



**STEWARDS OF  
THE FUTURE**

# Stewards of the Future

# Toolkit

2015/2016

An Educator's Guide to  
Stewardship and Sustainability  
Learning in BC



An initiative of the  
**Government House Foundation**  
and the Honourable  
**Judith Guichon,**  
Lieutenant Governor of  
British Columbia

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**Educator Advisory Committee:**  
Jo-Anne L. Chrona, District Helping Teacher, Aboriginal Education, Surrey School District  
Kirsten Dibblee, Parkland Secondary School: Science, Outdoor Education  
Scott Noble, Shawnigan Lake School: Secondary Science  
Peggy Ransom, Shawnigan Lake School Secondary Science  
Erin Stinson, Parkland Secondary School: Biology, Geography, Special Education  
Laura Tait, Director of Instruction, Aboriginal Education, Nanaimo Ladysmith Public Schools

**Government /Foundation Advisory Committee:**  
Eva Riccius: Manager, BC Parks  
Kerrie Mortin: Manager, Education Programs, Habitat Conservation Trust Foundation  
Connie Cirkony: Education Officer, Ministry of Education  
Pat Tonn: Youth Development Manager, Sustainable Agriculture Management, Ministry of Agriculture  
Irene Guglielmi: Manager, Partnerships & Intergovernmental Relations, Ministry of Education  
Becc Hoskins: Community Engagement Specialist, BC Parks

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# Forward

## Introducing Stewards of the Future



It is my great pleasure to introduce my Stewards of the Future program to students and teachers across British Columbia. One of the priorities throughout my tenure as Lieutenant Governor is to encourage young people to connect with the land and understand the precious resources we have under our feet. It is important for the next generation of youth, our future leaders from all backgrounds and from every corner of British Columbia, to appreciate the importance of our natural environment and the lands on which our civilizations rest.

Through Stewards of the Future, students will have the opportunity to explore issues that affect the land, water and other natural resources in British Columbia.

The goal of this program is not to solve the challenges we face, but rather to encourage open discussion and gain a better understanding of the issues that affect our natural surroundings. By engaging in respectful conversation we can build relationships with one another, take responsibility for our shared future and together build a healthier and more vibrant society.

I look forward to seeing what the inquiring and creative minds of youth will discover about this beautiful and bountiful province. It is my hope that through their participation in Stewards of the Future students will develop a broader understanding of the environmental issues affecting us and consider about how we can come together to establish a vision for a sustainable future.

Sincerely,

The Honourable Judith Guichon, OBC  
Lieutenant Governor of British Columbia



### Coat of Arms

Her Honour has a longstanding connection to the land, having operated Gerard Guichon Ranch Limited in the Nicola Valley and introducing holistic management, a farming method which promotes sustainable management of livestock by emphasizing their natural habitat, to the ranchers of British Columbia. This connection is reflected in Her Honour's official

Coat of Arms. The arched line evokes the landscape near Nicola Lake, where the Guichon family has ranched for generations. The bluebunch wheatgrass is an important plant for foraging by the livestock bred on the ranch. The branded horse and steer represent the livestock and the reaping of the benefits of sunshine. Below, the burrowing owl lives in harmony with the cattle and represents Her

Honour's ongoing efforts to learn about and respect biodiversity. The grouse on top symbolizes the joy found in biodiversity. The motto "Relationships Respect Responsibility" represents Her Honour's underlying belief that healthy relationships between people and the land that supports and nurtures must underpin our actions in respectful and responsible ways.

## Welcome to the Stewards of the Future Toolkit!

Stewards of the Future provides funding and support for high school teachers and other educators to go on field trips, visit local sites of interest, and engage in stewardship projects in their communities. This guide has been created for teachers, leaders and students to inspire and support them in becoming involved in hands-on, place-based explorations of their communities, and the stewardship issues relevant to them.

This Toolkit includes some background on the Stewards of the Future initiative, research on place-based learning and action projects, an outline of the overall program process and funds available, a listing of partners to support your efforts, and activities and tools for students, teachers, and other groups to get engaged.

Thank you for your interest and good luck!

“Place-based education... celebrates, empowers and nurtures the cultural, artistic, historical and spiritual resources of each local community... It re-integrates the individual into her homeland and restores the essential links between a person and her place.”

– Laurie Lane-Zucker, Orion Society

“Without our differences, we can never know the meaning of understanding.”

– Simon Lucas, Nuu Chah Nulth elder



# 1. Program Overview

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## Introduction:

### What is Stewards of the Future?

Stewards of the Future (SoF) is an exciting new youth initiative of the Honourable Judith Guichon, Lieutenant Governor of British Columbia. The program is a province-wide high-school student initiative designed to engage students in hands-on activities and “real-world” learning experiences in their communities. Its overall goal is to:

*“help students understand the complexity of our relationship with the environment and their responsibility to be leaders and stewards of the future now”*

(*Stewards of the Future* Concept document, Dec. 2013).



The program supports students with funding and resources in exploring their own communities, to discover and document unique attributes, ecosystems and special places, identify and research key issues of concern, and investigate stewardship initiatives that are addressing these issues.

This program and Toolkit can be used by teachers and other educators (e.g., Guide and Scout leaders, 4-H Club leaders, environment clubs, etc.) to augment and expand virtually any class or program. Teachers/leaders are encouraged to apply to the Government House Foundation for direct support as discussed later in the Toolkit.

Selected classes/groups will be supported by funding and by a provincial Program Coordinator, who will facilitate connections to stewardship projects, partner groups, and

local resources. Classes and groups that are not selected for direct support are still able to complete the program using the Toolkit to assist and individual students will be able to complete individual programs to receive recognition from the Lieutenant Governor.

The program emphasizes experiential, outdoor learning, supported through four main activity types:

- 1) **Guest Speakers** – opportunities to have local experts visit the class and present some history, content and perspectives on an issue of interest.
- 2) **Interviews** – a chance for students to directly interact with a stakeholder involved with the issues of study (e.g., an employee, rancher, First Nations elder, scientist, volunteer).

3) **Field Trips** – direct experiences that will help students better understand and research their communities and the stewardship issues that affect them. Visits could include trips to: urban community gardens, fish hatcheries, cattle ranches, homeless shelters, university labs, the mayor’s office, sewage treatment facilities, etc..

4) **Inquiry and Discussion** – once students have been exposed to the complexities of their community and environment, they research, discuss and debate the issues that lie before them as Stewards of the Future (i.e., environment / economy, sustainability/resource extraction, biodiversity/urban growth, etc.). Reflecting on Her Honour’s “three R’s” – Respect, Relationships and Responsibility, students wrestle with conflicting priorities to consider the future of their communities, environment and their province.

## Stewards of the Future Program Objectives

Students will:

- Increase their knowledge and understanding of key environmental, conservation and sustainability issues along with the natural and social systems that underlie them;
- Engage in learning grounded in principles of traditional knowledge including First Nations wisdom: holistic, experiential, and relational (i.e. a focused on connectedness, on reciprocal relationships, and a sense of place);
- Increase their understanding and appreciation of BC’s incredible biological diversity, and its fundamental importance to our survival;
- Identify and engage in relevant, real life issues and solutions that resonate with them and their communities; collect data on what is happening now.
- Increase their awareness of personal responsibility as stewards, and their roles as engaged citizens;
- Develop communication skills and techniques of respectful debate through peer and community sharing.

### Curriculum Connection

The program’s objectives and key concepts are linked to many subject areas, as shown in the enclosed Prescribed Learning Outcomes Table. There are strong curriculum connections to: Science 9, 10 and 11, Social Studies 9 – 10, Physical Education / Outdoor Education 9 – 12; Applied Skills 11, Science & Technology 11, Sustainable Resources 11/12, Tourism 11, Planning 10, Career and Personal Planning 11, Geography 12, Biology 12, and First Nations 11/12.

The Toolkit also supports and reflects the First Peoples Principles of Learning, also emphasized through the program activities and objectives.

## Background on Stewards of the Future

### **Purpose of Stewards of the Future:**

To promote the concept of a holistic approach to our endeavors based on respect, relationships and the responsibility of all for the future.

**Overall Objectives:** Healthy Land, with Healthy People, in Healthy Communities.

### **Guiding Principles for the Program:**

- A Caring Approach
- Sense of fun
- Builds Quality of Life
- Informed by Traditional Knowledge/ wisdom of elders
- Youth Focused
- Holistic

There are three components to the SoF program, as envisioned by the Honourable Judith Guichon, Lieutenant Governor of British Columbia:

1. provincial visits by the Lieutenant Governor to programs, organizations and projects that promote similar objectives;
2. an annual awards recognition program; and
3. a youth education component

**Supporting Partners:** Many government organizations, non-governmental organizations, and other groups have partnered with the Government House Foundation to support the implementation of this initiative, using their combined resources and networks. These include:

- BC Ministry of Education
- BC Parks
- Habitat Conservation Trust Foundation/ Wild BC
- Habitat/Nature and Land conservation groups
- Invasive Species Council of BC
- London Drugs
- Ministry of Agriculture: Sustainable Agriculture Management
- Pacific Salmon Foundation
- Thrifty Foods
- Youth leadership organizations
- Youth in nature programs
- Sustainable agriculture and resource development groups
- Supporters of education
- Stewardship groups
- Other like-minded organizations, non-profits and individuals

All partners and their contact information are listed in the **Resources Section**.

If your organization would like to participate as a partner in the Stewards of the Future program, please contact [info@bcgovhousefoundation.ca](mailto:info@bcgovhousefoundation.ca)



# 2. How Stewards of the Future Works

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## Who Can Apply?

Educators (teachers and non-formal educators such as community, First Nations and youth group leaders) can apply on behalf of their class or club. The program is aimed at students in Grades 9 – 12, but is flexible in terms of subjects and age levels to accommodate a diversity of participation.

Applications for funding for Spring 2016 are due by Friday, November 27, 2015. Applicants who miss the funding deadline are still welcome to participate in the program.



## What Do Teachers and Students Receive?

Stewards of the Future provides funding and support for teachers and other educators to go on field trips, visit community venues and engage in stewardship projects in their communities. *The Application Form* asks for the a Project Outline that includes one or more field trips, guest speakers, and interview opportunities, with a strong emphasis on outdoor experiences.

- **Funding:** Once accepted into the program, an educator will receive access to funding from the Government House Foundation for project implementation, which can be used for transportation costs, program fees, teacher release time, honorariums, equipment, project materials, etc. There is access to between \$200 - \$800 per class / group, depending on the project emphasis and level of need. Special funding for activities in BC Parks may be available as well.
- **Support:** The Stewards of the Future Program Coordinator will liaise with the educator to assess their specific needs, and initiate and facilitate connections to relevant community groups, resources, potential guest speakers and field trip site locations.
- **Student Passports:** Students can download their own Stewards of the Future *Student Passport*, which contains a checklist of activities. Once the student completes the requirements and gets it signed off by a teacher or leader, they will receive additional

program recognition from the Lieutenant Governor, including a special commemorative pin and program certificate. Whenever possible, the Lieutenant Governor will present these in person.

- **Project Profiles:** Student work will be profiled on the Government House Foundation's Stewards of the Future website.
- **Recognition:** Students and educators completing the program will receive official recognition letters from the Lieutenant Governor.
- **Celebration / Recognition Events:** There will be opportunities and support for local, regional and provincial celebratory events, where students will showcase their work, engage with stewardship organizations from across BC, and celebrate their learning. These may include regional visits and presentations by the Lieutenant Governor, local events, and the opportunity to be invited to student conferences.

Educators are encouraged to apply to have students attend the annual Stewards of the Future Student Conference, where students from across BC are brought together with experts from a range of disciplines and industries, to share their projects and explore complex issues surrounding stewardship, sustainability and the 3 R's: Respect, Relationships and Responsibility.

See page 11 for more information.

## The Role of Program Partners

Provincial program partners are organizations that share the general principles and objectives of this program and have made a commitment to assist. These partners contribute to the program in several ways, depending on their ability and resources, for example, by:

- providing mentors and local guest speakers;
- helping students access resources to support their research;
- suggesting relevant field trip locations (e.g., forestry operations, stream stewardship, fish hatchery, agricultural operations, parks, ranches);
- providing equipment and field support for class/group field trips and/or individual student site visits.
- providing supporting funding towards a class or group project;

For example, if a Grade 10 class in Williams Lake wants to research invasive species impacts on local ecosystems and do a removal /restoration project, a provincial partner – like the Invasive Species Council of BC - can suggest local guest speakers, provide resources for research, identify suitable field trip sites and support hands-on invasive species identification, mapping and removal projects.

Program Partners will receive:

- The opportunity to explain issues they are passionate about to BC youth;
- Program communications and logistical support from the Government House Foundation and the SoF Program Coordinator;
- Official recognition from the Lieutenant Governor;
- Profile and logo on the SoF web site and welcome letter;
- Thank-you recognition from the students;
- An invitation to year-end celebrations and to conferences.

## Stewards of the Future Conference:

### The 2015 Conference

In June of 2015 Her Honour hosted the inaugural Stewards of the Future conference at Pearson College, UWC, in Victoria BC. With over 150 total participants and 25 speakers and mentors, the conference was a great success. The weekend started with student Project Reports, including maps of invasive species, videos on salmon habitats and life cycles, and Prezi slideshows on local, sustainable agriculture. The youth made pledges to their responsibility to the future, and shared insight into the relationships between ecosystems and the lands and waters that sustain us. The closing panel provided feedback and wisdom to continue the investigations and explorations launched during the weekend's activities. Astronaut Robert Thirsk, Forester James Gorman, CanFor Chairman Emeritus Peter Bentley, and author JB MacKinnon were among the many talented speakers at the event.



## Stewards of the Future Conference:

### The 2016 Conference

The primary theme of this year's conference is water. Through this general lens, 100 emerging leaders will bring their diverse experiences together and explain the significance of their region to the other assembled youth, then break into working groups to discuss the theme from the perspective of ten areas that impact the land and waters of British Columbia (ranging from agriculture and fisheries to parks and invasive species to mining and transportation). Groups will analyze their area in detail and then explain the issues in an interactive discussion. World-class keynote speakers will energize, motivate and challenge the group.

Groups will also have the chance to participate in more hands-on learning, interact with leaders in business and environment, and explore some of the future-friendly initiatives taking place at the conference venue.

### Step 1.

#### Participating in the program

The teacher /group leader will apply to the Stewards of the Future program online, via the Government House Foundation website. The SoF Program Coordinator will be available by email to answer questions, support teachers in completing the applications, and suggest resources and local partners. Only those groups who participate in the program are eligible to attend the conference.

Applications for the program will be accepted until **Friday, November 27, 2015.**

### Step 2.

#### Work on your Stewardship Activity

All successful program applicants will begin conducting their research and working on the projects they outlined in their application. As you work, keep in mind any findings you would like to share at the conference. What questions do you have for other groups? What next steps would you like to take?

### Step 3.

#### Register to attend the conference

The conference is scheduled to take place from Thursday, June 2, 2016 to Sunday, June 5, 2016. The location of the conference is still to be determined. Only 100 program participants can attend the conference, so registration is limited to 10 students per school/organization, plus a teacher and chaperone. Check the Government House Foundation website or email [info@bcgovhousefoundation.ca](mailto:info@bcgovhousefoundation.ca) to register online.

Registration for the 2016 conference will be accepted between **Monday, March 7, 2016** and **Friday, May 13, 2016.**

Meals, accommodation, and travel costs for students, teachers, and chaperones will be subsidized by the Government House Foundation and our generous sponsors.

Contact [info@bcgovhousefoundation.ca](mailto:info@bcgovhousefoundation.ca) to learn more.



## Stewards of the Future Process:

### Program Launch

In the fall, all high schools and school districts in BC will be emailed a welcome letter from Government House outlining the program and inviting classes to participate. The letter will also be sent to the many youth groups and organizations in the province, including Pathfinders, Scouts, 4H Clubs, Environmental Youth Alliance, Youth4Action, and Sustainable High Schools of BC. The letter will contain a brief description of the program, an online link to the Toolkit and Student Passport, and a list of some of the provincial partners.

### Step 1. Application Process

The teacher /group leader will apply to the program online, via the Government House (GH) website. Application forms and criteria are located online. The SoF Program Coordinator will be available by email to answer questions, support teachers in completing the applications, and suggesting resources and local partners.

Applications will be accepted until  
**Friday, November 27, 2015.**

### Step 2. Application Review

All applications received by the due date will be reviewed and assessed by a Review Committee. Successful applicants will be notified by Tuesday, December 15, 2015.

### Step 3. Preliminary Discussions with Program Coordinator

Once accepted into the program, the teacher / group leader will receive a welcome email and be contacted by the Program Coordinator (email and/or phone). The Coordinator can assist with discussing student interests, logistical challenges and opportunities. The coordinator may also identify and contact local groups who can provide information and access to key sites in the community, potential field trip locations, and guest speakers. (e.g., resource-based facilities, ranches, farms, fish hatcheries, mills, water treatment plants, housing developments, etc.).

### Step 4. Winter- Spring 2016: Planning & Funding SoF Community Learning Opportunities

The educator will present the program to the students in early 2016 and work through some activities using the Toolkit or other resources to highlight community features and identify themes that students may want to explore.

In addition, students will be provided with a link to the Stewards of the Future Student Passport, an optional checklist of activities that they can download and pursue both individually and/ or with the class / group, to qualify for specific individual program recognition.

Once the class / group has decided on their project theme and specified any needed resources (e.g., guest speakers, research resources, transportation costs, fees, teacher release time, etc.), the educator will email a brief *Project Outline* to the Program Coordinator, confirming costs and project timelines. Students are to participate in at least one field trip to a relevant location, to directly experience elements of the issue they will research. The Coordinator will then provide the requested funding from the Government House Foundation to the educator.

### **Step 5. Community-based Learning Activities and Field Trips**

Teachers/leaders and students carry out their community learning project, using the funding to support implementation and working with Program Partners if applicable. The Toolkit activities and/or those found in the recommended resources (See *Educator Resources and References* section) can be used to enhance the curriculum, and to engage students in exploring and researching community issues. Research, teamwork, concept mapping, systems thinking, stakeholder interviews, field trips and presentations are all part of the suggested activities. Students can also fill out their Student Passports through participating in both class and individual activities that enhance their community explorations.

### **Step 6. Reflect and Celebrate**

Educators will ensure the students' *documented project plus one photograph is submitted*, using the *Project Summary Report* form online. This will represent the final report back to the Lieutenant Governor and trigger her recognition letters and possible visit to the school or organization. At this time, educators may apply for further available funds to be used for a celebration or continuation of the project. Teachers will also be contacted to provide feedback on program challenges and successes, and make recommendations to improve the SoF program. They are encouraged to share their project with the school, other community groups and/or the media.

### **Step 7. Stewards of the Future Conference**

Educators are encouraged to apply to attend the conference, where students from across BC share their projects and explore complex issues surrounding stewardship, sustainability and the 3 R's: Respect, Relationships and Responsibility.

See page 11 for more information.



# 3. The Stewards of the Future Toolkit

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## About this Section

This section of the Toolkit includes the program's conceptual framework, some research on the benefits of place-based learning and action projects, links to past and present action projects to inspire you and your students, and activities and tools for students, teachers, and other groups to get engaged.

*"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." – Aldo Leopold*

## Conceptual Framework

These themes frame the Toolkit and guide student learning. They can be used to plan teaching units and school projects, serve as a template to help assess prior knowledge and learning, and help students plan and monitor their own learning projects.

The key concepts have been developed for both educators and students, to help explain the focus on certain themes along with their application in the real world.

- People protect and care for things they value. Our heritage, culture and sense of place influence our values.



- Stewardship refers to caring for what we collectively share, such as our environment and natural resources. Active stewardship is important for the conservation, restoration and sustainability of our communities, economies and their surrounding ecosystems.
- Youth are active and effective stewards of the future. Actions can and will influence what British Columbia will look like in the coming decades and their respectful leadership will influence their peers and communities.
- Natural areas exist in our neighbourhoods, communities and in nature. Their discovery, exploration, enjoyment and active stewardship are valuable learning experiences for students.
- Natural areas are part of surrounding ecosystems that sustain all life (e.g., water filtration, pollination, climate regulation) and are affected by our actions within and beyond their boundaries. Successful stewardship depends on the commitment of everyone.

- Place-based education, the exploration of local cultural, natural, economic and historical heritage, re-integrates and restores the essential links between people and their communities.
- Direct, personal experience and involvement with natural areas, stewardship projects, biodiversity and resource-based industries in our communities helps develop one's sense of place.

By having respect for our place, the land, water and air, plants and animals, along with respectful relationships with each other, we are better able to deal with the complex decisions that impact our future. Participants in this program will accept their responsibility to engage in these issues, to debate them respectfully, to be Stewards of the Future now, and to work to leave this province in as good or better condition for the next generation.

Note: These concepts are closely aligned with the *Environmental Learning and Experience (ELE)* learning principles, published by the BC Ministry of Education (2007). The ELE principles for organizing and conceptualizing environmental education include the organizers of *Complexity, Aesthetics, Responsibility and Ethic (CARE)*: a consideration of complexity and complex systems, aesthetic appreciation, responsible action and consequences of action, and the practice of an environmental ethic.

The ELE's learning cycle model of direct experience, critical reflection and negotiation are also supported and endorsed by the activities and strategies within this guide.

[https://www.bced.gov.bc.ca/environment\\_ed/](https://www.bced.gov.bc.ca/environment_ed/)



## Benefits of Outdoor and Project-based Learning

Hands-on, real-world learning “increases academic achievement, helps students develop stronger ties to their community, enhances students’ appreciation for the natural world, and creates a heightening commitment to serving as active, contributing citizens.” (Sobel 2004, p. 7).

### Outdoor Learning and Health Benefits

There are several decades of research that link our mental, physical and spiritual health with our associations and experiences with nature. Providing students with outdoor experiences has important impacts on the development and maintenance of their physical health and well-being. Direct experiences in nature helps develop healthy bodies and minds, reduces stress, protects psychological well-being, and increases student attention spans (Cirkony, 2012; Kellert, 2005; Maller, et al., 2005).

### Biodiversity and Systems

An ecosystem is not a collection of plants and animals. It is a seamless swirl of communities and processes. If you don't save the processes, you won't save the parts. (Chadwick, 1993)

British Columbia is a province with many different ecosystems, each with a distinct biodiversity. More species of living things live in BC than in any other province in Canada: BC has 70% of Canada's nesting bird species, 72% of Canada's land mammal species, 50% of Canada's amphibian species and 60% of Canada's plant species. It is important for students to understand and appreciate this incredible biological diversity, and how our survival depends on its protection. All forms of life have value and play a role in the cycles of life on the planet. Our health, spiritual values and survival are dependent on conserving the variety of life on Earth. We all need to understand how our lives connect with the lives of plants and animals, in order to act in more caring



ways towards them. Preserving and restoring biodiversity supports healthy relationships between all the living and nonliving parts of our various ecosystems. As well, the beauty, amazing variety and complexity of the many inhabitants we share this province with are a source of inspiration, creativity, and enjoyment.

Biodiversity BC is a partnership of government and conservation organizations formed to develop a biodiversity strategy for BC. Their key status reports and the Biodiversity Atlas of BC can be downloaded from their web site.

<http://www.biodiversitybc.org>



### **Why Place-based Learning?**

Place-based or community learning involves students as active participants and citizens in their community. Place-based learning enables students to explore and apply skills that encourage leadership development, social responsibility and engaged citizenship. Place-based education has been shown to inspire stewardship and renew civic life, as students reconnect with their communities and develop skills to care for the environment. This re-connection and empowerment is especially important for adolescent students, who need opportunities to work on real, tangible problems in their own communities, and have more sophisticated skill sets to tackle action projects. (Beane, 1997; Smith, 2002; Sobel, 2004).



### **Project-based Learning**

Real-life, action projects provide venues for skills development, practice and field-testing, and support students in actually taking responsible action on issues and problems that affect them and their community. Actively participating in stewardship projects helps students understand that they have the power to bring about positive and significant change. Project-based learning also enhances creative and critical thinking skills by making learning relevant and applied. Students are encouraged to explore and solve current, real-life problems, as opposed to solving theoretical problems of the future.

Students have opportunities to practice skills of inquiry, values analysis, clarification and problem-solving in relevant, real life situations. When students develop more community perspective and commitment they become “bonded” to their communities and enhance their sense of place, of belonging to something beyond their families and school. Many programs have demonstrated that if students learn basic action skills and play a positive role in solving problems that are of personal importance to them, they will act within the democratic system as responsible citizens, in school and after graduation. (Bell, 2010; Buck Institute for Education.)

### **Inquiry-based Learning:**

Inquiry-based learning helps students become systems thinkers; working in a natural system and at the same time developing an understanding of its complexities and subsystems. Inquiry-based, outdoor experiences in natural settings increase students’ problem solving abilities and motivation to learn in social studies, science, language arts, and math. (Pacific Education Institute, 2007)

In the BC Curriculum Redesign, there will be more emphasis on key competencies like self-reliance, critical thinking, inquiry, creativity, problem solving, innovation, teamwork and collaboration, cross-cultural understanding, and technological literacy. We can also connect students more directly with the world outside of

school, with increased focus on learning these skills across topic areas.

We need to make a better link between what kids learn at school, and what they experience and learn in their everyday lives. We need to create new learning environments for students that allow them to discover, embrace and fulfill their passions. We need to set the stage for parents, teachers, administrators and other partners to prepare our children for success not only in today's world, but

in a world that few of us can yet imagine.

George Abbott, BC Minister of Education, BC Education Plan, 2013.

“Effective inquiry is more than just asking questions. Inquiry-based learning is a complex process where students formulate questions, investigate to find answers, build new understandings, meanings and knowledge, and then communicate their learnings to others. In classrooms where teachers emphasize inquiry-based learning, students are actively involved in solving authentic (real-life) problems within the context of the curriculum and/or community. These powerful learning experiences engage students deeply. (<http://education.alberta.ca/teachers/aisi/themes/inquiry.aspx>)



# 4. Stewards of the Future: Activities

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## Note to Educators:

These optional, curriculum-linked activities are provided to help support your students explore project-based learning and investigate stewardship opportunities in their own communities. They can be done individually, used as part of a unit, or you can choose to pursue Stewards of the Future projects through your own course curriculum.



## Activity Descriptions:

### 1. Voices from the Land: A Community Photo-Documentary

This activity connects students to what they like about their own community. By beginning with positive things that students feel are special about their community, instead of jumping right in with potentially divisive issues, unifying themes that bring people together are identified. Students take digital photos, video, and/or make drawings of their own communities to document their sense of place, and write about why they selected it.

### 2. Systems Thinking and Personal Connections Brainstorm

This activity acts as a great introduction to systems theory, by engaging students in identifying the many systems that make up their lives, through exploring familiar everyday items.

### 3. Community Issues: Systems Thinking and Concept Mapping

This activity helps students identify issues in their community through brainstorming a list of the main economic, environmental and social issues that are occurring, and mapping the many systems that intersect.

### 4. Check These Out: Investigate Some Project-Based Learning Activities

Students research a wide range of action projects and stewardship issues to help provide inspiration and options for projects, and work together to research and select one or more to investigate.

### 5. Do an Interview!

Students work in teams to conduct one or more interviews with key stakeholders involved with the issue or community project they have selected to research. “How-To” Interview guidelines are provided.

## 6. Where Did Your Lunch Come From?

Students trace some foods back to their source and diagram environmental impacts, including the impacts on the way to the consumer, and apply the knowledge they gain by making changes in some of their consumer choices.

## 7. Sustainability, Health and Economics: A Grocery Store Field Trip

In this activity students will explore healthful food choices and sustainability when planning a menu, and explore food origins, costs and environmental impacts.

## 8. Where are YOUR Electronics Going?

Students research the number of electronic devices they have in their homes, and explore the many impacts of using electronic devices, and of shipping used ones overseas for recycling. They also research ways that electronics can be diverted from landfills and recycled responsibly, and host a Community Collection Event for used electronics.

## 9. Projects and Presentations: Putting it all Together

A template for student teams to create a compilation of their research, experiences, interviews and data / findings to present to the class / another class / post to the Stewards of the Future web site.

## 10. Discuss, Debate and Propose Solutions

Students conduct a debate, a town hall, or a mock city council debate on an issue of relevance to their community (e.g., the conflicting priorities and outcomes of issues such as resource extraction projects, invasive species, establishing a park, sustainable agriculture, or a cooperative program between First Nations and other communities/industries).

## 11. Celebration and Community Engagement

Students present their completed research and project work to another class, and/or community audience, and a celebratory event is held to showcase and highlight their efforts.

## Activities

### 1. Voices from the Land: A Community Photo-Documentary

#### Description:

This activity connects students to what they like about their own community. Students take digital photos, video, and/or make drawings of their own communities to document their sense of place, and write about why they selected it.

#### Rationale:

Place-based learning begins from where the students are. Stewardship work can tend to focus on specific issues or problems in the environment and/or communities, and issues can be divisive. By beginning with something positive that students find special about their place, the program can unearth the unifying themes that bring people together, instead of jumping right in with something potentially divisive (e.g., logging, mining, urban sprawl, sewage treatment, etc.). Focusing on positive themes about place also highlights why a certain location is worth conserving / stewarding.

#### Materials:

- Digital cameras/cell phones for student use
- Access to computers to compile photos, create a presentation or book

*"Bread and beauty grow best together. Their harmonious integration can make farming not only a business but an art; the land not only a food-factory but an instrument for self-expression, on which each can play music to his own choosing."*

*– Aldo Leopold (1933)*

### Procedure:

1. Initiate a class discussion around what makes your community /region a special place to live in: have students think about their favourite things about where they live, and brainstorm a list together.
2. Ask students to each take 10 – 20 digital photos of their own communities to document their sense of place: what is special about where they live, what do they love about it, what makes it special (Note: they could also take video footage and/or make drawings).
3. Ask them to each select one to three of their favourite photos to submit for review, and write something about why they selected them/what is special about the photo. Depending on your course goals, you can direct students to link their photos to a variety of possible connections (e.g., ecosystems (e.g., what ecosystem is the image part of / connected to / depicting), literature, music (e.g., what music or literature would go with this photo), art, ethnicity, history, poetry/ haiku, etc..
4. Have the whole class review and then organize the photos into themes. Then have the class publish the selected photos and write-ups as an online or printed book, or a presentation (e.g., Prezi). The book / presentation layout could also be done by students in a graphics or art class.
5. Share the class book with another class, the community, and/or with the Stewards of the Future participants, through the Government House Foundation web site.

## 2. Systems Thinking and Personal Connections Brainstorm

### Description:

This activity acts as an introduction to systems theory, by engaging students in identifying the many ecological, economic and social systems that make up their lives through exploring familiar everyday items.

### Rationale:

Exploring the relationships and interdependence of the Earth's social and natural systems is essential to understanding sustainability and stewardship. Understanding systems theory reveals this interconnectedness and offers an expanded perspective of the world as we know it, as students see parts, including themselves, as components of larger wholes that interact with increasing complexity.

For example, exploring a favourite food such as pizza includes system interactions among the 'parts': farmland, grain production, irrigation, pesticides and fertilizers, soil erosion, tractors, trucks, fuel, packaging, advertizing, consumption, etc..

### Materials:

- Chart paper, markers
- Example of a systems chart using common daily items



### *Procedure:*

1. Provide a brief definition of a system to the class: For example,

A system is defined as a collection of parts that interact to function as a whole, and continually affect each other over time. The parts of a system are interconnected and organized around some purpose. Systems also have properties that are not found in their separate parts: when the parts are organized into a system, they create new properties, characteristics and behaviours. (Ponto & Linder, 2011)

Have students contribute examples of systems (e.g., bicycle, family, hockey team, house, airplane, ecosystem, etc). Share an example of a systems chart with students to help them understand their task (see Resources).

2. Divide the class into small groups, and ask each group to select one item from their daily lives to explore through a systems lens (e.g., favourite food, possession or article of clothing, home, transportation to school, etc.). Have the students brainstorm and diagram on chart paper all the products, processes and impacts associated with the systems that make up one of the seemingly simple items from their daily lives.
3. Have students explain their work to the class, highlighting the most surprising thing they learned. Then post the charts side by side, and have the class identify similarities and interconnections among them all.

### *Some good Systems-Thinking Resources:*

My School as a System: Activity and examples that apply the concept of systems to student's lives.

<http://sciencenetlinks.com/lessons/my-school-as-a-system/>



## **3. Community Issues: Systems Thinking and Concept Mapping**

### *Description:*

This activity helps students identify issues in their community through brainstorming a list of the main economic, environmental and social issues that are occurring, and mapping the many systems that intersect.

### *Rationale:*

Systems thinking is characterized by the facts that there often aren't simple, linear solutions to problems, therefore problems need to be evaluated in the context of ecological, social, economic and cultural systems. This activity helps students to identify and comprehend the complexity and interrelationships in sustainability-related issues.

### *Materials:*

- Chart paper, markers, and/or white board

*Procedure:*

1. As a class, brainstorm a list of the main economic, environmental and social issues that are occurring in your community (e.g., garbage disposal, water quality, homelessness, etc.) and list these on the board. You may need to start the list off by reminding students of some of the current issues in your local municipality / region.
2. Select one issue to start the mapping exercise (e.g., loss of farmland to development). Use a whiteboard or several pieces of chart paper taped together, and coloured markers. Have students brainstorm the concepts and impacts related to that issue and record their ideas on the board. For example: some of these concepts might be: more food imported from afar, more transportation equals increased food costs, more available land for housing, less green space, loss of areas for wildlife, higher density housing, etc.).
3. Ask students to explain how the first issue affects other issues (e.g., loss of farmland increases need to import more food; more housing increases drain on resources, transportation, and water, etc.).
4. Continue this process: as interest in any particular line of topics wanes, the teacher starts a new line of topics (e.g., development may mean more affordable housing



#### **4. Check These Out: Investigate Some Project-Based Learning Activities**

*Description:*

Students research a wide range of action projects and stewardship issues to help provide inspiration and options for projects, and work together to research and select one or more to investigate. As part of Stewards of the Future, students will participate in at least one field trip to a relevant site / location to directly experience elements of the issue they have been researching. The Stewards of the Future Program Coordinator can suggest resources and guest speakers to support.

*Rationale:*

It is often difficult for busy educators and students to be aware of the many stewardship opportunities, field trip sites and action project ideas that are possible for them to take on. While it is easier for the teacher to provide topics and projects to the class to research, making students part of the selection and research process plays an important role in motivating and engaging them. Also, current research shows that students gain a great deal of knowledge and decision-making skills from reviewing real case studies of past and on-going action projects. (Patton, 2012, PEI, 2007; Hammond, 1997) Note: This activity is based in the concepts and processes of the Sustainability Resources 11 and 12 Course, BC Ministry of Education Curriculum Framework.

*Materials:*

- Chart paper, markers
- Time for students to research website listing of activities and issues

*Procedure:*

1. As a class, brainstorm a list of environmental/ sustainability issues of interest to the students. Sustainability issues/topics to investigate could include:

Health and Well-Being, Traditional Ecological Knowledge, Food Production/Security,

Governance/Legislation & Policy, Population Growth, Economy and Wealth Distribution, Biodiversity, Water, Materials/Resources, Air, Energy, Land Use, Ecological Footprint, Housing (adapted from Sustainability Course Content, BC Ministry of Education Curriculum Framework).

2. Then, have students work in small groups to research and identify a wide range of action projects and community activities. Assign each group of students to research specific web sites that list past and present project ideas and case studies from BC and beyond (see lists below). Note: If time is short, the teacher can provide a listing of potential action projects for the class to discuss.
3. Have each group report back on 3-5 projects they found interesting.

Key questions to include in the research are: the name of the issue or problem; why it is important to you; where it is located; who is/ was involved; what they did; what happened.

4. As a class, review all the issues presented, and select one issue or topic that you will research together. It is important to identify an issue that can be investigated in your community, through field trip visits, guest speakers, and/ or interviews (e.g., food production: visit a local farm or ranch; energy: visit a hydro or gas facility; Traditional Ecological Knowledge: invite a First Nations elder to speak; water: visit/help with a stream or shoreline restoration project).

(adapted from Bauer, et al, Green Teacher: Teaching Green: The High School Years, 2009, and Staniforth, Leap into Action! 2004)

Some program examples are listed here; however, there are many more programs in the Partners and Resources Sections.

### **The BC Green Games**

Check out the past six years of Green Games projects at the BCGG Galleries to learn from K-12 students across BC.

<http://www.bcgreengames.ca>

### **HCTF Education / Wild BC**

<http://hctfeducation.ca>

Wild BC Facilitators: There are over 50 education facilitators across BC that can support classes and groups in exploring their communities, planning field trips, and designing action projects. Check out the Wild BC Team and contact the facilitator nearest you.

<http://hctfeducation.ca/wildbc/>

### **Leap into Action:**

The Action Projects Gallery activity contains 14 class action project cards, and Section 4: Case Studies contains 14 detailed case studies of actual projects: FREE download <http://hctfeducation.ca/product-category/books-and-guides/>

### **Connecting to Conservation:**

BC High Schools engaged in project-based learning activities:

<http://hctfeducation.ca/c2c-community/>

### **Habitat Conservation Trust Foundation (HCTF)**

The HCTF is a non-profit foundation that funds fish and wildlife conservation and education projects across BC. Check out the projects near you for ideas and potential sites to visit / work on using their interactive map.

<http://www.hctf.ca/what-we-do/projects-we-ve-funded/current-projects>



## 5. Do an Interview!

### *Description:*

Students work in teams to conduct one or more interviews with key stakeholders involved with the issue or community project they have selected to research. Students' interview skills are developed and practiced, and class presentations and/or posters are made to share findings. Interview "How-To" guidelines are provided for students to develop their own interview guides and questions.

### *Rationale:*

Interviews are a great way to discover information about issues, opinions, the history of an issue or project, and its local context. Conducting an interview is also a great way for students to build valuable life skills, gain direct experience with the issue, as well as some intergenerational experience.

### *Materials:*

- Paper and pens, Class copies of Do an Interview! Student Guidelines pg. 25



### *Procedure:*

1. Identifying interview candidates: The SoF Provincial Coordinator and partner organizations will support the teacher and students in identifying, locating and connecting with relevant stakeholders involved in the issue(s) of study. Once a list of interviewees is developed (complete with relevant contact information), describe the stakeholders to students, and discuss how they are involved with the issue or project of study.
2. Developing questions: With the class, brainstorm a list of questions students could ask about the community project, issue or event. For example, they might ask about how the person got involved with the project or issue, how long they have been involved, what types of things they do in their work with the project or activity, why they feel it is important to be involved, and so on. List the questions on the board, and have students record them in their journals.
3. Refine the questions/ Conduct the interviews: Have students work in small groups of 2-3 people and give each group a Do an Interview! guide. Ask students to develop their list of questions further and try them out on each other, to make sure they are clear and well understood. Have students finalize their list of interview questions, and assign each group a stakeholder to interview. Allow sufficient time for students to complete their interviews: most of these will probably occur over the phone, but some may be able to occur in person.  
  
Note: if time or logistics are a factor, students may also interview a guest speaker where the class develops the list of questions and students take turns asking them.
4. Once the interviews are completed, ask students to share their findings with the class. Have them describe the main things they learned– what were the most significant or important things that they found out?

# Do an Interview! – Some Guidelines

Interviews are a great way to find out information about issues in your community: people that are involved can provide you with current information, personal experiences and opinions. To help you get the right information in an organized way, follow these steps for a great interview.

## Step 1:

### *Figure Out Your Audience*

Think about the people you'll be talking to. Maybe it's a community member, a local politician, a scientist, volunteer or an employee of a company. Can you interview them in person, or will you be phoning or emailing them?

## Step 2:

### *Figure Out Your Questions*

Write down all the things you want to know. Now make them into questions that are short and sweet. Develop about 5 – 8 questions as you don't want the interview to take too long, and ask about *only one main idea* in each question: Is water pollution a serious problem in our community? Are there any laws that exist that prevent people from dumping garbage in the parks? What is happening now? What are the possibilities? What needs to change to help solve this problem? How did you get involved with this issue? Why is it important to you?



## Step 3:

### *Practice with a Partner!*

Try out your list of questions on a partner to make sure they are clearly worded and easily understood. Check that you've asked about all the information you'll want to get. Talk about any problems you might have had understanding questions, and work to make your interview questions better.

## Step 4:

### *Get Interviewing!*

Make a date for your interview or phone call for a specific time. When meeting in person or on the phone, make sure you have a quiet area in which to talk. Have plenty of paper to take notes on. Write down as much as you can in note form and don't worry about neatness – as long as you can read it! If you have an audio recorder, you could record the interview to make sure you get all the details – be sure to ask permission first.

## Step 5:

### *Organize Your Data*

When you're finished, organize your notes and answers as soon as possible, so you don't forget anything. Add any the other information you may have collected through emails, photographs, maps or other interviews. Now organize your information into a presentation:

- List the person's name and their connection to the issue, site or event.
- Use your questions as headings to tell your story.
- Describe the issue and say why it is important to that person
- Describe the key points you learned from the interview.

## 6. Where Did Your Lunch Come From?

### *Description:*

Students trace some foods back to their source and diagram environmental impacts, including the impacts on the way to the consumer, and apply the knowledge they gain by making changes in some of their consumer choices.

### *Rationale:*

Most of us make lifestyle choices each day that have some impact on the environment. Many of these impacts are indirect, and so we are not as aware of them as we might be. The choice of foods we eat is an area with many implications for the environment and for sustainability. The places and ways in which food is grown and harvested, and how the land is cared for in the process are very important. The uses of organic and inorganic fertilizers, insecticides and herbicides, their potential run-off into watersheds and sources, and the encroachment of invasive species all have major impacts on the land and waterways. The journey from field to table including transportation, processing, packaging and marketing all have impacts as well.

Questions about the natural resources involved in getting the food from its source of origin to the consumer are critically important. There are several lifestyle habits that we can all adopt that can be healthful to us and have less impacts on the environment, and the food we choose to eat is a great place to begin.

### *Materials:*

- Notebooks, paper for diagrams, coloured pencils.

### *Procedure:*

1. Ask students to generate a list of foods they either brought for lunch. Be sure to include any packaging materials the foods came in.
2. Have each student select one food to trace all the way back to its origins – have them research:
  - Where it was grown
  - How it was grown (organic, non-GMO, etc.)
  - How it was harvested
  - Its transportation routes and methods (trucks, trains, planes, etc.)
  - Its packaging (e.g. paper bag, fossil-fuel derived plastic, cardboard, etc.)
  - Its marketing process (i.e. where it was advertised and sold)
3. Have students diagram this journey as a linear map, illustrating possible impacts on the environment at each stage. Remember to include the energy sources at each stage (e.g. solar, fossil fuels for harvesting, feeding animals, transportation, packaging; electricity used in the factories, stores, etc.)
4. Have students report back to the class or in small groups using their diagrams as a visual aid as they describe the path taken by their food and its environmental impacts along the way.
5. Have students list changes they can make in their habits to have less impact.
6. Have students commit to making one change for a week, and report back on their progress: were they able to stick to it? What did they change? What was hardest about it? Did it make them think of other changes they could adopt?

Extensions: Include the impact on water as a major natural resource used in all stages of the food's journey along the way.

Research an ingredient from another country and map its migration to their table (lesson plan: <http://www.ecoliteracy.org/downloads/food-and-culture-project-migration-food>)

(Adapted from Project WILD, Canadian Wildlife Federation: What Did Your Lunch Cost Wildlife? (p. 335) and the Center for Ecoliteracy: The Food and Culture Project. <http://www.ecoliteracy.org>)

## 7. Sustainability, Health and Economics: A Grocery Store Field Trip

### *Description:*

In this activity students will explore healthful food choices and sustainability when planning a menu, and explore food origins, costs and environmental impacts.

### *Rationale:*

Students often know about some healthy food choices, but have rarely had to shop for them, much less develop a daily meal plan. The choice of foods we eat is an area with many implications for the environment and for sustainability. This activity engages students in designing a menu for one day and then sends them out to comparison-shop for their favourite foods, keeping in mind healthy options such as lowering sodium and fat intake, and exploring food origins, packaging and environmental impacts. Costing out their menu items and comparing different versions of the same food item (fresh, packaged, pre-made, etc) and brands available also reinforces the many choices we have to make towards more sustainable eating habits.

### *Materials:*

Team copies of the Food Data Sheet; web sites for student research, including:

- This Health Canada booklet - “Nutrient Value of Some Common Foods” - is for use with food items that do not have a label i.e. fresh produce.
- [http://www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/nutrient\\_value-valeurs\\_nutritives-eng.php](http://www.hc-sc.gc.ca/fn-an/nutrition/fiche-nutri-data/nutrient_value-valeurs_nutritives-eng.php)
- [http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3483951/k.38BC/Healthy\\_living\\_\\_Healthy\\_Eating.htm](http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3483951/k.38BC/Healthy_living__Healthy_Eating.htm)
- The following Health Canada website explores how to interpret the % Daily Value on labels, in order to choose healthier options. <http://www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/cons/dv-vq/index-eng.php>

### *Procedure:*

1. Discuss healthy eating habits with the class, and make a list of key types of food to eat, and those to enjoy in moderation. E.g. Make students aware of the Heart-Health guidelines of 1500 – 2300 mg of sodium a day, and the emphasis on lowering overall fat content in their diet, particularly saturated and trans fats.
2. Have students work in teams of 2-3 and plan out a daily menu for themselves - breakfast, lunch and dinner – including some of each of their favourite foods. Have them include portion sizes and major ingredients for combination foods (e.g. pizza, soup, cookies, etc.) Ask students to choose at least some vegetables and fruits harvested in your region, and make choices appropriate for the season.
3. Have the teams draw up a shopping list, including the quantity of each ingredient they will need.
4. Have each team select one grocery store such as Thrifty Foods, Sobeys or Safeway to “shop” at using the shopping list.
5. Have the teams “go shopping” in their selected store, using their shopping list, and fill in the food item data sheet. Have one student locate the food items from the fresh departments (produce, meat, etc.), another could shop for the packaged goods, and a third could locate the food items within the organic and/or pre-made options.
6. Have teams compare their data sheets and totals with respect to overall choice, cost, impacts on the environment and healthy options.

7. As a class, discuss the environmental impacts of each team's food choices: E.g.

- To what degree were local/ regional foods available?
- For non-local foods, what did you think of the distance some food travels?
- If you selected fish, what is its overall omega-3 content?

Vegetables chosen? Were they local or from afar?

Organic and/or pre-made options: were they more expensive, and why?

How about cooking methods and waste generated?

Packaging: Was it appropriate? Excessive? How could it be improved?

Overall impression of looking at these factors in addition to nutritional factors?

What did you think about the environmental implications of what you found (food safety, food availability, travel miles, waste disposal)?





## 8. Where are YOUR Electronics Going?

### *Description:*

Students research the number of electronic devices they have in their homes, and explore the many impacts of using electronic devices, and of shipping used ones overseas for recycling. They also research ways that electronics can be diverted from landfills and recycled responsibly, and host a Community Collection Event for used electronics.

### *Rationale:*

The number of electronic devices we use is rising every year. The large number of electronics in our homes is also now the greatest single user of electricity! We are also changing these devices more frequently: electronics are the fastest growing source of waste that often ends up in the garbage and is sent to municipal dumpsites. Unused devices are also shipped overseas for recycling, where they are sometimes handled in dangerous ways, leading to toxic pollution and harm to human health. Responsible recycling of used electronics can help create a circular economy for electronics, appliances and other consumer goods.

### *Materials:*

Class Copies of the Student Worksheet & Electronics Audit Table, Computer / Projector to watch videos

### **Part 1: Electronics Audit: How Many Do You Have at Home?**

#### *Procedure:*

1. Make copies of the Student Worksheet and Electronics Audit Table and have students make predictions and then conduct the audits at home.

2. As a class, create a master list of all the electronic devices in use and out of use in everyone's household. Discuss:

- What will happen to all these devices?
- How can you take action to responsibly reduce, reuse and recycle these devices?

## **Part 2: What Happens to Electronics That Are Shipped Overseas?**

As more and more electronics entice consumers, people own more devices and want to change them more often - some consumers change their cell phones annually. This leads to a massive pile of discarded electronics. Without proper recycling, this e-waste is dumped in landfills or shipped to developing countries, where it is handled in the most dangerous ways, leading to toxic pollution and harm to human health. Electronic devices contain many types of toxic materials, including:

- Lead in CRT tube-style TV's, monitors and circuit boards
- Chromium in data tapes and floppy disks
- PCB's in condensers and transformers
- Mercury in LCD lamps, switches and some batteries
- Cadmium in rechargeable NiCad batteries

#### *Procedure:*

1. Have students research and list the toxic substances contained in their own electronic devices: <http://ewasteguide.info/hazardous-substances>

2. Have students watch these two short films to discover where many of their devices go when they are no longer wanted, and the huge impacts this is having on communities, human health and the environment.

### a) “The Story of Stuff: The Story of Electronics”

This short film explores the high-tech revolution’s collateral damage—25 million tons of e-waste and counting, poisoned workers and a public left holding the bill. Host Annie Leonard takes viewers from the mines and factories where our gadgets begin, to the horrific backyard recycling shops in China where many end up. The film concludes with a call for a green ‘race to the top’ where designers compete to make long-lasting, toxic-free products that are fully and easily recyclable.

<http://storyofstuff.org/movies/story-of-electronics/>

### b) “The Digital Dumping Ground”

A University of British Columbia journalism professor took some of his graduate students on a global search to find out what happened to electronics that are shipped overseas. The result is the landmark film, “The Digital Dumping Ground.”

[http://www.pbs.org/frontlineworld/stories/ghana804/video/video\\_index.html](http://www.pbs.org/frontlineworld/stories/ghana804/video/video_index.html)

## Part 3: “Above-ground Mining”: Responsible Recycling and A School Collection Event

Did You Know...?

Through e-waste recycling, 14 tonnes of e-waste will make one tonne of copper versus having to mine 80 tonnes of raw ore to extract one tonne of copper.

“E-waste” is not garbage – it contains valuable materials like gold and copper, along with plastics and glass that can be safely recycled to manufacture new products. Authorized recycling depots work to ensure that electronic recyclables are not shipped to sub-standard offshore facilities. When electronics are brought to one of these approved collection sites, the items are shipped to approved processors, inspected and weighed, and then safely dismantled and separated into individual components. Devices are taken apart for plastics, metals and circuit boards that are shipped to their respective recyclers, e.g:

- Plastics are chipped, melted and produced as plastic pellets to make other plastic products (ice scrapers, picnic tables, water pipes, etc.)
- Metals and wires are melted and become new metal products (computer cases, snow shovels, etc.)
- Recycled glass is fabricated into new monitors or TVs.
- Printed circuit boards are processed to recover copper, lead, selenium, ceramics, gold, silver, and platinum.
- Recycling electronics keeps dangerous substances like lead, cadmium and mercury out of landfills.



## Activity: Host an Electronics Collection Event!

Organize and host an electronics reuse and recycling event at your school. Invite the entire community – households, parents with offices, local governments, library workers, local businesses... almost everyone has e-waste that they are responsible for.

### 1. Find an Authorized Depot to Take your Stuff!

Have students connect with your local municipality to determine the local process of electronic recycling, and research the resources below to decide the best way to organize a pick-up or drop-off of the electronics you collect.

- Check out the Recycling Council of BC's "Recyclopedia" to find a location to recycle specific materials. <http://www.rcbc.bc.ca>
- Check out the What's the Green Deal? website to find out what London Drugs will recycle: <http://greendeal.ca/recycling>
- Find a depot near you by entering your postal code on this site below: <http://www.electrorecycle.ca>

2. Location: Determine the best place to host the event: e.g. somewhere on the school grounds where items can be easily dropped off, sorted, packed and picked up without blocking traffic flow.

3. Date: As a class, decide on the best date for a collections event – the time when you think the greatest number of the school community can participate. E.g. Saturday morning or part of a school fair, spirit celebration or environmental event.

4. Advertise! Have students figure out the best way to reach their fellow students and the wider school community. This could include posters, public announcements, presentations, and social media.

Remember to Protect Privacy! Remind people to clear all personal information from computers, cell phones and electronics before recycling them, to protect their privacy. Note: London Drugs ensures that all personal data is destroyed on computers and other data devices before being recycled.

5. Support: Contact a local agency that recycles or reuses electronics and ask them to participate: i.e. attend the event, provide green purchasing tips, advice on data security, help analyze which electronics are reusable and which need recycling.

6. Sorting and Pick-up: Have students sort the collected electronics as required by the municipality and recycling depot for pick-up or drop-off.

7. Celebrate! Have the class report the results of your collection event to the school and community, and congratulate participants on their success!

8. Take pictures of your recycling and share on social media – search for green-minded bloggers, organizations and media (Like London Drugs' What's the Green Deal Twitter feed - @WTGreenDeal; David Suzuki Foundation's Queen of Green @QueenofGreen ). Remember to make sure you have permission to post pictures of other people and check with your parents, teachers or other people involved to make sure you are sharing responsibly.



## Electronic Device Audit Table

Type of Device	# Of Each Device (In-Use)	# Stored (Out-Of- Use)	Number Changed In 5 Yrs
Answering machine			
Audio recorder (tape, disk, etc.)			
Camera (tape, disk, digital)			
CD-ROM drive			
Computer disk drive			
Computer flatbed scanner			
Computer keyboard			
Computer mouse			
Computer terminal			
Copier			
Stereo equalizer			
Stereo preamplifier			
Stereo amplifiers			
Stereo receiver/tuner			
Speaker			
Fax machine			
Micro-computer			
Mini-computer			
Desktop computer tower			
Laptop computer			
Modem			
Monitor (CRT, LCD, plasma)			
Personal Digital Assistant			
Personal handheld tablets			
Printer			
Radio			
Telephone (cordless)			
Telephone (landline)			
Telephone (mobile)			
Television (CRT, LCD, plasma)			
Turntable			
Typewriter			
Video player/projector			
Video recorder			
Other:			
Totals:			

## 9. Projects and Presentations: Putting it all Together

### *Description:*

A template for student teams to create a compilation of their research, experiences, interviews and data / findings to present to the class / another class / post to the Stewards of the Future web site.

### *Rationale:*

Capture Your Progress! The Importance of Documentation

Documentation is important: keeping a record of a projects' progress, timelines, successes and challenges helps in tracking a projects' evolution, development and conclusions, and in building a final presentation. Also, classes in subsequent years can choose to pick up well-documented projects and continue them, building on past student work and furthering the end goals.

### *Materials:*

- Copies of the suggested framework for students to review, project notes and research, chart paper, markers.

### *Procedure:*

1. As a class, decide on how you would like to present your project research: is it best done through a poster? Powerpoint presentation? Slideshow?
2. Have teams of students work together to select main themes or sections of the project that each group can then work on to develop. Use the suggested framework to define the different sections and assist in compiling the information, or another format if you prefer.

### *A Suggested Framework for projects / presentations:*

#### *Introduction to the Issue:*

What it is about, why is it happening, what importance is it to your community?

(If applicable, include some of the highlights from Activity 1: Voices from the Land, to illustrate how the issue may affect the special features and places that make up your community.)

#### *Stakeholders:*

Who are the main people involved?  
What are their jobs/roles?

#### *Background:*

How and why you selected the issue (use the Systems Thinking /concept map notes from Activities 3 and 4 if applicable)

#### *Impacts:*

What is the issue / problem / challenge?  
How does it affect you / your community?

#### *Boundaries and Scale:*

What is the scale of the issue? Local? Regional? Provincial? National?

#### *Development/Evolution:*

What is the timeline or sequence of events?  
How did it start? How has it changed? What might happen next?

#### *Networks and Connections:*

List the many systems (e.g., ecological, social, cultural, political, economic) that the issue is connected to and interdependent on, and describe the connections and relationships.

#### *Media:*

Are there any media articles/ news releases about the issue to include?

#### *Literary / Art / Poetry / Music piece:*

Can you respond to or present your findings in a creative, fun way?

#### *Summary/ Suggested Solutions:*

What are some suggested next steps you'd like to do and see?

Completed and submitted projects are to be posted on the Stewards of the Future website and shared at any year-end celebrations.

## 10. Discuss, Debate and Propose Solutions

### *Description:*

Students conduct a town hall public hearing, a mock city council meeting or a debate, and role-play individuals representing differing perspectives and concerns related to a complex issue of relevance to their community.

### *Rationale:*

There are many perspectives, needs and differing priorities involved in decisions about land use, stewardship and community development. Stewardship is an ongoing and complicated process, involving input from all those involved. By exploring the different ecological, economic, cultural, spiritual and aesthetic values of an issue, students deepen their understanding of the issues involved. For example, researching and debating the conflicting priorities and outcomes of issues such as a resource extraction project, dealing with invasive species, establishing a park, constructing a dam, sustainable agriculture, or collaboration between industry and First Nations. Students that are thinking long term, searching for durable solutions with mutual gain (win –win), and informed by knowledge of the whole ecosystem and a range of values will help to build strong communities.

### *Materials:*

Background information on an issue of importance to the community /region that has relevance to the students such as a housing development, land claim issues, park proposal, a local resource-based development, etc. Information may be in the form of media articles, internet searches, key stakeholders for students to interview, etc.

### *Procedure:*

1. Generate an initial discussion with students about the selected issue, discussing some of the possible costs and benefits, and exploring it from a variety of perspectives.
2. Divide the students up into several groups based on the positions defined by the issue (e.g. land owner, community leader, developer, First Nations, environmental group, government). Establish a balanced variety of roles, with groups having conflicting values and concerns relating to the potential impacts of this issue. Have each group research and prepare their groups concerns and wishes for the area/issue in question. Tell students that they will be making a presentation representing their groups' position on the issue at a "public hearing" to be held in several weeks time in class.
3. Group members should work together to decide on their groups' concerns. Presentations should have strong arguments for the groups' position. Limit presentation time per group accordingly (e.g., 5 – 8 minutes). Encourage students to use whatever media might support their case: maps, diagrams, photos, news articles, their own drawings, etc. Provide 2-3 weeks for students to compile their research and develop their presentations.

4. Provide students with the following outline for their presentations. Key issues that the group members need to address at the public hearing include:
  - Who they represent;
  - Their group position on the issue: what and why;
  - Impacts of the issue: What happens to the environment/ water/ wildlife?
  - What happens to logging/ fishing / mining / ranching (etc.) rights (if applicable);
  - Impacts to the lifestyles of the people living in the region.
5. Public Meeting

Arrange the classroom to represent a meeting room or council chamber. As “chairperson”, call the meeting to order and run the meeting, timing each groups’ presentation and facilitating questions from the floor. After all testimony has been made and questions asked, adjourn the hearing.
6. Students should return to their groups, discuss the hearing, and decide whether they are or are not willing to compromise. Each group can select a decision maker who will represent the group.
7. Call the decision-making body to the table, and hold a vote. The decision can be made by voting or by consensus.
8. Following the decision, have a brief class discussion to summarize the pros and cons that emerged from the students’ presentations. Identify and list the benefits and costs on the board, as a result of the decision on the chosen issue. Include effects on people, plants, animals and ecosystems (e.g., water, forests, ocean, air, etc.).
9. Out of role, discuss some of the following:
  - What are some things you have learned about land use issues and decision-making? What factors influence it?
  - What responsibilities do we have as citizens in helping make land use decisions?
  - What is the importance of land use planning? How does it affect people, communities, wildlife, environment?
10. To extend the learning, have students write essays describing their own personal recommendation on the issue.



## 11. Celebration and Community Engagement

### Description:

Students present their completed research and project work to another class, and/or community audience, and a celebratory event is held to showcase and highlight their efforts. (e.g., pizza party, potluck lunch or dessert/ cookie party, an outing, media coverage).

### Rationale:

Celebration is an important component of action projects. Celebrations can take place during major project milestones or when the project is complete. Holding a celebration is a chance for students to showcase their work, and to give back to the community that provided them with the experiences and information that helped them with their research. It is also a chance to profile the issues and the community and encourage further action towards sustainable solutions.

### Materials:

- Completed projects and presentations, an audience, venue, and food!



### Procedure:

1. Discuss holding a celebration with the class as part of their project presentations. The celebration doesn't have to be big or complicated, and it's an important finale to students work. Student presentations could be given to other classes, the organization they worked with in their community, or the local Rotary Club. Other suggestions for highlighting student work include hosting a school / community event, writing a media story, putting up displays of student work in the school, the local library, mall, etc. If applicable, the displays could include class presentations of students' photographic projects from Activity 1: *Voices from the Land*.
2. Have students discuss what they would like to do as part of their celebration, and who they would like to invite. List all the key stakeholders, participants and community partners that students worked with.
3. Engage students in making it happen. Set a time and date, and arrange teams to help with preparations on budgets, invitations, logistics (i.e., equipment needed), food purchase/prep, media contacts (if applicable), timetable, etc..
4. Further civic engagement could include letters to the editor, presentations to city council, and meetings with local politicians about the issues and projects.

Adapted from C2C: Connecting to Conservation, a HCTF Secondary School program)

# Appendices

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## A. Program Forms

- 1. Application Process and Checklist of Criteria**
- 2. Photo / Video Consent and Release Form**
- 3. Student Passport**

## B. Teacher/Educator Resources

- 1. Outdoor Group Management Tips**
- 2. Outdoor Field Trip Planner Sheet**
- 3. A Note on Conservation When Teaching Outdoors**
- 4. Field Trip Checklist**

## C. Links to BC Ministry of Education Curriculum Grades 9 - 12

## D. Resources and References

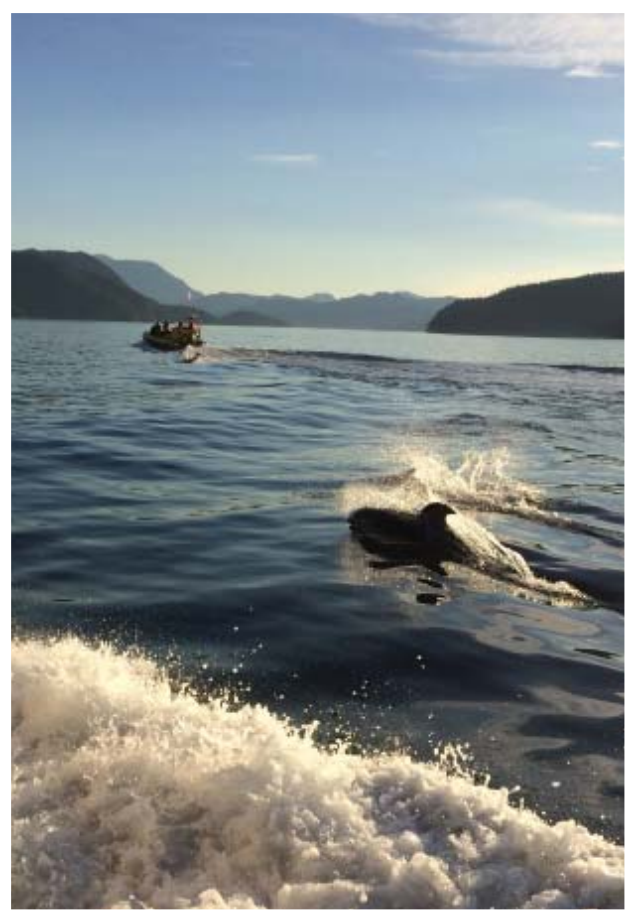
- 1. Educator Resources & References**
- 2. References**
- 3. List of Stewards of the Future Partners**



# A. Program Forms

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1. Application Process and Checklist of Criteria
2. Photo / Video Consent and Release Form
3. Student Passport



# 1. Stewards of the Future: Application Process and Checklist of Criteria

Please fill out the following Application Form to apply for the Stewards of the Future program. The form asks for some details on what issue(s) you would like to explore with your students, activities you hope to do, potential field study sites you would like to visit, and how the particular field trip(s) and activities will be hands-on. Other considerations to include in your application are linkages to your school, district or group goals, and community groups you hope to engage with.

**Apply by Friday November 27, 2015.**

Review the Checklist below to see if your project is suitable!

## √ **Criteria: Applications Need To:**

- explore community-based issues
- focus on a sustainability/stewardship/nature theme: e.g. agriculture, parks and protected areas, food security, energy, oil and gas, biodiversity, water quality, restoration, forestry, aquaculture, recreation.
- have clear objectives for why you want to explore issue(s)
- provide inquiry and hands-on learning experiences
- include hosting at least one guest speaker related to the issue
- include at least one outdoor field trip
- include what you will use the funding for
- link activities to prescribed curriculum (if applicable)

## **Funding**

Single class/group applications (from \$200 - \$800 /class/application\*) are to be used for:

- bus transportation;
- field project materials, equipment, field guides and supplies (e.g., pH meter, nets, plants, shovels, nest boxes)
- outdoor field trip leader honorarium or program fee
- teacher release time

*\*Note: Please only apply for the amount of funding you need for your specific project, as that will allow more classes and groups to participate in this initiative.*

## **Requirements**

Conference Applicants: In order to apply to attend the Stewards of the Future Conference, successful grant applicants must submit a Project Summary report with at least one photo by **Friday May 20, 2016**. Otherwise, applicants' Project Summary reports with at least one photo must be submitted by **Friday June 17, 2016**. All successful applicants must participate in a brief post-program evaluation.

## **Apply Now!**

[www.ltgov.bc.ca/lg/priority-programs/stewards/default.html](http://www.ltgov.bc.ca/lg/priority-programs/stewards/default.html)

## **Disbursements**

Funds are provided by the Government House Foundation and are distributed by the Stewards of the Future Review Committee. Once the completed project plus at least one photograph has been submitted, teachers/leaders may apply for further available funds to be used for a celebration, community outreach activities, or continuation of the project.

*\*Note: you are welcome to participate in the program regardless of funding availability. Please see our Partners and Resources list, as some partners offer additional sources of funding.*

## 2. Stewards of the Future: Photo / Video Consent and Release Form

Student's Name .....

I, (parent or guardian: print name) .....  
effective as of the date I sign below, hereby acknowledge and agree with the following:

The Government House Foundation and the Stewards of the Future initiative may use photographs, audio and/or video recordings, sketches, notes or other materials that capture my child's image, voice, likeness, comments or other personal information (collectively, "Recordings"), whether created by or on behalf of Government House Foundation, or provided by me and/or others on my behalf.

These Recordings may be used by Government House Foundation for educational, editorial, public relations and/or public promotion, including reproducing, modifying, making derivative works from, publishing, distributing and broadcasting them, in whole or in part, in any manner that it wishes, including by way of the Internet.

BY SIGNING BELOW I CONFIRM THAT I HAVE READ, UNDERSTOOD AND AGREE TO THE TERMS AND CONDITIONS OF THIS CONSENT AND RELEASE.

If the subject or creator of the Recordings is a person under the age of 19, I represent and warrant that I am at least 19 years of age and I have the authority to, and I do hereby, agree in conjunction with or for and on behalf of the Minor, as well as myself, to all of the terms and conditions contained in this Consent and Release.

SIGNED AND DELIVERED THIS ..... DAY OF ..... , 20.....:

.....

Signature

.....

Signature of Minor (if at least age 13)

### 3. Stewards of the Future: Student Passport

The Stewards of the Future Student Passport is a separate downloadable checklist for students to access and fill out, in order to explore further stewardship opportunities, and be eligible for additional program recognition.

Note: This is an optional initiative – students do not have to complete the Passport in order to be part of the SoF program. The Passport allows students who would like to pursue further opportunities independently to do so, and to be recognized for their interest and participation.

#### Completing the Passport

Students who wish to participate can download the passport from the SoF website. They then take part in some of the listed activities and site visits applicable to their community, have the Passport signed by a teacher and/or leader / parent, and submit it to the Government House Foundation for additional recognition and a commemorative pin from the Lieutenant Governor. Wherever possible teachers/leaders are asked to send passports in as a batch for a group that is participating.

#### Submitting Students Passports

Passports can be scanned and submitted online via email to

**Email:** [info@bcgovhousefoundation.ca](mailto:info@bcgovhousefoundation.ca)

**Fax:** 250-387-2078

**or mailed to:** Stewards of the Future  
Government House Foundation  
1401 Rockland Avenue  
Victoria, British Columbia V8S 1V9

#### Student Passport

Welcome! The Student Passport is part of the Stewards of the Future initiative, a program of Lieutenant Governor Judith Guichon. This passport demonstrates the bearer's commitment to activities that promote healthy land, with healthy people, in healthy communities.

#### Instructions:

Read through the checklist of activities and events, and complete at least 8 of the 11 items. There is no time limit for this, but items must be signed off by a teacher, supervisor or parent and a scan of the passport must be sent to Government House.

If you complete eight or more activities, get the Passport signed by a teacher or group leader and then send it in. You will receive a personal letter of recognition and a special pin from the Lieutenant Governor, and be listed on the Government House Foundation website as a Steward of the Future.

# Stewards of the Future Passport

First Name ..... Last Name .....  
 School/Group ..... Teacher/Leader's Name .....  
 Date Issued ..... \*Signature .....

**Projects, Events and Site Visits:** Check off the ones you have done!

Activity	Date	Details and Comment (Where/what/how/what I learned)	Witness Signature*
1 I attended a community meeting (e.g. city council, regional district, band council)			
2 I participated in a student or peer debate or discussion on a resource/environment issue			
3 I volunteered with an environmental project (e.g., stream/park/shoreline cleanup, invasive removal) or visited a landfill or sewage treatment plant.			
4 I worked with a local stewardship group (e.g., recycling, water bottle reduction, awareness)			
5 I visited an ongoing and sustainable resource site (e.g., a ranch/farm/fish hatchery or tree farm)			
6 I visited or learned about an extractive or high impact resource development site (e.g., a mine, mill, gas/oil plant or hydro site)			
7 I listened to a guest speaker or watched a film discussing water or energy extraction.			
8 I listened to a guest speaker or watched a film discussing wildlife or biodiversity.			
9 I hiked, paddled, skied or cycled in a wilderness area or park (any non-motorized travel)			
10 I shared what I learned from this program through a presentation, letter, article, or blog.			
11 I recycled one or more of my used electronic devices, batteries and/or appliances at an authorized recycling depot (e.g. London Drugs, Electrorecycle depots, etc.)			
12 I participated in a grocery store tour to learn about sustainable food choices.			
13. Other - an item that matches the themes of this program			

\* A signature from a teacher, principal, group leader and/or parent is proof that the bearer has been actively engaged in activities, site visits, and/or projects in their school and community.

# B. Teacher /Leader Tips

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1. **Outdoor Group Management Tips**
2. **Outdoor Field Trip Planner Sheet**
3. **A Note on Conservation When Teaching Outdoors**
4. **Field Trip Checklist**



# 1. Outdoor Group Management Tips

Loss of control is an issue for most teachers and group leaders when thinking about taking students outside. Unfortunately, most students are not accustomed to be taken outside for any reason other than to “play” at recess - hence the term “recess syndrome” for the boundless energy and enthusiasm they often display. This energy can be overwhelming, and not productive for learning, leading to a less than successful outing. Here are some group management tips to help guide your outdoor experiences:

## Set the Stage:

### Planning, Ground Rules and Clothing

Let students know what is expected of them. Send the teacher information beforehand to share with the class about where they’ll be going, what they will be doing and what to wear. For example, good footwear i.e., no sandals or heels! and a wind / waterproof jacket are very important. Before heading out, ask students for suggestions for ground rules and agree on them as a group. Use a whistle, duck call or other audible signal to gather the group together, and let them know it’s time to look and listen when they hear it.

### Set Some Boundaries

Once outside, make sure all students can be seen and stress that they must be able to see you at all times. Set clear physical boundaries that students understand and can’t wander beyond. For example: “ Don’t go past the big maple tree and the edge of the field”, or “If I can’t see you, you’ve gone too far”. Use some rope or flagging tape to make sure the boundary areas are clear, to mark certain areas to protect from foot traffic, and to flag any “danger zones” where students might get injured. Try out the whistle to gather the group together, and agree on a meeting place where the group will gather when called.

## Safety Rules

Review some basic safety rules with the group:

- Choose a buddy and keep them in sight all day.
- If you get separated from the group, Stay Put! Hug a Tree – stay in one place and the group will find you quicker.
- Ensure everyone is dressed properly, has adequate water and food with them, and knows who has the First Aid kit.

## Use well - defined activities rather than loose explorations.

Gather the group together before each activity, explain and demonstrate the task, and set boundaries for exploration. Simple tools such as paint chips, magnifying glasses or toilet paper tubes as “scopes” help focus student’s attention. Let them go while you mingle, admire and support their discoveries. End the activity back in a circle with a sharing and quick debrief. For longer outdoor stays, begin with a hike or an active game to allow students to burn off some energy and enable them to focus more easily on the more reflective activities.

## Bad Weather Backup Plans

Have some backup plans in case of poor weather, such as a shelter or big tree to retreat to, or a tarp strung between trees. You can still get out and do activities in the rain or cold as long as people are dressed for it. Remember that paper “melts” in the rain – bring big zip lock bags to put any paper or books in. Bring along some “emergency ponchos” – big garbage bags with holes cut out for head and arms, some plastic grocery bags to stuff into leaky boots or shoes, and a few hats. If the weather is terrible, postpone the trip: no sense in making the experience a misery for all involved.

## 2. Outdoor Field Trip Planner Sheet

Use this sheet to check out your field trip site, use it to review site specifics, and make a final copy for all helpers coming with you.

Destination .....

Date of Field Trip.....

Description of Area .....

Driving Directions .....

Map/Chart (attach a MapQuest or Google Maps or photocopy that shows the route)

Meeting Spot (location/specifics) .....

Benefits of Using This Area .....

Space For Large Group Activity .....

Special Features .....

Description of Trails/Accessibility .....

Washrooms/Water .....

Rest and Lunch Spots .....

Potential Hazards/Precautions .....

Special Considerations (site and group) .....

Contingency Plans .....

.....

Site Specific Emergency Contact Numbers .....

*Is the site within Cell phone range?*

Cell phone contact number(s) .....

Nearest Land Phone location .....

Nearest Medical Facility .....

Nearest Hospital .....

School phone number .....



### 3. A Note on Conservation When Teaching Outdoors

Effective environmental learning involves direct experience with the natural world, but care must be taken not to jeopardize the very life forms and environments we are learning from. These basic guidelines form part of a conservation ethic that should be an essential part of all outdoor programs. We have found that instead of “preaching” these guidelines to your class or group, it is much more effective to have them generate their own list through a brainstorming activity.

#### **Stay on the Trail**

This minimizes your impact on plant life and allows animals to adapt to human use of an area.

#### **Patting Prevents Picking**

Explore, feel, smell, and sense natural objects such as leaves, shells, tree branches and feathers, but do not pick any live plant material or remove things from their location: this is their home.

#### **Turn the Rocks or Logs Back Over**

When exploring under a rock or log, do so gently. Try not to crush plants and animals that may be living on, beside or under it, and put the rock or log back the way it was when you’ve finished investigating.

#### **Fill in Any Holes.**

Whether digging on a beach for burrowing animals or exploring the soil layers of a forest floor, fill in any holes you create. Plants, insects and animals living in the area will be disturbed by piles of dirt covering their burrows and trails.

#### **Wildlife Viewing Etiquette**

Observe wildlife as quietly as possible – stress is harmful to animals, so respect their space and habitat. Never chase animals, touch or feed them. Remember that birds and animals need resting periods during the day - use binoculars and keep a respectable distance away.

#### **Leave all Specimens, Alive or Dead, in Their Natural Habitat.**

Do all of your discovering on-site – observe living things in their home place. Do not move plants or animals from one location to another, and do not take any organisms away. Dead leaves, fungi, shells of animals, stones, and seeds all have a role to play in their ecosystem. Don’t allow activities that stress collecting, pressing and drying of specimens: their teaching potential is limited, and students can demonstrate the same skills of identification, observation, and categorizing with live specimens in their natural habitat.

#### **Leave No Trace.**

In every way, try to leave the environment and its inhabitants unchanged by your visit. Pack out all garbage, even though you may not have brought it in. Bring along some garbage bags, and protect garbage collectors’ hands with small plastic bags or gloves.

## 4. Field Trip Checklist

### Things to Do Before, During and After a Trip

#### Pre field trip

- Send **student waivers** to parents and get them returned.
- Hand out **list of things** students need to bring (e.g., journals, raingear, hat, sun screen, bug repellent, water, snacks, lunch, "sit-upons", solid footwear) NO dress shoes, heels, open toes or sandals, no cell phones or electronic devices.
- Transportation:** parent drivers (organize car-pooling and maps)
- Organize bus and any money needed from students
- Walking: outline route
- Parent / Volunteer helpers:** send them all an outline of their expectations /tasks
- Document emergency procedures and phone numbers**
- First aid kits and any student medication:** who will carry them .....
- Sick kid plan:** Who will handle this if it arises on the trip: .....

#### Planning

- Make name tags for all students and volunteer helpers / other teachers
- Organize a buddy system.
- Make student group configurations for small group work.
- Volunteer helpers: check that they know their roles and responsibilities.
- Do a site visit to avoid any surprises and get familiar with the site.

- Do some pre-trip activities that lead in and prepare students (sensory awareness)
- Share the day's agenda and site layout with your class.
- Get a map that includes site layout plus parking, washrooms, picnic sites etc..
- Scheduling at the site: bus return time .....snack breaks ..... lunch .....
- Activity priorities: what you'll omit if constrained by time
- Prepare payments if needed (program/ parking).

#### The Day of the field trip

- Share itinerary and map with drivers and leaders: include contact numbers in case anyone gets lost or delayed.
- Class list - check students off as class arrives and departs site.
- Contingency plans for inclement weather:
- Review the "what if" procedures if anyone gets separated.
- Take lots of pictures!

#### After the field trip

- Follow-up and Celebration: Summarize learning experiences with a class mural, displays, photos, posters, stories, poems, maps, etc..
- Reflection: Did you achieve your outcomes as planned? If not, is that necessarily a bad thing? Positive elements / challenges of the trip. Things to do differently next time.

# C. BC Ministry of Education Curriculum

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## Please Note

This program is not intended to replace or compete with any existing curriculum. However, all activities and resources meet the Ministry of Education’s prescribed learning outcomes for many secondary level courses. See the Table of Prescribed Learning Outcome Connections for Grades 9 - 12 for a full listing.



## NOTE to Educators:

### **Some Background: Curriculum Revisions are Happening in BC**

Aligning any supplementary education program, project or field trip to the prescribed curriculum is an essential stage in its adaptation and implementation by teachers: it needs to fit with what they are teaching, and meet key learning requirements.

The BC Ministry of Education has been undergoing an extensive process of curriculum consultation, review and transformation since 2010, based on current research and 21st century learning skills, to better meet the needs of all students. BC has a number of new curriculum initiatives underway and several recent ones completed; positioning and linking this resource properly can accelerate its adoption and use.

Curriculum transformation is a lengthy process, meaning teachers will be using the current Learning Outcomes (2008 – 2011) and exploring the draft redesigned curriculum packages for several years to come. While this presents a challenge for both curriculum developers and teachers, it also provides a great opportunity to design a coherent approach to undertaking stewardship projects with students! It seems that the new draft curriculum has more “room” for teacher innovation and adaptation, and for exploring the big ideas and lifelong learning skills that action projects provide – good news for project-based learning and stewardship projects.

## The First Peoples Principles of Learning

(BC Ministry of Education, 2007) also provide great options for project-based learning opportunities, as indigenous pedagogy supports learning by doing, learning through authentic experiences and individualized instruction, and learning through enjoyment – all elements of the Stewards of the Future program.

## Transforming Curriculum and Assessment: The New Draft Curriculum Grade 9

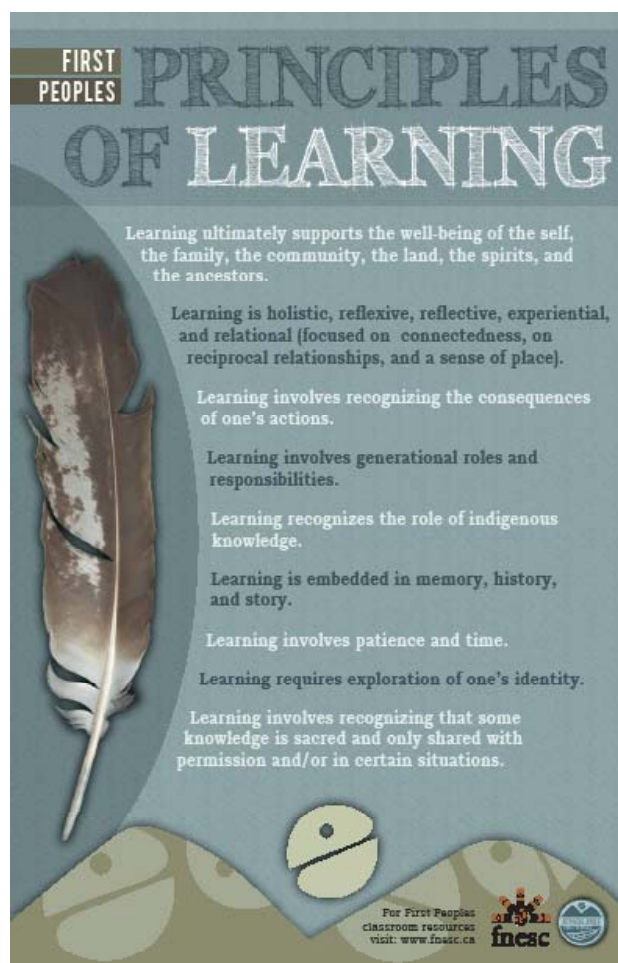
The draft BC curriculum prototype includes five design elements (curriculum organizers, big ideas, learning standards, competency links, and implementation links). These elements are intended to make curriculum more flexible, to better enable teachers to innovate and personalize learning, provide more focus to higher order learning, key concepts and enduring understandings (big ideas), and integrate Aboriginal worldviews and knowledge. More details can be found at <https://curriculum.gov.bc.ca>.

As of this writing, there are currently four curriculum drafts available that are applicable to this projects' grade levels: *Grade 9: English Language Arts, Social Studies, Mathematics, and Science*. Their Big Ideas and Learning Standards are cross-referenced with the current Grade 9 course Prescribed Learning Outcomes in the table below, to provide a map to using both documents to support stewardship, action projects and outdoor learning.

## Table: Prescribed Learning Outcomes Links for Grades 9 – 12

**NOTE:** Courses and learning outcomes with the strongest links to stewardship projects and activities are highlighted in **blue** text below.

Draft Grade 9 learning standards are also included for currently existing courses.



## Grade 9

Course	Prescribed Learning Outcomes
Business Education	<ul style="list-style-type: none"> <li>explain how factors of production including land, labour, capital, and entrepreneurship affect business decision making</li> <li>outline methods of resource allocation in various economic systems</li> <li>contrast various forms of business ownership</li> <li>explain the role of research and innovation in entrepreneurship</li> <li>outline and develop plans to overcome obstacles involved in starting a business</li> </ul>
Physical Activity	<ul style="list-style-type: none"> <li>participate in physical activities for a minimum of 30 minutes during each school day</li> </ul>
English Language Arts	<ul style="list-style-type: none"> <li>express ideas and information in a variety of situations and forms to: explore and respond, recall and describe, narrate and explain, persuade and support, engage and entertain.</li> <li>select and use a range of strategies to interact and collaborate with others in pairs and groups, including: selecting methods for working together effectively: listening actively; contributing ideas and recognizing the ideas of others</li> <li>demonstrating awareness of diverse points of view – reaching consensus or agreeing to differ</li> <li>select and use a range of strategies to prepare oral communications, express ideas and information</li> </ul> <p><i>New Draft Learning Standards/Curricular Competencies (2013)</i></p> <ul style="list-style-type: none"> <li>Analyze the accuracy, reliability, and relevance of information</li> <li>Use oral language to explore and express ideas, communicate clearly, and evoke emotion</li> <li>Assess and adjust communication to improve its clarity, effectiveness, and impact</li> <li>Present ideas and information and adjust point of view, voice, and tone for a variety of purposes</li> <li>Develop and defend a position with supporting evidence</li> </ul>
Health & Career Education	<ul style="list-style-type: none"> <li>describe ways of exploring career options (e.g., job shadowing, mentoring, volunteering)</li> </ul>

<p><b>Math</b></p>	<p><i>New draft Learning Standards/Curricular Competencies (2013)</i></p> <p><i>Big Ideas:</i></p> <ul style="list-style-type: none"> <li>• Through inquiry, we explore mathematics flexibly, creatively, and reflectively.</li> <li>• Topics in mathematics are interconnected and interrelated</li> </ul> <p><i>Learning Standards:</i></p> <ul style="list-style-type: none"> <li>• Connect mathematical concepts to each other and make mathematical connections to the real world</li> <li>• Explore, demonstrate, apply, and connect mathematical concepts incorporated in other disciplines</li> </ul>
<p><b>Science</b></p>	<ul style="list-style-type: none"> <li>• demonstrate competence in the use of technologies specific to investigative procedures and research</li> <li>• describe changes in the properties of matter</li> <li>• relate electrical energy to power consumption</li> </ul> <p><i>New draft Learning Standards/Curricular Competencies (2013)</i></p> <p><i>Big Ideas:</i></p> <ul style="list-style-type: none"> <li>• Earth is composed of four interacting spheres through which matter cycles</li> </ul> <p><i>Learning Standards:</i></p> <ul style="list-style-type: none"> <li>• Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest</li> <li>• Make observations aimed at identifying their own questions, including increasingly abstract ones, about the natural world</li> <li>• Formulate multiple hypotheses and predict multiple outcomes</li> <li>• Collaboratively and individually plan, select and use appropriate investigation methods, including field work and lab experiments, to collect reliable data.</li> <li>• Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data.</li> <li>• Seek and analyze patterns, trends and connections in data, including describing relationships between variables and identifying inconsistencies</li> <li>• Use knowledge of scientific concepts to draw conclusions that are consistent with evidence</li> <li>• Describe specific ways to improve the investigation methods and the quality of the data.</li> <li>• Communicate scientific ideas, information and perhaps a suggested course of action, for a specific purpose and audience</li> </ul>

## Social Studies

- assess the reliability, currency, and objectivity of different interpretations of primary and secondary sources
- identify and clarify a problem, an issue, or an inquiry
- co-operatively plan, implement, and assess a course of action that addresses the problem, issue, or inquiry
- defend a position on a controversial issue after considering a variety of perspectives
- plan, revise, and deliver formal oral and written presentations
- assess the role of geographical factors in the development of trade and settlement in Canada and other colonies
- construct, interpret, and use graphs, tables, grids, scales, legends, contours, and various types of maps
- demonstrate understanding of the ways in which Aboriginal people interact with their environment
- describe and compare North America's diverse geographical regions

*New draft Learning Standards/Curricular Competencies (2013)*

*Big Ideas:*

- Change is driven by multiple causes and results in multiple consequences
- The physical environment influences the nature of political, social, and cultural development.

*Learning Standards:*

- Use Social Studies inquiry processes: ask questions, gather, interpret and analyze ideas, and communicate findings and decisions.
- Assess and compare the significance of people, places, events and developments over time and place, and determine what they reveal about issues in the past and present.
- Determine and assess the long and short-term causes and consequences and the intended and unintended consequences of an event, decision, or development.
- Explain different perspectives on past or present people, places, issues and events and distinguish between worldviews of today and the past.

## Grade 10

Course	Prescribed Learning Outcomes
<b>Business Education</b>	<ul style="list-style-type: none"> <li>• apply interpersonal and teamwork skills to generate alternative solutions to business problems or challenges</li> <li>• outline methods used to facilitate and predict economic development</li> <li>• evaluate how trends in society affect employment in the marketing sector and in education</li> <li>• outline factors contributing to product value</li> </ul>
<b>Daily Physical Activity</b>	<ul style="list-style-type: none"> <li>• participate in moderate to vigorous physical activity for a minimum of 150 minutes per week</li> </ul>
<b>English 10 First Peoples</b>	<ul style="list-style-type: none"> <li>• speak and listen to synthesize and extend thinking by: personalizing, explaining relationships, applying new ideas, transforming existing ideas and contextualizing ideas, information and understandings.</li> <li>• use meta-cognitive strategies to reflect on and assess writing and representing by: making connections to First Peoples principles of learning</li> </ul>
<b>English Language Arts</b>	<ul style="list-style-type: none"> <li>• express ideas and information in a variety of situations and forms to: explore and respond/ recall and describe/narrate and explain/argue, persuade, and support/ engage and entertain.</li> <li>• select and use a range of strategies to interact and collaborate with others in pairs and groups</li> <li>• select and use a range of strategies to prepare oral communications</li> <li>• speak and listen to synthesize and extend thinking, by: personalizing ideas and information/ explaining</li> <li>• relationships among ideas and information, applying, transforming and contextualizing new ideas and information.</li> </ul>
<b>Graduation Transitions</b>	<ul style="list-style-type: none"> <li>• demonstrate the skills required to work effectively and safely with others and to succeed as individual and collaborative workers, by: participating in at least 30 hours of work experience and/or community service</li> <li>• describing the duties performed, the connections between the experience and employability/life skills, and the benefit to the community and to the student</li> </ul>



<b>Home Economics: Family Studies/ Food and Nutrition</b>	<ul style="list-style-type: none"> <li>• identify and describe occupations and careers related to adults / families/ living environments</li> <li>• describe a variety of food marketing techniques</li> <li>• identify factors that affect food production and supply, especially in Canada today</li> <li>• describe the cultural origins of menus, recipes, ingredients, meal etiquette of variety of ethnic, regional, and local cuisines</li> <li>• describe food-related occupations and careers</li> </ul>
<b>Information Technology</b>	<ul style="list-style-type: none"> <li>• compare the use of information technology in different job settings within the community</li> <li>• demonstrate an awareness of the impact of electronic resources on education, careers, and recreation</li> <li>• evaluate the impact of information technology tools on the workplace, on individuals, and on society</li> </ul>
<b>Physical Education</b>	<ul style="list-style-type: none"> <li>• participate daily in moderate to vigorous physical activity to enhance fitness</li> <li>• apply leadership in a wide range of physical activity situations</li> </ul>
<b>Planning</b>	<ul style="list-style-type: none"> <li>• relate personal attributes and interests to education and career planning</li> <li>• relate labour market information (e.g., types of employment, required skills and education, salary range) to careers of interest</li> </ul>
<b>Science</b>	<p><i>Processes:</i></p> <ul style="list-style-type: none"> <li>• demonstrate safe procedures; perform experiments using the scientific method; represent and interpret information in graphic form</li> <li>• demonstrate scientific literacy; demonstrate ethical, responsible, cooperative behaviour.</li> <li>• demonstrate competence in the use of technologies specific to investigative procedures and research</li> </ul> <p><i>Sustainability of Ecosystems:</i></p> <ul style="list-style-type: none"> <li>• explain the interaction of abiotic and biotic factors within an ecosystem</li> <li>• assess the potential impacts of bioaccumulation</li> <li>• explain various ways in which natural populations are altered or kept in equilibrium</li> <li>• evaluate possible causes of climate change and its impact on natural systems</li> </ul>
<b>Social Studies</b>	<p><i>Skills and Processes:</i></p> <ul style="list-style-type: none"> <li>• apply critical thinking skills, effective research skills, effective written, oral, and graphic communication skills, individually and collaboratively</li> <li>• describe the physiographic regions of Canada and the geological processes that formed these regions</li> </ul>

## Grade 11

Course	Prescribed Learning Outcomes
<b>Applied Skills</b>	<ul style="list-style-type: none"> <li>• analyse and use appropriate problem-solving strategies and critical thinking when resolving problems in a variety of contexts</li> <li>• identify and apply appropriate knowledge, skills, and attitudes when making choices and defending decisions</li> <li>• use appropriate criteria and standards to assess and evaluate products, services, systems, and ideas</li> <li>• select appropriate information gathering and communication tools when solving problems related to applied skills areas</li> </ul>
<b>Biology 11</b>	<ul style="list-style-type: none"> <li>• demonstrate safe and correct technique for a variety of laboratory procedures</li> <li>• design an experiment using the scientific method</li> <li>• interpret data from a variety of text and visual sources</li> <li>• analyse the functional inter-relationships of organisms within an ecosystem</li> <li>• Bacteria, Plant and Animal Biology: field opportunities</li> </ul>
<b>Business Education</b>	<ul style="list-style-type: none"> <li>• demonstrate a willingness to participate as a team member</li> <li>• demonstrate acknowledgment of and respect for the different attributes, opinions, and roles of team members</li> <li>• use marketing research to identify target markets for a variety of products and services</li> <li>• identify how retailers in various locations inform target markets of their products, services, or ideas</li> <li>• describe how cultural values influence and are influenced by various marketing strategies</li> </ul>
<b>Career and Personal Planning</b>	<ul style="list-style-type: none"> <li>• develop students' abilities to plan and make decisions systematically; gather and record the information needed to make and carry out educational, career, and personal plans; and to put plans into effect, monitor and evaluate them, and make refinements as necessary.</li> <li>• analyse changes taking place in the economy, environment, and society, as they relate to current labour-market information</li> <li>• evaluate the contributions to society of various types of work</li> <li>• complete 30 hours of Work Experience that relates to career, educational, and personal goals</li> </ul>

<b>Earth Science 11</b>	<ul style="list-style-type: none"> <li>differentiate between rocks and minerals</li> <li>assess the extraction and use of geological resources</li> <li>describe the function of the hydrologic cycle</li> <li>relate the processes associated with weathering and erosion to the resulting features</li> <li>describe features and processes associated with physical oceanography</li> </ul>
<b>Graduation Transitions</b>	<ul style="list-style-type: none"> <li>engage in at least 150 minutes per week of moderate to vigorous physical activity</li> <li>participate in at least 30 hours of work experience and/or community service; describing the duties performed, the connections between the experience and employability/life skills, and the benefit to the community and the student</li> </ul>
<b>Science and Technology</b>	<p><i>Agriculture</i></p> <ul style="list-style-type: none"> <li>analyse the environmental, social, and economic significance of agriculture at the local, provincial, and global levels</li> <li>outline components of agricultural systems and ways of enhancing agriculture production</li> <li>investigate current practices related to the development of commercial agriculture products</li> <li>illustrate various roles of technology in agricultural practices</li> <li>analyse challenges and opportunities faced by agriculture industries in BC</li> </ul> <p><i>Natural resources and the Environment</i></p> <ul style="list-style-type: none"> <li>describe the major natural resources found in BC</li> <li>evaluate methods used in the extraction, processing, use and management of a locally used or produced resource</li> <li>discuss the impact of society on natural resource management and the environment</li> <li>analyse the impact of technologies on the environment</li> </ul> <p><i>Transportation</i></p> <ul style="list-style-type: none"> <li>describe the roles of transportation in society and the effects transportation has had on society</li> <li>identify key scientific and technological changes that have taken place in transportation</li> <li>analyse features incorporated into particular types of transportation</li> </ul>

## Social Studies

- apply critical thinking—including questioning, comparing, summarizing, drawing conclusions, and defending a position—to make reasoned judgments about a range of issues, situations, and topics
- demonstrate effective research skills, including: accessing and assessing information, collecting and evaluating data, organizing and presenting information, citing sources
- demonstrate skills and attitudes of active citizenship
- Human Geography: assess environmental challenges facing Canadians: global warming, ozone layer depletion, fresh water quality and supply

### *Agriculture*

- analyse the environmental, social, and economic significance of agriculture at the local, provincial, and global levels
- outline components of agricultural systems and ways of enhancing agriculture production
- assess current practices related to sustainable management of agricultural resources in BC
- investigate current practices related to the development of commercial agriculture products
- illustrate various roles of technology in agricultural practices
- analyse challenges and opportunities faced by agriculture industries in British Columbia

### *Forestry*

- analyse the environmental, social, and economic significance of forestry and related industries at the local, provincial, and global levels
- outline the dynamics of forest ecosystems
- assess current practices related to the management of sustainable forest resources in BC
- investigate current practices related to the development of commercial forest products
- illustrate various roles of technology in forest practices
- analyse challenges and opportunities faced by forest industries in BC

### *Mining*

- analyse the environmental, social, and economic impacts of acquiring mineral resources, and hydrocarbons from fossil fuels, at the local, provincial, and global levels
- describe methods used for the exploration, extraction, and processing of hydrocarbon and mineral resources
- assess current practices related to the sustainable management of hydrocarbon and mineral resources in BC
- investigate current practices related to the development of hydrocarbon and mineral resource products
- illustrate various roles of technology in the exploration, extraction, and processing of hydrocarbon and mineral resources

## Grade 12

Course	Prescribed Learning Outcomes
Biology 12	<ul style="list-style-type: none"><li>• design an experiment using the scientific method</li><li>• interpret data from a variety of text and visual sources</li><li>• describe the characteristics of water and its role in biological systems</li></ul>
Outdoor Education 11/ 12	<ul style="list-style-type: none"><li>• Demonstrate an understanding of the processes involved in organizing events and programs in the school and community and identify the benefits of participation and volunteer work in the community</li><li>• Adapt physical activities to minimize environmental impact</li><li>• Select an alternate environment activity in the community to develop a personal functional level of fitness</li><li>• Select and apply problem solving strategies when planning and leading others in specific activities</li><li>• Apply appropriate rules, routine, procedures, and safety practices in a variety of activities and environments</li><li>• Demonstrate self respect, confidence, and positive behaviours that show respect for individual abilities, interests, gender, and cultural backgrounds</li><li>• Demonstrate and describe qualities of leadership related to physical activity</li></ul>

<b>Geography 12</b>	<ul style="list-style-type: none"> <li>• assess the environmental impact of human activities, including: energy production and use, forestry, fishing, mining, agriculture, waste disposal, water use</li> <li>• assess the various considerations involved in resource management, including: sustainability, availability, social/cultural consequences, economic consequences, political consequences</li> <li>• describe the major interactions of the four spheres: atmosphere, biosphere, hydrosphere, lithosphere</li> <li>• explain the following five themes of geography: location, place, movement, regions, human and physical interaction</li> <li>• describe the features and processes associated with: running water, ground water, glaciers, wind, waves</li> <li>• describe the features and processes associated with weathering and mass wasting</li> <li>• analyse interactions between human activity and the atmosphere, with reference to: global climate change, ozone depletion, acid precipitation</li> <li>• explain how climate affects human activity</li> <li>• analyse the interactions between human activity and biomes, with reference to: deforestation, desertification, soil degradation, species depletion</li> <li>• describe how vegetation adapts to environmental conditions</li> <li>• outline characteristics of the Earth's major biomes</li> <li>• apply effective written, oral, and graphic communication skills to geography topics</li> <li>• demonstrate geographic literacy through: analysis of geographic data or information to assess reliability and identify trends and relationships</li> <li>• describe the geographic applications of current information and imaging technologies</li> </ul>
<b>Geology 12</b>	<ul style="list-style-type: none"> <li>• trace the origins of geological resources including mineral deposits, coal, petroleum, and natural gas</li> <li>• explain the significance of geological resources and their economic development</li> <li>• analyse features and processes associated with weathering and erosion</li> <li>• analyse features and processes associated with stream erosion and deposition</li> <li>• evaluate the importance of ground water</li> <li>• explain the processes and features associated with glaciation</li> </ul>

# D. Educator Resources

## 1. Environmental Education and Stewardship Organizations and Resources

This is a short list of organizations and resources that can support educators and youth in exploring, developing and carrying out project-based learning activities in their communities. The list is not meant to be exhaustive, but rather to provide a starting point for generating ideas and providing support. The Stewards of the Future Partners list ([hyperlink](#)) also provides a wide range of supporting groups and resources.

### BC Hydro's Energy Ambassadors Grades 9 – 12

<https://www10.bchydro.com/About/resources>

An awareness, action and leadership program about energy sustainability for secondary school students. Students are empowered to lead real changes by forming a team with teacher sponsors and district facilities mentors to investigate and identify areas for conservation and sustainable action within the school and district.

### BC Ministry of Education Green Schools Initiative

Includes: <http://www.bced.gov.bc.ca/greenschools/>

- **BC Green Games** is a province-wide competition for students, designed to motivate environmental action, enable sharing, and reward and celebrate the green efforts of schools in B.C.
- **Sustainable Schools Best Practices Guide** - Ideas for making schools environmentally sustainable <http://www.bced.gov.bc.ca/greenschools/pdfs/sustbestpractices.pdf>

### Check Your Head (Vancouver, BC)

Check Your Head (CYH) is a youth-driven not-for-profit organization based in Vancouver that educates and activates young people on various social issues. Extensive list of activist / social justice Resources (books, media, online, movies)

<http://checkyourhead.org/resources/>

### Community Mapping Network

<http://cmnbc.ca/>

The CMN helps communities in British Columbia map sensitive habitats and species distributions using customized data entry and digitizing tools. The Atlas Gallery now has over seventy user-friendly atlases.

### Environmental Youth Alliance: (Vancouver, BC)

EYA is a local, youth-driven non-profit that works to create a better sustainable future through grassroots projects in urban environments, [www.eya.ca](http://www.eya.ca)

Good Teacher Resources on school gardening activities, links to funding and related groups.

<http://www.eya.ca/teacher-resources.html>

### Evergreen

Mission: Inspiring action to green cities: focus on four key areas: Greenspace, Children, Food and CityWorks. Great resources on school and community gardens.

<http://www.evergreen.ca>



## **GLOBE program**

Global Learning and Observation to Benefit the Environment – a worldwide hands-on, primary and secondary school-based science and education program.

<http://www.globe.gov/home>

**Green Learning:** The Green Learning Canada Foundation provides teachers with free, high quality online education programs about energy and sustainability. Programs are comprehensively researched and tested, include extensive data bases and resources, and include many hands-on projects (e.g. solar ovens, wind turbines, home audit processes) that are relevant to students' concerns, curriculum-linked, and promote environmental stewardship. [www.greenlearning.ca](http://www.greenlearning.ca)

## **The Jellyfish Project: (Vancouver, BC)**

The JFP brings together youth, education providers, action projects and community partners through the power of music and live performance by the rock band Mindi Beach Markets. See their draft teacher resource guide on youth engagement and a six week home audit project. [www.thejellyfishproject.org](http://www.thejellyfishproject.org)

## **PlantWatch**

PlantWatch is part of the national NatureWatch series of volunteer monitoring programs designed to help identify ecological changes that may be affecting our environment. The program enables “citizen scientists” to get involved by recording flowering times for selected plant species and reporting these dates to researchers.

<http://www.naturewatch.ca/english/plantwatch/intro.html>

## **Wild BC / HCTF Education**

<http://wildbc.org>

Wild BC has a province-wide network of professional facilitators to support student

project work, funding available for outdoor action projects, and a wide range of education resources for K – 12 students. Resources that are particularly relevant include:

- Get Outdoors! An Educator's Guide to Outdoor Classrooms in Parks, School grounds and other Special Places. (2010) Parks Canada and Wild BC. Staniforth.
- Leap into Action! Simple Steps to Environmental Action (2004). BC Conservation Foundation and Wild BC. Staniforth.
- GO Grants! provides grants to K-12 schools for transportation, project materials and program fees that support outdoor learning experiences.

## **Wildlife Tree Monitoring**

<http://www.wildlifetree.org/aboutwits.htm>

WiTS supports volunteers who are interested in observing nest trees and documenting wildlife usage.

## **Youth 4 Action: Metro Vancouver Youth Leadership Model**

Youth4Action aims to support youth leaders across Metro Vancouver to achieve their vision and actions for sustainability and making real change in their schools and communities.

<http://www.metrovancouver.org/REGION/YOUTH4ACTION/Pages/default.aspx>

Many online Tools for Action to support youth taking action, including online energy calculators, manuals, how to write letters, make phone calls, and do environmental projects. <http://www.metrovancouver.org/region/teachers/Pages/K-12Resources.aspx>

## 2. Resources for Project-based Learning / Youth Engagement:

Here are some great FREE resources to download, that support getting students outside and engaged in community-based action projects.

### **Adopt a Watershed**

<http://water.epa.gov/action/adopt/index.cfm>

### **Association of Fish and Wildlife Agencies**

Outdoor Skills Education Handbook. A Guide for Developing and Implementing School-based Outdoor Skills Education (2011) and Stewardship Education: Best Practices Planning Guide.(2008)  
[http://jjcdev.com/~fishwild/?section=conservation\\_education\\_toolkit](http://jjcdev.com/~fishwild/?section=conservation_education_toolkit)

### **Buck Institute for Education:**

a range of resources around eco-literacy, experiential and place-based learning. <http://www.bie.org>

<http://www.ecoliteracy.org/strategies/place-based-learning>

### **8 Essentials for Project-Based Learning:**

[http://www.bie.org/tools/freebies/8\\_essentials\\_for\\_project-based\\_learning](http://www.bie.org/tools/freebies/8_essentials_for_project-based_learning)

### **Canadian Youth Action Guide for Agenda 21**

<http://lsf-1st.ca/en/projects/youth-taking-action/agenda-21-action-guide>

### **National Parks Service & Public Lands Institute:**

Connecting Kids to Conservation: A Resource to help you plan conservation projects with youth. Projects, planning tips, case studies and funding sources for involving youth in conservation.  
<http://www.kidstoconservation.org/>

### **Pacific Education Institute:**

Excellent resources on systems thinking, project based learning and outdoor learning. <http://www.pacificeducationinstitute.org>

Field Investigations: Using Outdoor Environments to Foster Student Learning of Scientific Processes

Sustainable Tomorrow-Applying Systems Thinking to Environmental Education Curricula for Grades 9-12

Field Investigations: Using Outdoor Environments to Foster Student Learning of Scientific Processes

### **Protecting Our Sacred Waters:**

Supporting Educators and Youth Program Facilitators in Bringing Aboriginal Ways of Knowing into Community Action Planning

[http://www.lsf-1st.ca/media/FNMI-Protecting\\_our\\_Sacred\\_Water\\_-\\_FINAL.pdf](http://www.lsf-1st.ca/media/FNMI-Protecting_our_Sacred_Water_-_FINAL.pdf)

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## 4. Stewards of the Future: Partners & Resources

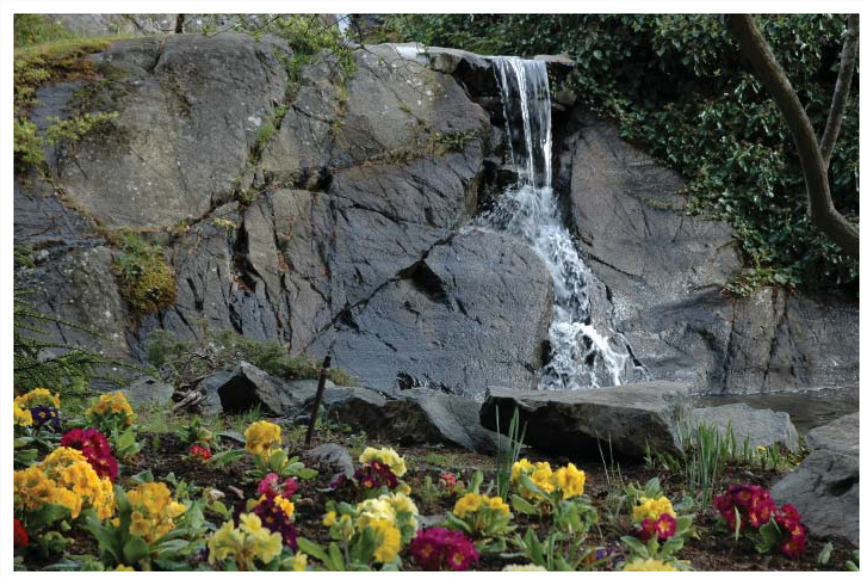
The following list includes provincial and regional partner groups that are supportive of the Stewards of the Future initiative, and will provide educators with assistance and support in implementing the program. Note that they are listed here under general subject categories to help in identifying their main areas of work, but many groups fall under several categories.

Check the categories to find subject-specific opportunities and groups able to support field trips, guest speakers and projects.

If you encounter any difficulties with this resources list, please contact [info@bcgovhousefoundation.ca](mailto:info@bcgovhousefoundation.ca)

### Categories:

Agriculture, Energy, Forestry, Invasive Species, Marine, Other, Parks, Wetlands, Wildlife, Youth Leadership.



# Stewards of the Future: Partners and Resources

## FUNDING PARTNERS



Funding up to \$1000 is available for projects in a provincial park or protected area. This funding may be used for transportation, equipment, honoraria for subject matter experts, teacher on call costs. Please use the SOF application, but specify that your project occurs in a park or protected area.

**Eva Riccius**, Manager

[Eva.Riccius@gov.bc.ca](mailto:Eva.Riccius@gov.bc.ca)

<http://www.env.gov.bc.ca/bcparks>



The Pacific Salmon Foundation's Community Salmon Program is a grantmaking program that supports volunteer-driven organizations that undertake salmon conservation and restoration projects in British Columbia and the Yukon. Contact our Salmon Programs staff to learn more about applying for the Community Salmon Program: [salmon@psf.ca](mailto:salmon@psf.ca)

Apply for a grant: [CSP Application](#)

[www.psf.ca](http://www.psf.ca)

<https://www.psf.ca/what-we-do/community-salmon-program>



Thrifty Foods is passionate about supporting local communities. Since we opened our doors in 1977, we have valued the relationships we share with our communities. We provide fresh food, supplies, funds and people to causes large and small, choosing to support community needs in our immediate neighbourhoods first. In short, we are always there. Our local relationships are often built with groups that share the Thrifty Foods purpose of helping our communities to Eat Better, Feel Better and Do Better.

**Vivian Chenard**, Manager Community Relations

[vchenard@thriftyfoods.com](mailto:vchenard@thriftyfoods.com)

[www.thriftyfoods.com/community](http://www.thriftyfoods.com/community)



Our What's the Green Deal? program gives customers convenient in-store drop-off for a long list of hard-to-recycle items, and highlights a wide range of greener product choices on our shelves. We have supported many communities clean up events and local youth sustainability learning opportunities. Through our [GreenDeal.ca](http://GreenDeal.ca) website, social media and outreach programs, we offer tips and information on shopping and living more sustainably.

(<https://www.londondrugs.com/on/demandware.store/Sites-LondonDrugs-Site/default/CustomerService-ContactUs> )

[ldonline@londondrugs.com](mailto:ldonline@londondrugs.com)

## STEWARDS OF THE FUTURE MAIN POINT OF CONTACT

GOVERNMENT HOUSE FOUNDATION						
Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>The Government House Foundation is the primary point of contact for Stewards of the Future. If you have any questions at all, please don't hesitate to contact me.</p> <p><b>Abby Pollen</b>, Provincial Program Coordinator            250-356-1050  <a href="mailto:info@bcgovhousefoundation.ca">info@bcgovhousefoundation.ca</a>  <a href="http://www.bcgovhousefoundation.ca">www.bcgovhousefoundation.ca</a></p>						

## AGRICULTURE

BC ASSOCIATION OF FARMER'S MARKETS						
Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>We represent over 125 bustling, grassroots farmers' markets across British Columbia, north to south, east to west, rural to urban. We exist to support, promote and develop farmers' markets—a vital part of the movement back to local shopping and local food production. We educate, engage and inspire people to create a vibrant farming sector in BC, one that nourishes and supports our natural environment and communities. One of our initiatives is the Farmers Market Nutrition Coupon Program, a partnership with 49 farmers' markets and over 70 community skill building organizations. Through this program low-income families and seniors are able to purchase local fruits, vegetables, meat and cheese from local markets.</p> <p><b>Peter Leblanc</b>            604-734-9797  <a href="mailto:peter@bcfarmersmarket.org">peter@bcfarmersmarket.org</a>  <a href="http://www.bcfarmersmarket.org">www.bcfarmersmarket.org</a></p>						

## LIVING LANDSCAPES

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Capital Region	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Living Landscapes creates sustainable local food & resource systems. At the core of our model is Food Forestry, the design of edible systems that become self sustaining and productive. Food Forestry systems benefit economy & ecology while providing for human needs including food, water, fuel, fiber & medicine. This long term solution strongly benefits the environment and the ability of human culture to sustain agriculture. We offer speakers, indoor & outdoor classroom exercises, sustainable farm tours & work opportunities.

**Nick Poeta** - Founder & Owner, Education Coordinator

250-661-7689

[nick.livinglandscapes@gmail.com](mailto:nick.livinglandscapes@gmail.com)

[www.mylivinglandscape.com](http://www.mylivinglandscape.com)

**Joshua Wagler** - Founder & Owner, Tour Coordinator

250-885-5993

[joshua.livinglandscapes@gmail.com](mailto:joshua.livinglandscapes@gmail.com)

## GROWING YOUNG FARMERS SOCIETY

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Capital Region	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Growing Young Farmers Society School Program combines theoretical teaching in the classroom, with hands on practical learning in gardens located on school grounds or nearby. Our program emphasizes the importance of local, organic, sustainable food sources and teaches children and youth how to grow healthy produce and share their knowledge with their families and community. In addition to our in-school program, GYFS also runs summer camps, after school care programs and workshops!

**Dave Friend**, Founder and Executive Director

[davefriend@friendlyorganics.ca](mailto:davefriend@friendlyorganics.ca)

<http://www.growingyoungfarmers.ca/>

## MINISTRY OF AGRICULTURE - BC AGRICULTURE IN THE CLASSROOM

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

BC Agriculture in the Classroom promotes the value of agriculture, sustainable food systems and the protection of BC's agricultural resource base. They provide educators and students with quality educational resources, programs, and information that highlight agriculture as an important part of our economy and way of life.

**Lindsay Babineau**, Project Coordinator

[Lindsay.Babineau@gov.bc.ca](mailto:Lindsay.Babineau@gov.bc.ca)

[www.aitc.ca/bc/](http://www.aitc.ca/bc/)

## BC 4-H COUNCIL

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Delta	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The 4-H program provides young people with an opportunity to learn how to become productive, self-assured adults who can make their community and country a good place in which to live. This is fostered through project and program work, experiences with their 4-H club members and leaders and their participation in district, regional and even provincial programs.

**Kevin Rothwell**, Manager  
250-545-0336  
[manager@bc4h.bc.ca](mailto:manager@bc4h.bc.ca)  
<http://www.bc4h.bc.ca>

## DELTA FARMLAND AND WILDLIFE TRUST

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Delta	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

DF&WT's Stewardship Programs integrate research, education, and financial incentives to promote the sustainable use of agricultural land within the lower Fraser River delta by bringing conservationists and farmers together as "Partners in Stewardship." These programs provide farmers with cost-share funding to establish wildlife habitat and/or invest in long term soil fertility on their farms.

**Christine Terpsma**, Program Coordinator  
604-940-3392  
[christine@deltafarmland.ca](mailto:christine@deltafarmland.ca)  
<http://www.deltafarmland.ca>

## BC ASSOCIATION OF AGRICULTURAL FAIRS & EXHIBITIONS

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

BC Fairs provides leadership, resources and services to agricultural fairs, exhibitions and related events so they can effectively celebrate the diversity and importance of local agriculture in communities throughout BC.

**Janine Saw**, Executive Director  
778-574-4082  
[jbsaw@bcfairs.ca](mailto:jbsaw@bcfairs.ca)  
[www.bcfairs.ca](http://www.bcfairs.ca)

**Ann Siddall**, President  
[asiddall2012@gmail.com](mailto:asiddall2012@gmail.com)

**Keith Currie**, Vice President  
[KCurrie@comoxvalleyecho.com](mailto:KCurrie@comoxvalleyecho.com)



## AGRICULTURE YOUTH DEVELOPMENT PROGRAMS

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The Agriculture Youth Development Program is active in all major agriculture communities of British Columbia to foster agri-food economic development opportunities and share with regional Agrologists in the regional delivery of environmental sustainability and resource development programs.

**Pat Tonn**, Youth Development Manager  
 1-888-221-7141  
[Pat.Tonn@gov.bc.ca](mailto:Pat.Tonn@gov.bc.ca)

## BC CATTLEMEN'S ASSOCIATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The BC Cattlemen's Association advocates on a wide range of issues for ranchers in order to maintain a healthy cattle industry that provides quality beef products to consumers, is guided by strong environmental stewardship, and enhances strategic alliances within the agricultural industry in B.C. Programs such as the Farmland Riparian Interface Stewardship Program (FRISP) and an annual environmental stewardship award show B.C. ranchers' commitment to protecting the land, marketing a world-class high quality beef product, and ensuring the sustainability of the industry for generations to come.

**Kevin Boon**, General Manager  
 250 573 3611  
[bccattle@cattlemen.bc.ca](mailto:bccattle@cattlemen.bc.ca)

**Andrea White**, Public Affairs & Marketing Programs Coordinator  
 250-573-3611  
[andrea@cattlemen.bc.ca](mailto:andrea@cattlemen.bc.ca)  
<http://www.cattlemen.bc.ca>

## BC AGRICULTURE COUNCIL

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The BCAC is a general farm organization, representing farmers and ranchers from across BC. We work to improve the social, economic and environmental sustainability of BC Agriculture.

**Reg Ens**, Executive Director  
 604.854.4454  
[bcac@bcac.bc.ca](mailto:bcac@bcac.bc.ca)  
<https://www.bcac.bc.ca>

## ENERGY

## BC HYDRO'S ENERGY AMBASSADORS

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

We work with educators and curriculum specialists to develop high-quality, engaging and relevant resources that provide valuable information on energy efficiency, energy alternatives, electrical safety, sustainability and the environment.

[https://www.bchydro.com/community/youth\\_education.html](https://www.bchydro.com/community/youth_education.html)

## FORESTRY

### RAY TRAVERS FORESTRY

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Ray supports ecologically-based forestry, and value-based silviculture. He advocates win-win solutions with positive impacts on the productivity, quality and values of a forest.

**Ray Travers** R.P.F ( Ret.), Director  
250-477-8479

[rtravers@islandnet.com](mailto:rtravers@islandnet.com)

[www.raytraversforestry.ca](http://www.raytraversforestry.ca)

### UBC MALCOLM KNAPP RESEARCH FOREST – MAPLE RIDGE

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The 5,157 hectare Malcolm Knapp Research Forest was designated a Research Forest Reserve in 1943, and Crown Granted to UBC in 1949. Since that time, it has continually evolved as an outstanding example of sustainable forest management, a living laboratory and outdoor classroom. It is home to the Loon Lake Research and Education Centre, the Gallant sawmill, over 900 scientific research projects to date, and experiential education programs for all levels, encompassing all aspects of our forests.

**Cheryl Power**, RPF, Resident Forester  
604-463-8148 extn - 106

[cheryl.power@ubc.ca](mailto:cheryl.power@ubc.ca)

[www.mkrf.forestry.ubc.ca](http://www.mkrf.forestry.ubc.ca)

[www.loonlake.ubc.ca](http://www.loonlake.ubc.ca)

[www.gallant.forestry.ubc.ca](http://www.gallant.forestry.ubc.ca)

## UBC ALEX FRASER RESEARCH FOREST—WILLIAMS LAKE

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Williams Lake	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Located in British Columbia's interior, UBC's Alex Fraser Research Forest is a living laboratory for discovery about forests. The Cariboo region of the province, with its strong forestry heritage, is an ideal setting to focus investigations about integrated resource management. Cattle ranching, recreation and wildlife habitat management occur alongside forest practices in this area. Improved knowledge about how best to manage these resources is gained through research. This has been our focus since 1987, when two areas of Crown land representing a variety of local ecosystems were set aside for education, demonstration, and research.

**Cathy Koot** R.P.Bio. Research Coordinator

[cathy.koot@ubc.ca](mailto:cathy.koot@ubc.ca)

[afrf.forestry.ubc.ca](http://afrf.forestry.ubc.ca)

## MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Ministry of Forests, Lands and Natural Resource Operations delivers integrated natural resource management services for BC. With a long-term vision of economic prosperity and environmental sustainability, it is the main agency responsible for establishing the conditions for access and use of BC's forest, land and natural resources.

**Claudia Trudeau**, Manager Strategic Policy

250-356-7278

[claudia.trudeau@gov.bc.ca](mailto:claudia.trudeau@gov.bc.ca)

## INVASIVE SPECIES

### INVASIVE SPECIES COUNCIL OF BC

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The ISCBC is an action-oriented, provincial organization that coordinates and unites efforts across BC in managing and reducing the impact of invasive species. The Council offers educators educational resources, tip sheets, and direct support in planning invasive species removal, mapping species in your community, conducting hands-on action projects and teaching about invasive species.

**Sue Staniforth**, Education & Outreach Coordinator

250-655-6300

[education@bcinvasives.ca](mailto:education@bcinvasives.ca)

<http://bcinvasives.ca>

Note: for a listing of all the regional invasive Species Committees, see the ISCBC's website: <http://bcinvasives.ca/about/partners/bc-stakeholders>

## SOUTH COAST CONSERVATION PROGRAM

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
BC South Coast	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The SCCP plays a vital role in assisting various stakeholders in navigating the complexities around species at risk. This is accomplished through a range of activities, including: workshops on guidelines and stewardship practices, networking through social media and supporting on-the-ground applied science, education, and engagement on priority species and their habitats. The South Coast region is a hotspot of biodiversity with over 260 species provincially and federally listed as threatened or endangered. The SCCP offers educational resources including guidebooks on habitat restoration and best practices, Grade K-7 curriculum activities, children's storybooks, public dialogues, presentations and videos.

**Pamela Zevit**, RPBio.

Program Coordinator

South Coast Conservation Program

[www.sccp.ca](http://www.sccp.ca)

[info@sccp.ca](mailto:info@sccp.ca)

604-939-0523

Find us on Facebook at South-Coast-Conservation-Program

## MARINE

### STREAM TO SEA – FISHERIES AND OCEANS CANADA

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
BC Coast	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

For more than 30 years, Fisheries and Oceans has supported Educators in British Columbia and the Yukon who teach their students to understand, respect and protect freshwater, estuarine and marine ecosystems, and to recognize how all humans are linked to these complex environments. Stream to Sea has Education Coordinators and Community Advisors who have compiled a list of educational web sites for teachers seeking additional material on these topics. They also have learning guides, information brochures, activities, and programs and games. Learn more at <http://www.streamtosea.ca>

**Joanne Day**, Ecosystems Management Branch

Fisheries and Oceans Canada

201-401 Burrard St Vancouver BC V6C 3S4

604-666-6614

[Joanne.Day@df-mpo.gc.ca](mailto:Joanne.Day@df-mpo.gc.ca)

## CANADIAN NETWORK FOR OCEAN EDUCATION SOCIETY (CANOE)

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Coastal Regions	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

CaNOE is a non-profit society, registered in BC that works to advance ocean literacy in Canada. It has a core membership in BC who work in the marine environment, marine science, marine science education and work with BC teachers and youth. It is an inclusive organization that promotes best practices and networking amongst practitioners advancing understanding about BC's 17,000 kilometers of shoreline and the ocean.

**Anne Stewart**, Marine Science Education and Communication

250-728-3469

[astewart.bamfield@gmail.com](mailto:astewart.bamfield@gmail.com)

<http://www.oceanliteracy.ca>

## JAY WALLS' "COASTAL ECOLOGICAL STEWARDSHIP 11" CURRICULUM DESIGN

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Pender Harbour	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Pender Harbour Elementary/Secondary is a small rural school on the Sunshine Coast of BC. The Pender Harbour area provides an incredible opportunity to promote ideals of stewardship and a sense of caring for the ecosystem and environment of the area which is surrounded by coastal rain forests, freshwater and saltwater coastlines that intertwine to create an incredible level of biodiversity. Walls' stewardship course efforts were recognized by the David Suzuki Foundation in 2013 for its environmental advocacy and Walls received a national science teaching award.

**Jay Walls**, Senior Sciences and Technology Teacher, Pender Harbour

604 883 2727

[jwalls@sd46.bc.ca](mailto:jwalls@sd46.bc.ca)

[phsweb.sd46.bc.ca](http://phsweb.sd46.bc.ca)

## PACIFIC SALMON FOUNDATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Coastal Regions	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

It is our mission to provide thoughtful leadership in the conservation, restoration, and enhancement of Pacific salmon and their ecosystems, and to bring salmon back, stream by stream ... through strategic partnerships and leveraged use of resources.

[salmon@psf.ca](mailto:salmon@psf.ca)

[www.psf.ca](http://www.psf.ca)

<https://www.psf.ca/what-we-do/community-salmon-program>

## NANAIMO SCIENCE AND SUSTAINABILITY SOCIETY

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Nanaimo	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Nanaimo Science and Sustainability Society (NS3) inspires children to develop their interest in science and sustainability through hands-on learning. Key to this mission is conducting community outreach through our educational programs, and building an interactive Science Centre for the central Vancouver Island region where visitors will have fun playing in hands-on exhibits, questioning how things work, discovering the science behind sustainability practices, and imagining the wonders of the natural world.

**Liz Demattia**

[Nanaimosceience.ed@gmail.com](mailto:Nanaimosceience.ed@gmail.com)

[nanaimoscience.org](http://nanaimoscience.org)

## PARKS

### CANADIAN PARKS AND WILDERNESS SOCIETY - BC CHAPTER

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

To create large, meaningful protected areas with ecological strength – places that can nurse nature through climate change and shelter biodiversity forever. We have programs for youth leadership that you can apply for today!

**Kate MacMillan**, Community Engagement and Campaign Assistant

604 685-7445

[kate@cpawsbc.org](mailto:kate@cpawsbc.org)

<http://cpaws.org>

<http://www.getoutsidebc.ca>

### VICTORIA PARKS COLLABORATIVE

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Capital Region	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

We create projects that will increase the sustainability and health of 42 Provincial Parks (including ecological reserves) that cover Southern Vancouver Island from Port Renfrew to the Gulf Islands. This include parks such as Goldstream Park, Juan de Fuca Park, and Burgoyne Bay Park. Our projects focus on collaboration, community engagement, youth stewardship and more. We have access to a pool of park mentor expertise.

**Colin Campbell**

[colinkcampbell42@gmail.com](mailto:colinkcampbell42@gmail.com)

[www.elderscouncilforparks.org](http://www.elderscouncilforparks.org)

## THE ELDERS COUNCIL FOR PARKS

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Southern Vancouver Island	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The Elders Council for Parks in BC is an independent society of retired parks system employees and conservation advocates who have dedicated a significant portion of their lives to parks and protected areas in BC. Elders Council members also participate in action-based project work aimed at ensuring the long-term well-being of BC's world-class parks system.

**Bob Peart**

250-655-0250

[bobpeart@shaw.ca](mailto:bobpeart@shaw.ca)

<http://www.elderscouncilforparks.org>

**Ric Careless**

[stockfordric@gmail.com](mailto:stockfordric@gmail.com)

## Friends of John Dean Park

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Capital Region	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The Friends of John Dean Park protect the integrity and undisturbed natural environment of the park property, consistent with compatible public recreation and educational activities; speak on behalf of the park and its heritage; ensure that it retains in perpetuity its status as a Class A provincial park; foster public awareness in the park, and acquaint members and visitors with its resources – its flora, fauna, geology and history.

**Maureen Dale: President**

250-656-2484

[maureendale@shaw.ca](mailto:maureendale@shaw.ca)

## WETLANDS

### BCWF WETLANDS PROGRAM

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

BCWF prides itself on community based wetland education programs that increase the capacity of individuals to steward wetlands in their own backyards!

**Kerrie Smith**

[programs@bcwf.bc.ca](mailto:programs@bcwf.bc.ca)

[wetlands@bcwf.bc.ca](mailto:wetlands@bcwf.bc.ca)

<http://bcwf.net/index.php/programs/wetlands>

## BC AND WORLD RIVERS DAY

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

World Rivers Day is a celebration of the world's waterways. It highlights the many values of our rivers, strives to increase public awareness, and encourages the improved stewardship of all rivers around the world.

**Mark Angelo**, Founder and Chair  
[markangelo@shaw.ca](mailto:markangelo@shaw.ca)

## Ruby Lake Lagoon Society

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Sunshine Coast	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Ruby Lake Lagoon Society is a volunteer-driven organization that promotes the preservation and enhancement of biodiversity of the Sunshine Coast. We engage the community by inspiring curiosity and excitement in the natural world around us, while emphasizing the importance of scientific research and education. The Lagoon Society has designed experiential education programs for all ages, and delivers them through its sustainable building, the Iris Griffith Interpretative Centre, or in nearby ecosystems. Currently the Society is adding an innovative new research and education centre, the Pender Ocean Discovery Station (PODS), to its portfolio of offerings and local assets. We look forward to welcoming new participants on our adventures.

**Michael Jackson**, President  
[info@lagoonsociety.com](mailto:info@lagoonsociety.com)  
 604 883 9853 or 604 790 4342

## COLUMBIA BASIN TRUST

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Columbia Basin	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Creating a legacy of social, economic and environmental well-being and to achieve greater self-sufficiency for present and future generations.

**Tim Hicks**, Program Manager for Water and Environment  
[thicks@cbt.org](mailto:thicks@cbt.org)  
<http://www.cbt.org>



## THE STREAM KEEPERS ASSOCIATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The PSkF is a non-profit society committed to supporting community groups involved in Streamkeepers activities throughout BC and the Yukon. They conduct surveys and initiate projects to maintain clean, natural streams.

[pskf@direct.ca](mailto:pskf@direct.ca)

<http://www.pskf.ca/index.html>

## DUCKS UNLIMITED

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Ducks Unlimited offers several programs, including Wetland Heroes, which encourages & recognizes young people to undertake their own wetland education and conservation actions; Wetland Centres of Excellence, a national program that provides some funding and support directly to schools that undertake the long-term stewardship of local wetlands and who mentor younger students; and BC Wetland Centres of Excellence in Vernon and Victoria.

**Merebeth Switzer**, National Manager, Education  
(905) 361-6611

[education.ducks.ca](http://education.ducks.ca)

[education.canards.ca](http://education.canards.ca)

## WILDLIFE/NATURE

### BC WILDLIFE FEDERATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The BC Wildlife Federation is a province-wide voluntary conservation organization representing all British Columbians whose aims are to protect, enhance and promote the wise use of the environment for the benefit of present and future generations.

**Dave Parenteau**, Regional President: Vancouver Island

[david\\_parenteau@telus.net](mailto:david_parenteau@telus.net)

<http://www.bcwf.bc.ca>

### STEWARDSHIP CENTRE FOR BRITISH COLUMBIA (SCBC)

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The SCBC is a non-profit society established in 2006 and has developed tools and programs on ecosystems, habitat and species at risk to help to sustain our natural landscapes and watersheds. Current programs include Green Shores™ (including Green Shores for Youth) which focuses on sustainable shore design, development and local government incentives for freshwater and coastal communities; Stewardship Works!, which assists grassroots conservation organizations to develop internal organizational capacity; and the Species at Risk Primer, an online interactive tool for local governments, schools, and landowners to access Species at Risk information and stewardship options for species at risk habitat protection. SCBC offers workshops and education/outreach on all our programs to communities across BC.

**DG Blair, M.Sc.**

Executive Director

Stewardship Centre for BC

[dg@stewardshipcentrebc.ca](mailto:dg@stewardshipcentrebc.ca)

Phone: 1-866-456-7222

[www.stewardshipcentrebc.ca](http://www.stewardshipcentrebc.ca)

### OKANAGAN COLLABORATIVE CONSERVATION PROGRAM

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Okanagan	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Okanagan Collaborative Conservation Program (OCCP) is a partnership of organizations and governments with shared goals such as maintaining regional biodiversity, protecting Species at Risk, maintaining ecological connectivity, and balancing regional growth with conservation. OCCP's mandate is to coordinate and facilitate conservation and stewardship in the North and Central Okanagan.

[occp123@gmail.com](mailto:occp123@gmail.com)

<http://www.okcp.ca/about-us/occp>

### WILD EDUCATION CANADIAN WILDLIFE FEDERATION - WILD BC

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Canadian Wildlife Federation's mission is to conserve and inspire the conservation of Canada's wildlife and habitats for the use and enjoyment of all.

**James Bartram**, Director of Education

[jamesb@cwf-fcf.org](mailto:jamesb@cwf-fcf.org)

<http://cwf-fcf.org/en/explore-our-work/education/>

## HABITAT CONSERVATION TRUST FOUNDATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Habitat Conservation Trust Foundation offers many education programs including WildBC, GO Grants and C2C: Connecting to Conservation.

**Kerrie Mortin**

250-940-9787

[kerrie.mortin@hctf.ca](mailto:kerrie.mortin@hctf.ca)

[www.hctfeducation.ca](http://www.hctfeducation.ca)

## THE NATURE TRUST OF BC

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Vancouver	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

The Nature Trust of British Columbia is a non-profit, non-advocacy, land conservation organization. They acquire ecologically significant land in order to protect natural diversity of wildlife and plants, and their critical habitats. Our partner organizations offer programs.

604-924-9771

[info@naturetrust.bc.ca](mailto:info@naturetrust.bc.ca)

<http://www.naturetrust.bc.ca>

<http://www.naturetrust.bc.ca/about-us/partners/programs/>

## THE BATEMAN FOUNDATION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Capital Region	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Bateman Foundation explores our relationship with nature through strategic partnerships, research, collaboration and public education. The Bateman Centre is working hard to launch a school program and teachers' guide for 2015. Using our extraordinary collection of artwork by Robert Bateman, learners will deepen their understanding and appreciation of our natural world, while developing their visual literacy skills. The centre can also host visits.

**Paul Gilbert**

250-588-9981

[paul.gilbert@batemanfoundation.org](mailto:paul.gilbert@batemanfoundation.org)

<http://batemancentre.org>

## SIERRA CLUB

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Protect, conserve and educate the public about BC's wilderness, species and ecosystems within the urgent context of climate change. The Sierra Club offers K-8 curriculum programs, youth education and leadership programs, curriculum materials, and more.

250-386-5255

[lisa@sierraclub.bc.ca](mailto:lisa@sierraclub.bc.ca)

<http://www.sierraclub.bc.ca>

## NATURE CONSERVANCY OF CANADA, BC REGION

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The NCC's mission is to lead, innovate and use creativity in the conservation of Canada's natural heritage, to protect areas of natural diversity, and to manage important natural areas. The Nature Conservancy offers a Conservation Volunteer program, which can bring students to NCC properties to conduct on-the-ground stewardship, as well as summer internships.

**Katy Fulton**, Stewardship & Volunteer Coordinator- West Coast

(250) 479 - 3191

[Katy.Fulton@natureconservancy.ca](mailto:Katy.Fulton@natureconservancy.ca)

## CHILD AND NATURE ALLIANCE OF CANADA

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

The Child and Nature Alliance of Canada is a network of organizations and individuals who are working to connect children to nature through education, advocacy, programming, policy, research, and the built environment. Their work aims to connect Canada's children and families with nature and the outdoors in the settings where they live, play, learn and work.

250-920-8396

[nick@childnature.ca](mailto:nick@childnature.ca)

[www.childnature.ca](http://www.childnature.ca)

## SOCIETY FOR ECOLOGICAL RESTORATION—WESTERN CANADA CHAPTER

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>

SER-WC is the Western Canada regional chapter of the international Society for Ecological Restoration (SER), and serves British Columbia, Alberta, Saskatchewan, Manitoba, the Yukon, and the Northwest Territories. Our mission is to promote the science and practice of ecological restoration to assist with the recovery and management of degraded ecosystems throughout the region.

202-299-9518  
[restorewc@gmail.com](mailto:restorewc@gmail.com)  
<http://chapter.ser.org/westerncanada>

## BC NATURE

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

BC Nature has 53 clubs, many of whom offer school programs or resources, such as speakers, field trip leaders and judges for science fairs. Anne Stewart is the Education Committee contact for BC Nature.

**Anne Stewart**, Marine Science Education and Communication  
 250-728-3469  
[astewart.bamfield@gmail.com](mailto:astewart.bamfield@gmail.com)  
<http://www.bcnature.ca>

## SOCIETY FOR ECOLOGICAL RESTORATION—BC Chapter

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Ominecas, Northern BC	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

SERNbc is a group of individuals and agencies interested in collaborating to help restore vulnerable and degraded ecosystems in the Omineca Region of Northern BC.

[info@sernbc.ca](mailto:info@sernbc.ca)  
[program\\_coordinator@sernbc.ca](mailto:program_coordinator@sernbc.ca)

## GRASSLANDS CONSERVATION COUNCIL

Region	Can Provide Speakers		Can Host Visits		Have Funded Programs	
Province-wide	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

BC Grasslands (Grasslands Conservation Council of British Columbia) is dedicated to the stewardship and conservation of the rare and beautiful grasslands of our province.

**Scott Benton**  
[scott.benton@bcgrasslands.org](mailto:scott.benton@bcgrasslands.org)  
<http://bcgrasslands.org>