inspiration: A Journey with Journals (Camp Kawartha)
- Finding Forms in the Forest (Camp Kawartha)
- From Wood to Words: The Joy of Papermaking (Camp Kawartha)
- The In's and Out's of Nature: Natural Weaving (Camp Kawartha)
- The Magic of Felting (Camp Kawartha)
- The Singing of Leaves: Exploring Nature Music (Camp Kawartha)
- Nature Sculpting (Camp Kawartha)
- Nature Music (Camp Kawartha)
- Nests & Nest Making (Camp Kawartha)
- Pioneer Crafts (Gwynn Valley)

Outdoor Living Skills

- Naturalist 101 (IslandWood)
- Traditional Skills (Camp Kawartha)
- Voyageur Orienteering (Camp Kawartha)
- Orienteering and Lost-Proofing (Camp Kawartha)
- Orienteering - (Camp Omega)
- Wilderness Survival - (Camp Omega)

Understanding our History on the Land

- Learning from Legends (Aboriginal legends, local legends) Grade 4 WWF Lessons
- Archeology & Ancient Living (Schuylkill Center)
- History's Mysteries (IslandWood Camp)