

The Canadian Environmental Literacy Project (CELP)

— Annual Report —

2007



Canadian Environmental Literacy Project


Message from the Director

It gives me great pleasure to invite you to peruse this third Annual Report of the Canadian Environmental Literacy Project. Since its launch several years ago, environmental educators from across Canada and in other countries have been visiting the CELP website to retrieve modules and information. During the past year, the number of registered users grew to 720. This use of the CELP educational resources is important, because it represents progress towards making Canadian students more aware of the causes and resolution of environmental problems. If the human economy is to run on a sustainable basis, while also maintaining critical habitat of the many species with which we share planet Earth, it is essential that environmental literacy becomes much more widespread than it is at present.

The initial work of CELP has focused on developing a diverse portfolio of educational modules about environmental issues, and making them available to educators on an open-access website. All of the modules have been developed by educators working in colleges and universities, and in some cases in environmental organizations or governmental agencies. I, for example, am one of those volunteers. Also crucial, however, is the work of Peter Feige, the CELP Coordinator and Website Manager.

The CELP team is continuing to develop new and exciting modules on environmental issues that are important to Canadians. We have also added other useful resources to the website, such as class syllabi contributed by CELP members, and links to other websites that, similar to CELP, support environmental education. We hope that you are finding helpful educational materials on the CELP website, and we will strive to be of further assistance to you in your work. Please continue to visit us at www.celp.ca.

Bill Freedman
CELP Director



Canadian Environmental Literacy Project

Canadians are deeply concerned about deteriorating environmental conditions – issues related to pollution, damage to native species and natural ecosystems, resource depletion, and risks to human health and the economy are worrisome. One necessary societal-level response to these issues is to educate people about them – people who understand the causes and consequences of environmental damage are more likely to support effective actions to deal with the problems.

A nation-wide consultation on Environmental Learning and Sustainability in Canada, led by Environment Canada, reported that there is a need to make effective curriculum resources available to educators in the environmental field (Environment Canada, 2002). Additional actions were recognized as being needed to enhance the environmental literacy of Canadians, including: identifying and reviewing existing materials and resources, and developing a clearinghouse and website to provide easy access to unbiased educational resources in the environmental realm.

In 2003, the Canadian Environmental Literacy Project (CELP) was begun, using seed funding from a private foundation. CELP is a web-based networking initiative that seeks to make objective, high-quality, environment-related teaching materials freely available to educators. CELP is independent of government and of advocacy organizations. CELP exists only to develop and provide credible materials to support a network of interested educators, and to thereby promote environmental literacy.

This document is the third Annual Report of the Canadian Environmental Literacy Project. It includes an overview of CELP's philosophy and objectives. It also contains a review of the achievements of CELP, and a statistical summary of its community of users and their interactions with the website.

Highlights of 2006 – 2007

CELP maintained, upgraded and expanded its interactive website, where teaching materials are freely available to educators

The CELP community of registered educational users has grown to more than 720 (16% growth)

Educators from 34 (up 3) countries are accessing CELP resources, although 64% (up 3%) of the registered users are from Canada (the primary country target) and 28% are from the US

CELP users are located in all provinces and territories

63% of users are in CELP's primary target audience in the educational system (secondary and post-secondary)

The other 37% of CELP users are from non-governmental organizations and governmental agencies, including boards of education, education centers, and museums, as well as elementary schools.

CELP now offers more than 70 teaching modules, and new ones are being developed and added along with other useful materials for educators and students

Recently, CELP added an online forum to offer additional networking possibilities to its members.

CELP Philosophy

CELP believes that environmental literacy has a pervasive influence on attitudes and behaviour. In other words, people who are knowledgeable about environmental issues are better equipped to:

- ask informed questions
- make informed choices
- consume wisely
- influence others to also behave in an environmentally responsible manner

Such attitudes and behaviours are crucial if tangible progress is to be made towards an ecologically sustainable world.

CELP promotes environmental literacy by making it easier for instructors in universities and colleges and teachers in high schools to teach about the environment.

Much of the initial work of CELP has been at the introductory level, where content is relatively generic. This allows CELP to provide access to prepared materials that will save instructors precious time in lesson planning and research, leaving them with more time for their students.

Student engagement facilitates learning, yet instructors of introductory college and university courses are often limited by large class sizes. CELP believes that providing instructors with access to prepared activities appropriate for their classes will increase the use of experiential activities.

Environmental studies are interdisciplinary in nature, and consequently are relevant to a wide variety of subject areas. By creating modules that draw links between the environment and a variety of disciplines, CELP helps instructors interested to incorporate environmental issues into their teaching. In doing so, students in disciplines generally not associated with the environment, are more likely to be exposed to environmental education.

I think that you offer a great service for any educator in the Environmental Sciences. ! (Anonymous respondent)

This sounds like an interesting project. I would certainly consider donating teaching materials. (Andre Maintenay, Professor, **Religious Studies** University of Toronto)

I am honoured to be asked to contribute. (Terisa Turner, Associate Professor, **Sociology & Anthropology**, University of Guelph)

This project favors interdisciplinary approaches to environmental issues. Philosophers like myself may now access more scientific presentations and vice versa. (Christine Daigle, Professor, Department of **Philosophy**, Brock University)

"These PowerPoint presentations and slides are a very valuable resource. They are balanced and accurate and will really help in lesson preparation by saving resource search time thereby making it more likely the material will be presented." (Anonymous respondent)

Project Reports

EDUCATIONAL MATERIAL

The primary focus of CELP is the development of **environmental teaching modules**. Since it began in 2003, CELP has been working to connect with educators interested in using and/or contributing modules, and this networking is paying off!

Since CELP launched its website in 2004, more than 720 educators from 34 countries have registered. CELP has worked with many individuals to produce **72 teaching modules**, and others are in various stages of development. The portfolio of presentations, activities, and materials for discussion is growing. Existing module topics range from Climate Change, to Environmental Ethics, to Canadian Literature and the Environment.

While the primary focus of CELP is teaching modules, the project has been expanded to offer a variety of additional resources and to provide a limited “clearinghouse” for Canadian educators. These other resources include:

- links to **lesson plans and activities** posted by organizations for use by elementary, secondary, and post-secondary school levels
- links to books, articles, reports, image banks, and videos related to the environment
- environment-related course syllabi
- links to environmental organizations and issues
- an **extensive glossary** of environmental terms
- A list of courses related to environmental education suitable for educators
- A **online forum** as a tool for easier communications within the educators network

I want to thank-you very much for working on this site. I instruct in the Ecotourism Program here at SIAST and for the Department of Geography at the University of Saskatchewan. I truly appreciate the PowerPoints. Many fit right into my sessions. (Jackie Carter, Ecotourism Certificate Program, Saskatchewan Institute of Applied Science and Technology)

Keep up the good work! This is a very useful resource, particularly serving Canadian educators. Great way to network among educators as well. (Steffanie Scott, University of Waterloo, Geography)

I like the navigation between resources in different modules within the same topic. It really facilitates the search for resources. (Jennifer Riem, Ecological Society of America, USA)

CELP Modules

Lectures

- Acidification
- Adaptation
- Attribution of Past Changes in Climate
- Biodiversity
- Business and Environment
- Canadian Impacts of Climate Change I
- Canadian Impacts of Climate Change II
- Canadian Impacts of Climate Change III
- Canadian Population
- Carbon Sinks
- Climate Change and the Kyoto Protocol
- Climate Change: An Introduction
- Climate Change: Communicating the Science
- Climate Change Part I – Human Health
- Climate Change Part II – A Canadian Perspective
- Climate Models and Model Validation
- Conservation ENGOS
- Dams and Impoundments
- Ecological Footprint
- Ecosystems and Biomes
- Emissions Trading I
- Emissions Trading II
- Environmental Ethics and World Views
- Environmental Philosophy
- Environmental Science Introduction
- Eutrophication

- Evolution
- Forestry
- Forest Dieback
- Gaseous Air Pollution
- Gases and Climate Change
- Genuine Progress Index
- Global Impacts of Climate Change I
- Global Impacts of Climate Change II
- Industrial Ecology
- Music and Nature
- Natural Themes in Canadian Literature
- Nutrient Cycling
- Oil Spills
- Past Changes in Climate
- Pesticides
- Population
- Roots of Environmentalism
- Social and Ecological Justice
- Stream Biomonitoring
- Toxic Elements
- War

Experiential Exercises

- A Simulation of International Climate Change Negotiations
- Bird Communities and Forestry
- By The Sea – Lesson Plans

- By The Sea – Modules
- Critical Review of a Scientific Article
- Ecological Footprint Activity
- Electricity Consumption Calculation
- Environmental Issues Debate
- Environmental Petitions in the Federal Government
- Field Study: Patterns in Vegetation & Their...
- Gases and Greenhouses
- Personal Activity Log
- Projects related to Food Flow
- Urban Design and Management of Transportation Demand
- Urban Plant Diversity

Discussion Materials

- Black Bear Spring Hunt
- Canadian Immigration and the Environment
- Fish Farming (East Coast)
- Fish Farming (West Coast)
- Global Warming
- The Grizzly Bear Controversy
- Vegetarianism

PARTNERSHIPS

In addition to receiving contributions of curriculum materials from professors representing a number of Universities, CELP hosts teaching modules produced by government agencies such as:

- Environment Canada
- Department of Oceans and Fisheries

As well, CELP has developed working relationships with non-governmental organizations, including:

- Sierra Club of Canada
- Pollution Probe

CONFERENCES

CELP has made presentations at conferences across the country:

- The Canadian Network of Environmental Education and Communication (EECOM) 2003 in Prince Edward Island
- EECOM 2004 in British Columbia
- The Association of Science Teachers (AST) conference in Nova Scotia in 2004
- The Environmental Studies Association of Canada (ESAC) 2005 conference in Ontario
- Atlantic Canada Association of Science Educators (ACASE) 2005 conference in Nova Scotia
- EECOM 2005 in Ontario
- Getting to the Heart of Matter conference 2006, Nova Scotia
- EECOM 2006 in Nova Scotia (CELP was also part of the conference planning committee)
- EECOM 2007 in Alberta

EVALUATION

In the fall of 2007 we surveyed educators registered to the CELP website to determine the usefulness of the project to them and to gather suggestions for improvements.

Some of the key things we want to know are:

1. Are we still with our target audience?
2. Has the use of CELP modules changed since last years survey?
3. In what ways are educators using CELP modules ?
4. How receptive are students been to lessons based on CELP modules?
5. Has the user-friendliness of the website improved?
6. How useful are the CELP website and its materials?
7. If CELP were to not continue because of a lack of funding, would it make it more difficult for you to teach environmental subject matter?

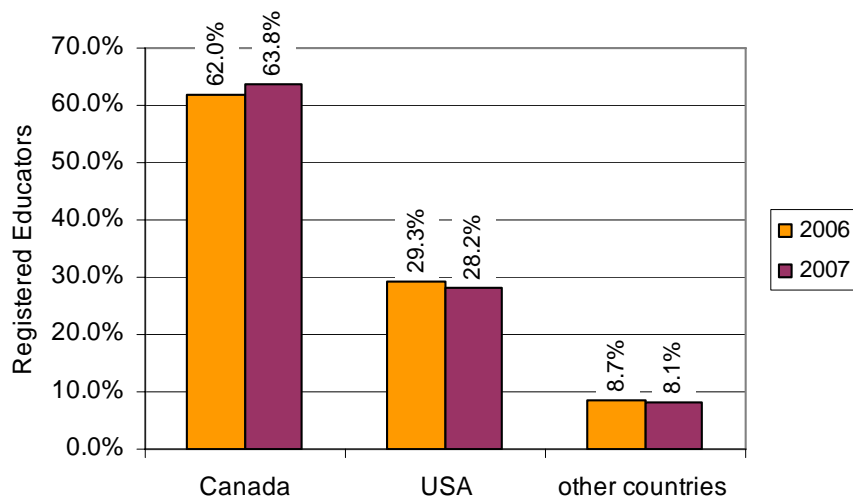
Membership Summary and Survey Results

Membership Summary for 2007

Total registered educators in 2007:
720 from 34 countries

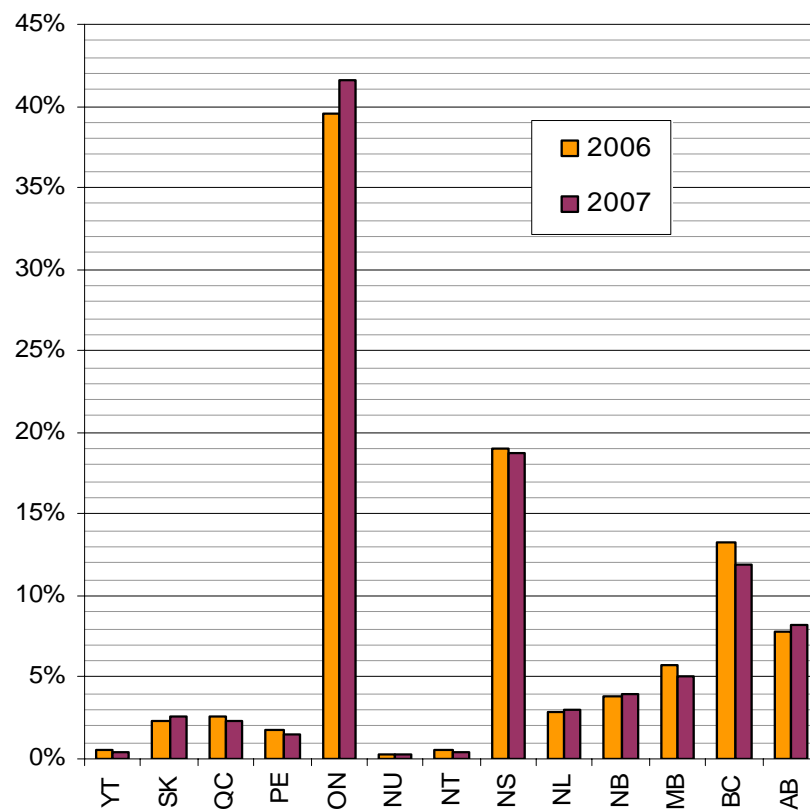
Canada: 459 United States: 203 Other: 58
Overall increase since 2006: 16%

Geographic Region of registered Educators



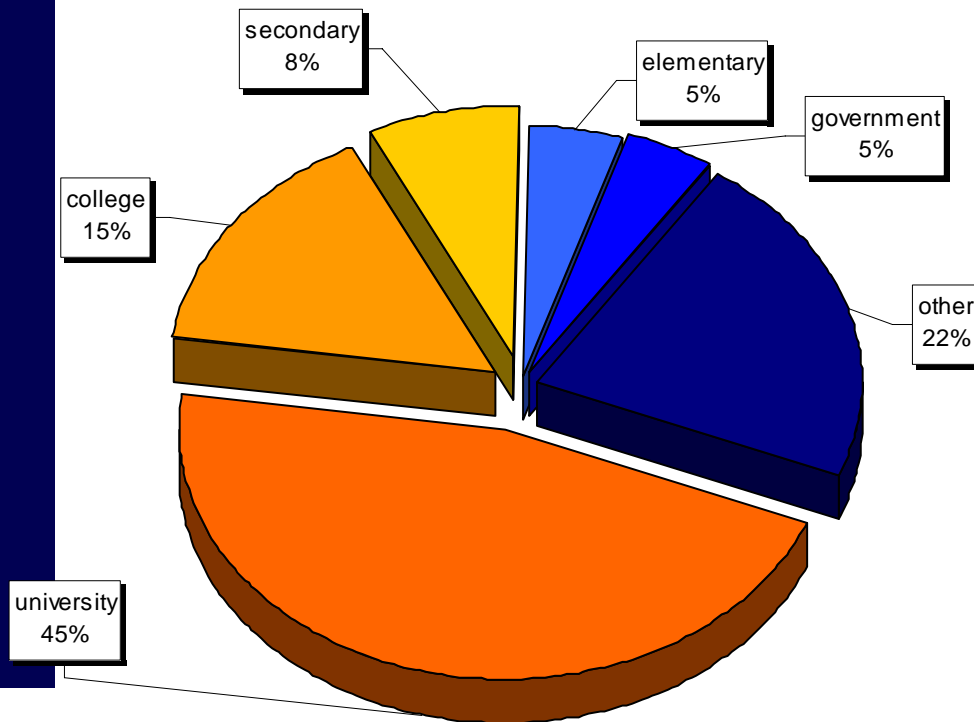
Increase in Canadian registrations since the 2006 survey: 2%

Registered Users In Each Canadian Province & Territory



Q 1. Are we still with our target audience?

68% of both registered educators and survey respondents are from CELP's target audience (i.e., secondary, college, and university)



The primary target of CELP is instructors in post-secondary and secondary levels, but it is also proving to be useful to other audiences, including:

- elementary schools
- government departments
- others such as
 - NGOs
 - Museums
 - Education centres

Examples

- The Jane Goodall Institute
- Gros Morne National Park
- American Museum of Natural History
- Geological Survey of Canada (Atlantic)
- World Wildlife Fund Canada

Q 2. Has the use of CELP modules changed since last years survey?

Top 5 most-downloaded modules:

Global Warming (up from 2 nd place last year)	Discussion
Ecological Footprint Activity (down from 1 st place last year)	Exercise
Biodiversity (up from 5 th place)	PowerPoint
Population (new in the top 5 this year)	PowerPoint
Critical Review of a Scientific Article (new in the top 5)	Exercise

Top 5 most often examined modules:

Global Warming (unchanged from last year)	Discussion
Ecological Footprint Activity (unchanged from last year)	Exercise
Climate Change and the Kyoto Protocol (up from 5 th place)	PowerPoint
Vegetarianism (new in the top 5 this year)	Discussion
Nutrient Cycling (new in the top 5 this year)	PowerPoint

▼
This year, on average, respondents examined 7 modules and downloaded 4 compared to 4 and 4 in 2006.

▼
Respondents who had downloaded CELP materials each incorporated an average of 9 modules or parts of them (consistent with last years results) with the most used module style being the discussion materials.

How members use CELP-modules:

	2005	2006	2007
Presented an entire CELP PowerPoint presentation	10%	21%	12%
Presented selected slides (images or text) from a CELP presentation	24%	43%	19%
Used an entire CELP experiential exercise	2%	5%	20%
Used part of a CELP experiential exercise	33%	16%	11%
Led a discussion based on CELP discussion material	22%	10%	23%
Did not use the materials I downloaded in my teaching	4%	1%	4%
Other	5%	4%	12%

“Other” ways the modules have been used include:

- staff training
- ideas
- references
- self interest
- background information

▶ The ways CELP modules are used seem to vary yearly. This years survey results show a more even spread compared with the last two years, the most popular use being discussions based on CELP discussion materials.

▶ Experiential exercise consistently show a yearly increase of usage.

I primarily used modules to further educate myself on topics and to pass along that knowledge to peers and contacts. (Anonymous respondent)

Q 4. How receptive are students to lessons based on CELP modules?

Score: 3.7 / 5 (no change)

- CELP intends to develop more interactive materials in order to stimulate their popularity among students.
- CELP is planning a study of students receiving lessons based on CELP materials. This will give a better understanding of students' impression of the materials and of their learning outcomes.

The site is very user friendly and I will continue to use it - a great resource! (Dan Stuckey, Seneca college, Ontario)

Q 5. Has the user-friendliness of the website improved?

Score: 4.1 / 5 (compared to 4.0 in 2006 and 3.7 in 2005)

- The CELP website undergoes regular upgrades and improvements, with the goal of keeping visits productive and pleasant.
- We will continue with that course since it seems to be working.

Q 6. How useful are the CELP website and its materials?

Score: 3.8 / 5 (up 5%)

- Most respondents provided extremely positive feedback about the project and its objectives.
- We expect that as the portfolio of modules grows, so also will the usefulness of CELP to its intended users.

This is one of the most direct and targeted sites I've found. There's a lot of schlock out there on the internet in terms of teaching resources, and these are generally well-structured and thought out. Thank you. (Anonymous respondent)

Conclusions

CELP is a well-received initiative in environmental education that is expanding and improving its services and its cooperative network of users. Our user surveys suggest that CELP is on the right path. However, CELP is threatened by a lack of funding, a serious issue that must be addressed in the coming year.

I think that CELP can only move on to greater strength, and am very grateful for the vision to move forward in this direction.

Everyone on the planet must learn the basic parameters of sustainability. (Ivan Yaholnitsky, Lesotho, Southern Africa)

Keep up the important and crucial work you're doing. We need environmental education more than ever. (Anonymous respondent)

Future Directions

We will continue to strengthen the network of educators and will work with them to further develop the portfolio of CELP and its usefulness to its members.

Module development will emphasize:

- current "hot" topics
- experiential materials
- cross-curricular modules
- key lecture areas not yet covered

We added a "community bulletin board" in form of an online forum (celp.informe.com) to the Website to increase the communication and networking among environmental educators.

CELP is seeking new funding. If this initiative is successful, CELP will employ additional staff to develop additional modules, enhance the networking with our contributors and users, translate modules into French, and better evaluate the response of students to our modules.

Q 7. If CELP were to not continue because of a lack of funding, would it make it more difficult for you to teach environmental subject matter?

Score: 4 / 5

- On average, the surveyed users would find it more difficult to teach environmental subjects if the resources offered by CELP would not be available.
- During the past year, the number of modules examined (386) and downloaded (222) by the users surveyed (~10% of total registered users) supports this conclusion.
- Moreover, since CELP began, a cumulative 1065 modules have been examined and 571 downloaded by users responding to our survey (~10% of total registered users).

The loss of CELP would be devastating. There is simply no replacement for it.

(Derek Simon, St. Thomas University , Religious Studies)

If anything, this service should be expanded. (Anonymous respondent)

We need CELP PLUS, not a loss of CELP. (Steven Hill, Trent University, Environmental & Resource Studies)

You have done a very effective job of developing helpful environmental resources and lessons to educators. We need this material now more than ever.

(Anonymous respondent)

I believe that CELP is a valuable resource not only to teachers but to those of us in industry with an interest in the environment. (Anonymous respondent)



Canadian Environmental Literacy Project

The Canadian Environmental Literacy Project

c/o Biology Department
Dalhousie University
Halifax, NS
B3H 4J1

Tel: (902) 494-3737

Director: Bill Freedman bill.freedman@dal.ca

Coordinator and
Webmaster: Peter Feige celp@dal.ca

