

# EcoLiteracy 101 - Student Handout

This handout contains selected online resources for EcoLiteracy 101. For your convenience, however, you may prefer to go to [www.AtlanticEcoWorks.ca/EcoLiteracy101](http://www.AtlanticEcoWorks.ca/EcoLiteracy101) where hyperlinks are provided and a PDF version of the EcoLiteracy 101 Power Point presentation is available.

## Introduction

Ecological literacy, or ecoliteracy, is having or showing knowledge of the relationships and interactions between living things and their environment. Although ecoliteracy may not sound like the most exciting thing in the world, it may well be the most important in terms of the future that we are creating for ourselves, our children, and our grandchildren.

This seminar is intended to be an introduction to ecoliteracy. It is also intended to be an opportunity to consider our role, both personally and professionally, in addressing the environmental challenges we face and in embracing the opportunities that are being created.

For students already possessing a high level of ecoliteracy, this seminar will be an excellent time for them to share their insights and perspectives for the benefit of others.

## Part A: Ecological Awareness

It is difficult to develop a meaningful level of ecoliteracy without being aware of how absolutely exceptional the Earth is among other known planets. Despite often taking the Earth's life-supporting ecosystem services for granted and paying little attention to them, we nevertheless remain totally dependent on their continued health.

Through the following sections, Part A will help remind us how truly exceptional our home planet really is.

- A1 Five Questions
- A2 Conditions on Other Planets
- A3 Ecosystem Services
- A4 Biosphere 2
- A5 Sustainability

## Selected Online Resources

**The New Facts of Life: Connecting the Dots on Food, Health and the Environment** (Fritjof Capra) [http://www.ecoliteracy.org/publications/fritjof\\_capra\\_facts.html](http://www.ecoliteracy.org/publications/fritjof_capra_facts.html)

**Ecosystem Services: A Primer** (ActionBioscience.org)  
<http://www.actionbioscience.org/environment/esa.html#primer>

**Where Does Atmospheric Oxygen Come From?** (wiseGEEK.com)  
<http://www.wisegEEK.com/where-does-atmospheric-oxygen-come-from.htm>

**Water Purification: An Essential Ecosystem Service** (Ecological Society of America)  
<http://www.esa.org/ecoservices/comm/body.comm.fact.wate.html>

**Soil Bacteria** (The University of Western Australia)  
<http://www.soilhealth.segs.uwa.edu.au/components/bacteria>

**The Value of Ecosystem Services** (The Academy of Natural Sciences)  
[http://www.anbsp.org/museum/kye/public\\_policy/2000\\_ecosystem\\_services.php#1](http://www.anbsp.org/museum/kye/public_policy/2000_ecosystem_services.php#1)

**Biosphere 2** (The University of Arizona)  
<http://www.b2science.org/>

**Sustainability:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.  
 (The Global Development Research Centre) <http://www.gdrc.org/sustdev/definitions.html>

## Part B: Earth Issues

Unfortunately, there appears to be no shortage of sobering environmental news in the media, and it is understandable why some people simply tune it out. However, bad news can also motivate other people to engage in issues and to work toward making a positive difference.

The major issues addressed in Part B, as outlined below, certainly depict a reality that is challenging. However, unless we're willing to understand the problems, we will never be effective in devising solutions.

- B1 Ecosystem Health
- B2 Climate Change
- B3 Peak Oil
- B4 Global Population

### Selected Online Resources

**Millennium Ecosystem Assessment** (United Nations)  
<http://www.millenniumassessment.org/en/index.aspx>

**The Economics of Climate Change** (Office of Climate Change, UK)  
<http://www.occ.gov.uk/activities/stern.htm>

**No Breathing Room: National Illness Costs of Air Pollution** (Canadian Medical Association)  
[http://www.cma.ca/multimedia/cma/content/Images/Inside\\_cma/Office\\_Public\\_Health/ICAP/CMA\\_ICAP\\_sum\\_e.pdf](http://www.cma.ca/multimedia/cma/content/Images/Inside_cma/Office_Public_Health/ICAP/CMA_ICAP_sum_e.pdf)

**The Report of the Commission on Nitrates in Groundwater**  
 (Government of Prince Edward Island), <http://www.gov.pe.ca/photos/original/cofNitrates.pdf>

**We are all Upstream, We are all Downstream, We are all Part of a Watershed**  
 (Government of Prince Edward Island), <http://www.gov.pe.ca/photos/original/watershedreport.pdf>

**State of the Forest Report** (Government of Prince Edward Island)  
[http://www.gov.pe.ca/photos/original/af\\_state\\_forest.pdf](http://www.gov.pe.ca/photos/original/af_state_forest.pdf)

**10 Popular Myths About Climate Change** (Sierra Club of Canada)  
<http://www.sierraclub.ca/national/programs/atmosphere-energy/climate-change/ten-myths.html>

**Global Population Clock** (University of California, Berkeley)  
<http://math.berkeley.edu/~galen/popclk.html>

**The IPAT Equation** (The Sustainable Scale Project)  
<http://www.sustainable-scale.org/ConceptualFramework/UnderstandingScale/MeasuringScale/TheIPATEquation.aspx>

**Environmental News Network** (Environmental News Network)  
<http://www.enn.com/>

## Part C: You and Your Planet

As previously stated, ecoliteracy is about relationships – about connections. We are connected in one way or another not only to each other but to all species and to all the services provided by the Earth. Nothing exists in isolation. Individually, and collectively, how we decide to manage our connections is going to very much determine the quality of life and standard of living that we and others will enjoy in the future.

Part C will help us to consider our own connections – both on a personal and professional level.

- C1 Ecological Footprint
- C2 Actions for Living Lightly
- C3 Your Future Career

### Selected Online Resources

**How Big is Your Ecological Footprint?** (Redefining Progress)

[http://www.myfootprint.org/en/visitor\\_information/](http://www.myfootprint.org/en/visitor_information/)

**Prof. Schpinkee's Greenhouse Calculator** (Australian Broadcasting Corporation)

[http://www.abc.net.au/science/planetslayer/greenhouse\\_calc.htm](http://www.abc.net.au/science/planetslayer/greenhouse_calc.htm)

**The Prince Edward Island Ecological Footprint** (GPI Atlantic)

<http://www.gpiatlantic.org/pdf/ecofoot/pei-ecofoot.pdf>

**Living Planet Report** (WWF – World Wide Fund for Nature)

[http://www.panda.org/news\\_facts/publications/living\\_planet\\_report/index.cfm](http://www.panda.org/news_facts/publications/living_planet_report/index.cfm)

**The Voluntary Human Extinction Movement** (The Voluntary Human Extinction Movement)

<http://www.vhemt.org/>

**A World Without People** (Silver Donald Cameron)

<http://silverdondalsonunday.blogspot.com/search/label/Aftermath%3A%20Population%20Zero>

**Sustainable Living Guide** (People and Planet)

<http://www.planetfriendly.net/living.html>

**99 Ways I Can Reduce My Environmental Impact** (Atlantic EcoWorks)

<http://www.AtlanticEcoWorks.ca/EcoLiteracy101>

"If we do not change our course, we will wind up where we are headed."

Chinese Proverb

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"Before I flew I was already aware of how small and vulnerable our planet is; but only when I saw it from space, in all its ineffable beauty and fragility, did I realize that human kind's most urgent task is to cherish and preserve it for future generations."

Sigmund Jahn (Solyut 6, 1978)



**A Message for You (from Rod, your facilitator!)**

It is my intent that by participating in EcoLiteracy 101 you will gain something you may not have had before the seminar. Perhaps it may be a stronger appreciation or understanding of the wondrous ecosystem services that are provided for each of us, everyday. Or maybe it will be the realization that many of your classmates feel as strongly as you do about our environment. However, what you gain may even be something you aren't aware of now, but that will pop into your mind sometime in the future.

For decades, the reality of our total dependence on the Earth has been understood by scientists. They have known that when it comes to our society, our economy, and our environment, the relation is not one of equal interdependence but, in fact, is one in which the state of our society and our economy are predicated on the state of our environment. We are seeing a remarkable shift in consciousness as this is finally being understood and embraced by businesses, industries, governments, and the public. The reason for this is simple – if we want to ensure the continuation of our own interests into the future, we really have no choice but to ensure that our biosphere remains healthy. We have to respond to the signals the biosphere is giving us as we push against its limits. Some of us may respond for reasons based purely on our self-centeredness; others, more for reasons to do with the collective well-being of the planet and the species on it. Ultimately, though, what is most important is not the rationale for our response, but the response itself.

If you have been following current affairs and trends that are reported in the media, you are likely well aware of how almost everything and everybody is going “green.” This is very encouraging and bodes well for our future. The environment is now a major concern of most people and is high on the political agenda. Governments at all levels are incorporating sustainability principles into their operations as they plan for the future. Commerce and industry are identifying “green” opportunities in the market and are strategizing so as to benefit from those opportunities. Educational institutions are modifying their curriculums to recognize this green shift and to ensure graduates are fully prepared to engage in it.

You, as someone now developing specific technical skills prior to entering industry, are particularly well situated to become part of this activity - this collective mobilization of human effort that will ultimately reverse the “business as usual” attitude that has prevailed for decades (and that has led us to this point in our environmental history). Ultimately, your mandate is going to be very much in keeping with the principles of sustainability we talked about in the seminar. The specifics of what you do will be defined by your particular industry, but the direction in which your industry is headed will be based on the principles of sustainability. If your industry wants not just to survive, but to thrive, there is no alternative course of action.

So, at this point in time, you may already be well-informed about ecological issues or it may be that you really haven't thought very much about them. Either way, society and industry have already started to respond to some of our environmental challenges and there is no sign of this changing in the foreseeable future. As you take your place in society and the workplace, you will be faced with many decisions that will have environmental consequences. It is my hope that you will feel compelled (perhaps in some small part due to attending EcoLiteracy 101) to consider these decisions in a larger global context based on your ecological awareness and personal concern. It is also my hope that you will seek to influence others, ecologically speaking, in whatever manner you find to be meaningful and comfortable. When enough of us become sufficiently influenced and motivated, there will no longer be any doubt that the future will be bright, not only for humankind, but for all the species with which we share the Earth.