



ECO CANADA

Planning for Green Jobs: Environmental Trends and Opportunities

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Building the Canadian Environmental Workforce for Today and the Future

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ECO Canada



Presentation Overview

- I. Did You Know?
- II. The Environment and Canadian Society.
- III. Environmental Employment in Canada.
- IV. ECO Canada Programs and Services.
- V. Educational Gaps.
- VI. Partnerships & ECO Futures.



DID YOU KNOW...Shift Happens

Currently

- ❑ We are currently preparing students for jobs that don't exist.
- ❑ The top ten jobs that will be in demand in 2010...
- ❑ There are over 2.7 billion searches performed on Google each month.

The Future

- ❑ Using Technologies that have not been invented in order to solve problems we do not know exist yet.
- ❑ Did not exist in 2004.
- ❑ To whom were these questions addressed BG (before Google)?



DID YOU KNOW...

Currently

- ❑ Predictions are that by 2013 a super computer will exceed the computational capacity of the human brain.
- ❑ While technical predictions more than 15 years are hard to make.....

The Future

- ❑ It will only take a \$1,000 computer to exceed the computation capacity of the human brain.
- ❑ Predictions are that by 2049 a \$1,000.00 computer will exceed the computational capability of the human race.



The Environment and Canadian Society

Principles of Environmental Sustainability

- Canada's health and social economic well-being is fundamentally linked to the quality of the environment.
- The state of the environment is linked to human activities.
- Environmental management is a joint responsibility of the citizenry, governments and the academic community.

91% of Canadians say they would alter their lifestyle and pay more taxes to help counter climate change (November 2007).



Top Resolutions for 2008

1. I will be more environmentally conscious in my purchase and resource usage decisions.
2. I will exercise regularly to improve my physical fitness.
3. I will drive less and walk and cycle more.



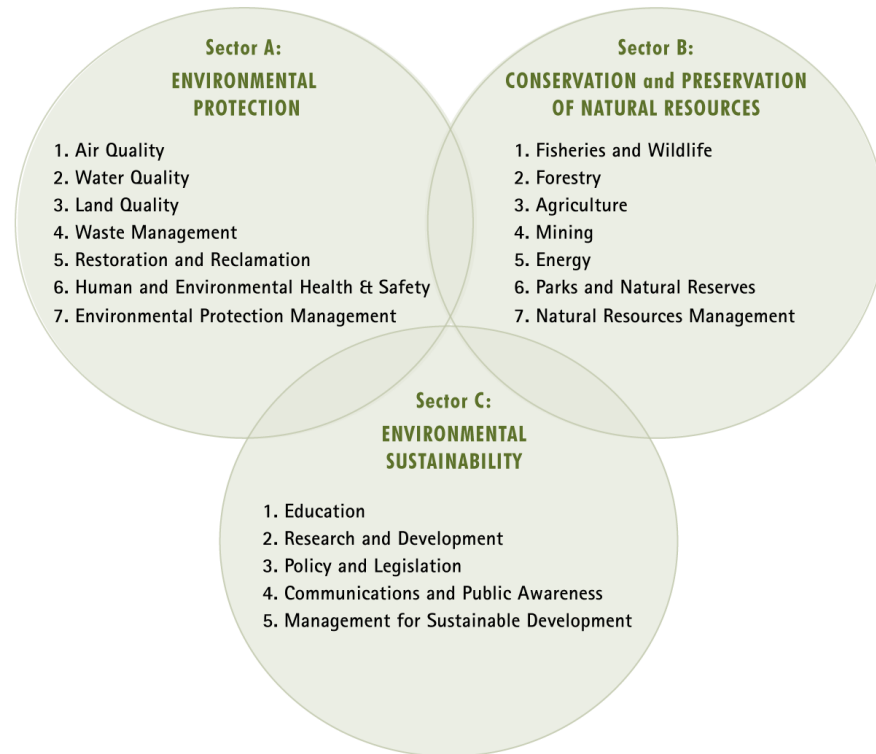
ECO Canada – Mission Statement

To ensure an adequate supply of people with demonstrated skills and knowledge required to meet the environmental human resource needs of the public and private sectors.



Environmental Employment in Canada

**Environmental Work
is
Multi-Disciplinary
and incorporated
in many
Different Industries**



Source: Profile of Canadian Environmental Employment 2007, ECO Canada



ECO Canada Labour Market Intelligence:

- 530,414 environmental employees (3.2% of the Canadian workforce).
- 105,221 establishments employ environmental staff (10.1% of Canadian organizations).
- 37% of environmental workforce is female.



ECO CANADA

Canada's Environmental Sector



Rapidly growing

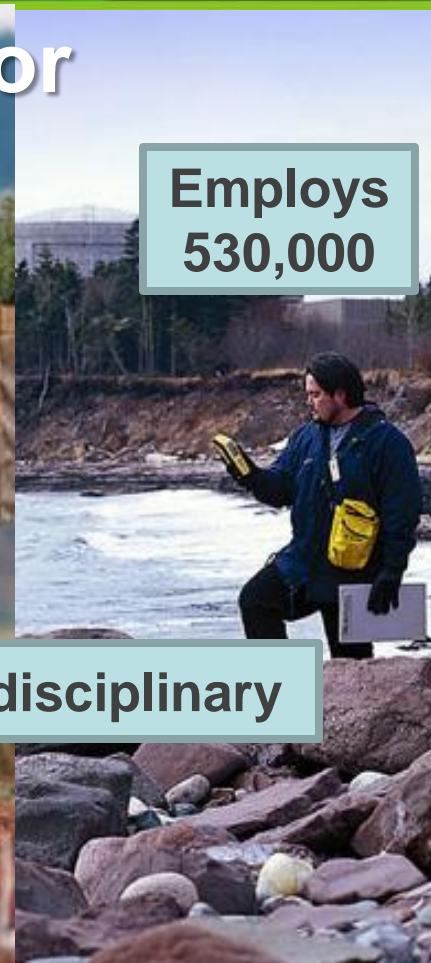


105,000 Employers



Multi-disciplinary

Constantly evolving



**Employs
530,000**



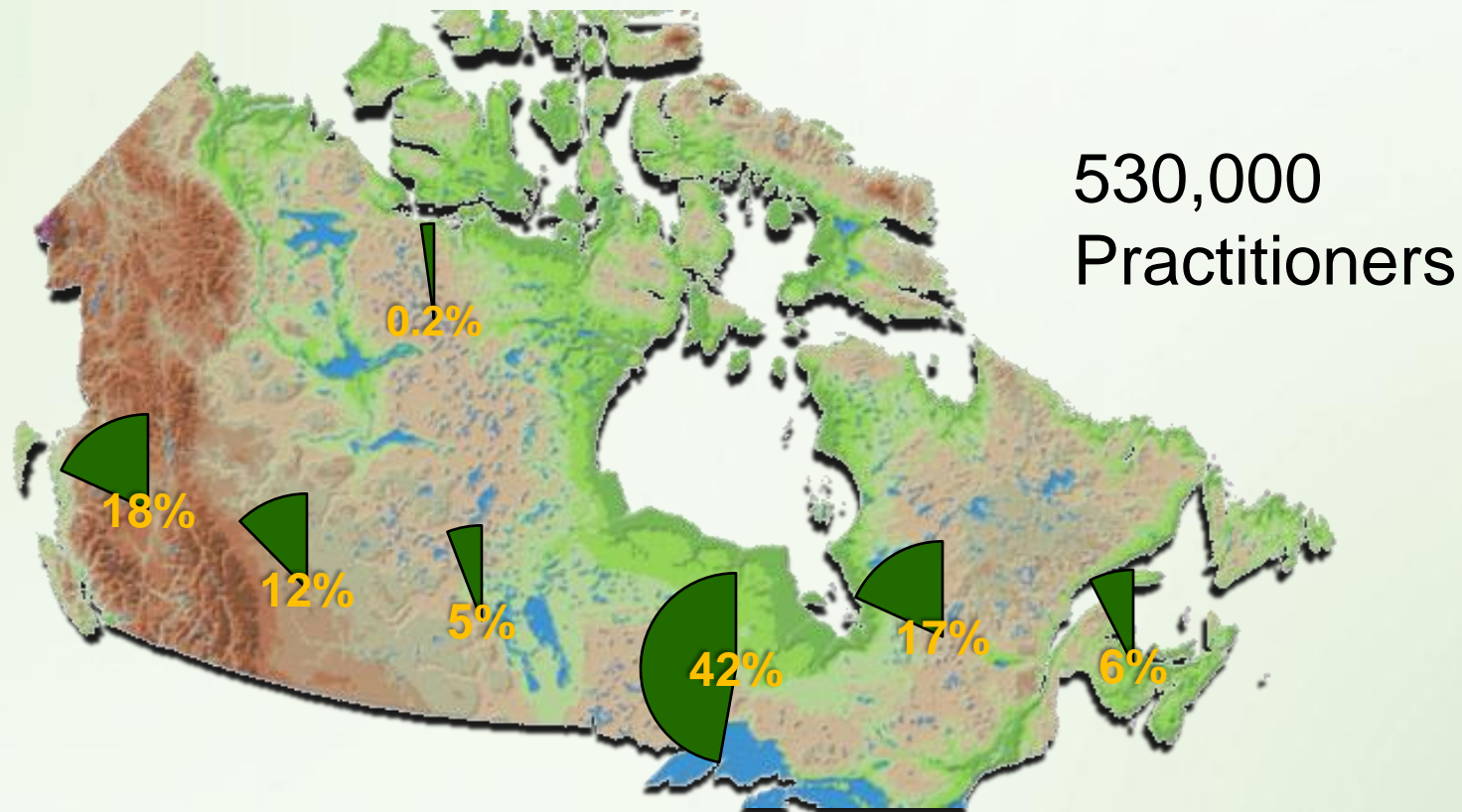
Regional Analysis

Ontario accounts for the largest percentage of environmental employment, with 42.5% of environmental employees located in the province.

Region	% Environmental Employment	Estimated Environmental Employment
Ontario	42.5%	225,342
British Columbia	17.6%	93,462
Quebec	17.3%	91,726
Alberta	11.8%	62,461
Atlantic	6.1%	32,142
Manitoba/ Saskatchewan	4.6%	24,262
Territories	.2%	817
Total	100.0%	530,414

Source: Survey of Environmental Employment in All Industries 2006

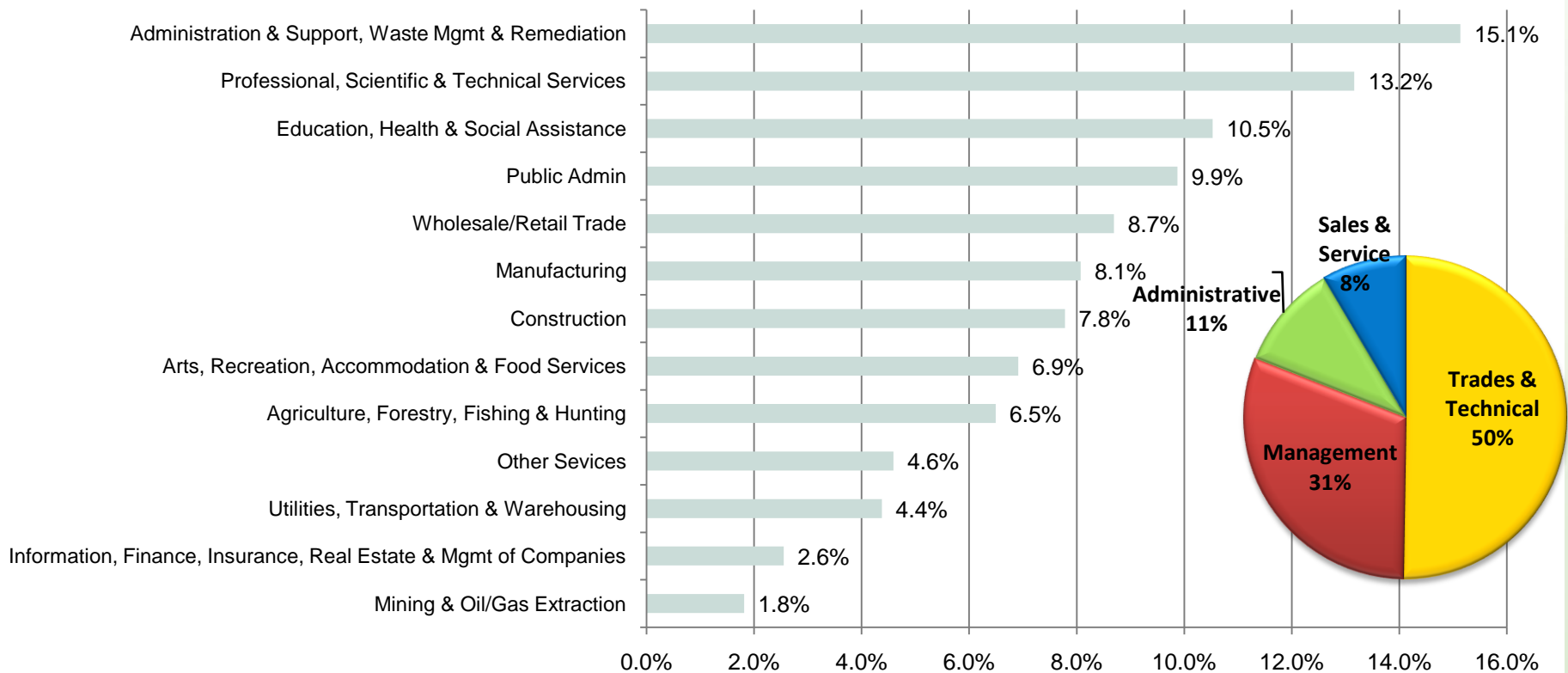
Where Do Environmental Practitioners Work?



* 44% of large companies have an environmental practitioner(s) on staff



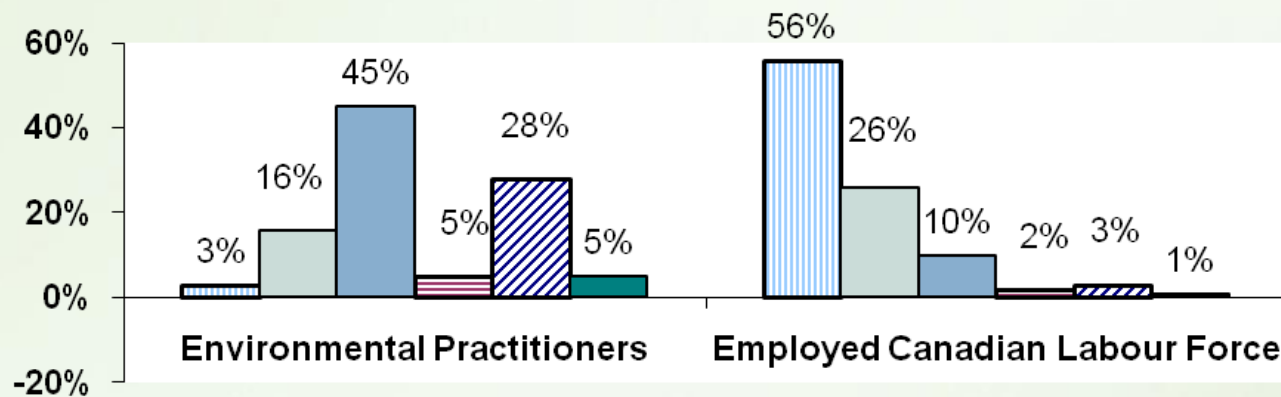
Environmental Employment by Field & Occupation Group



Source: Profile of Canadian Environmental Employment 2007, ECO Canada

Education and Training

Level of Education



High school

Bachelor's degree

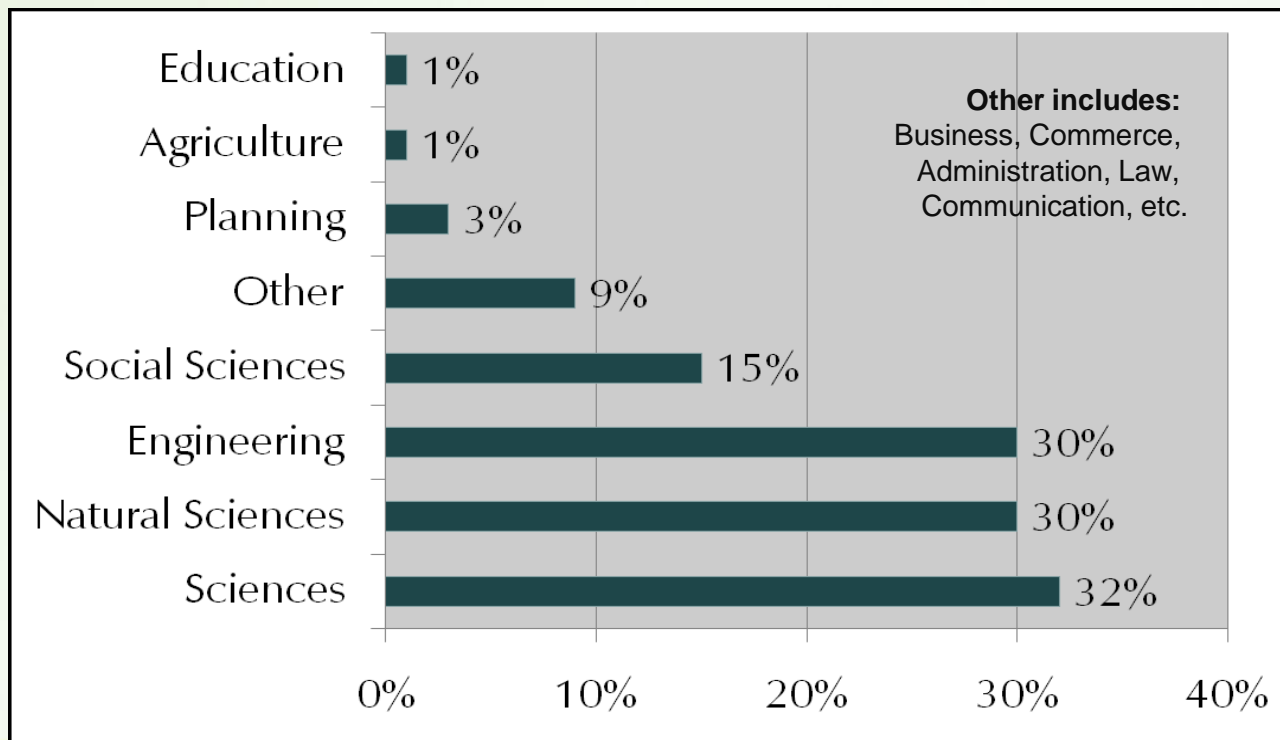
Master's degree

College or technical diploma

Post-baccalaureate diploma

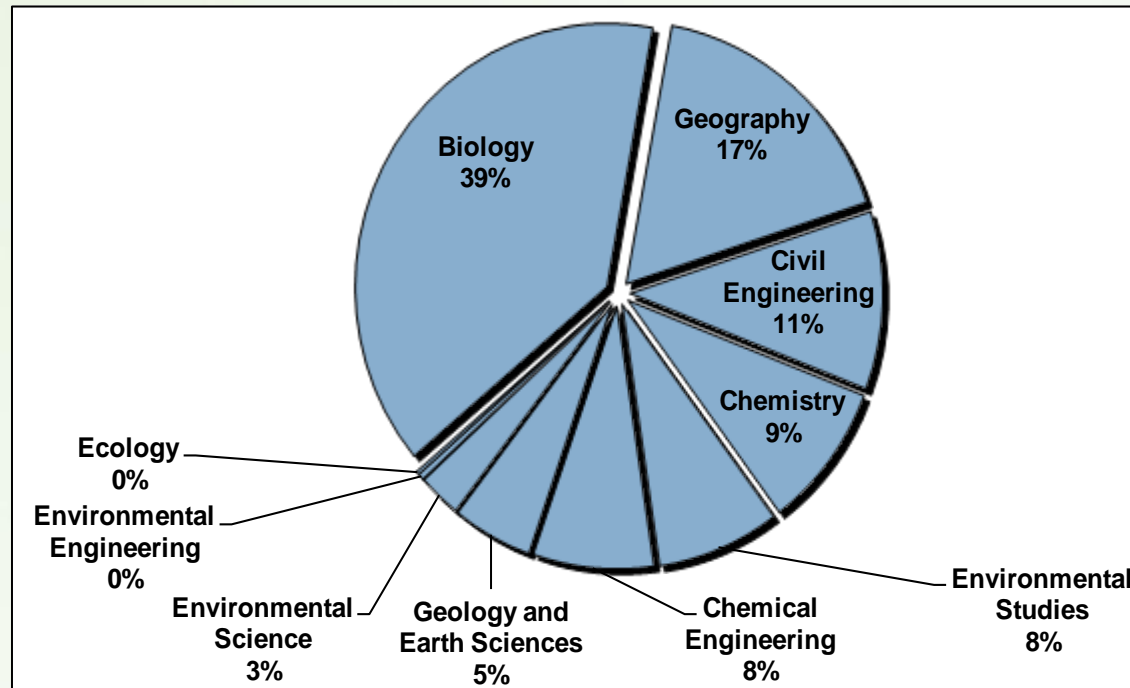
Doctorate

Typical Fields of Study Leading to Environmental Employment





Graduation by Environment-related Programs (2003)*



n=64,515 graduates

*Graduates available for the Environmental Sector



Attraction to the Environmental Sector

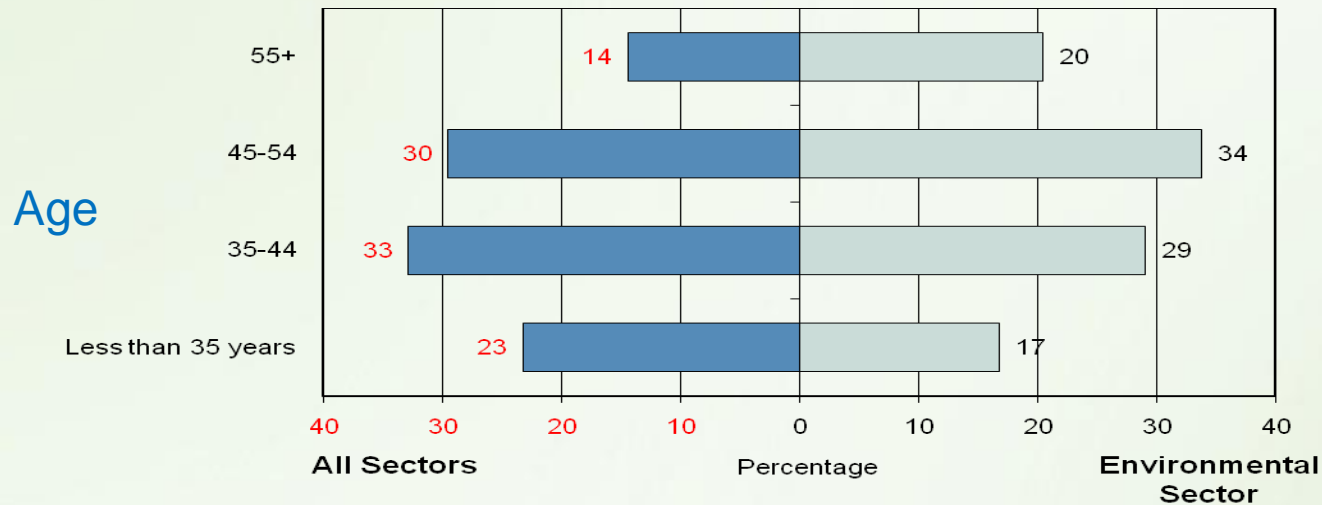
78% of respondents desire to Improve the Environment

Factor	One of 3 Reasons Given (%)
Desire to improve the environment (n=1,765)	78
Variety of jobs and duties (n=1,207)	53
Working outdoors (n=932)	41
Opportunities for career advancement (n=593)	26
Salary / Compensation (n=466)	20
Opportunities to work in rural and remote areas (n=309)	14
Influential teacher (n=222)	10
Image of particular employer (n=141)	6

Source: *Characteristics of Canadian Environmental Practitioners 2006, ECO Canada*

Shortfalls in Environmental Employment

Environmental employees in management positions are older than the national average:

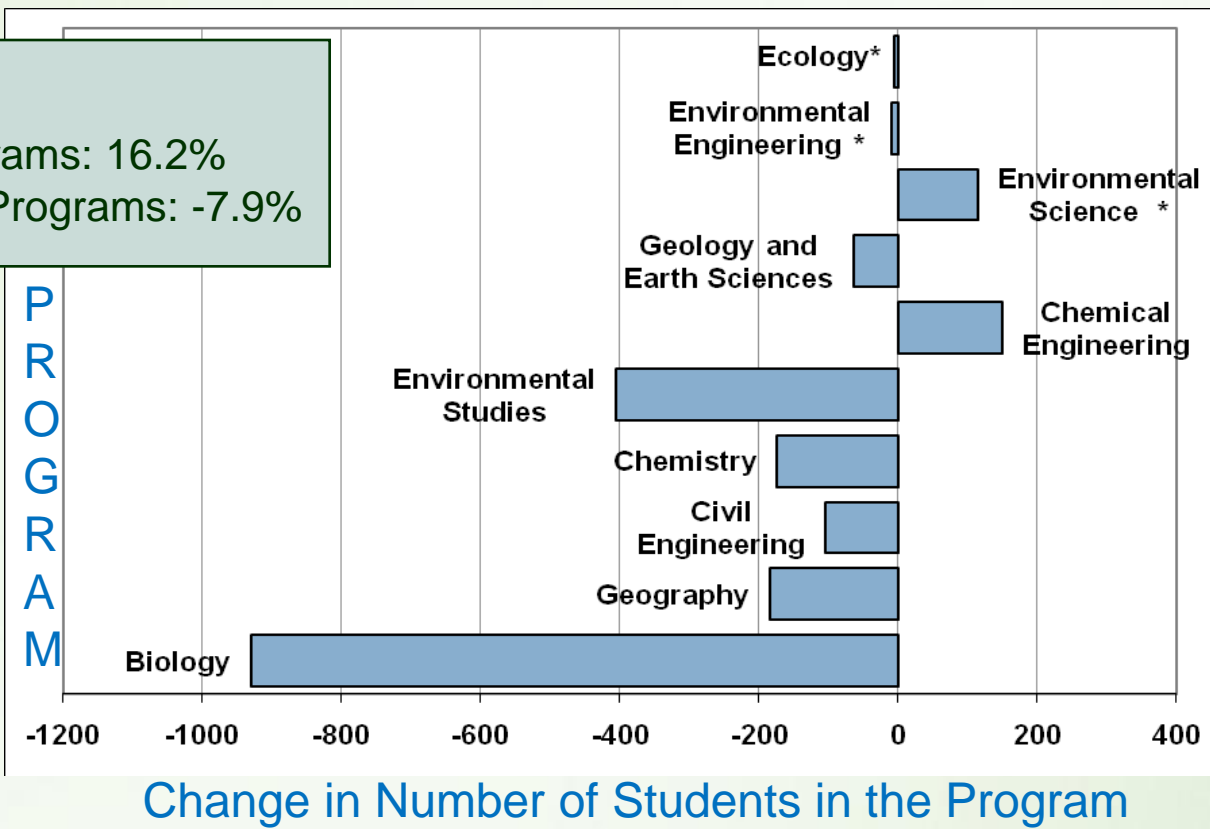


Percentage of People in the Environmental Sector



Change in Number of Graduates (1999-2003)

Rate of Change
 All University Programs: 16.2%
 10 Environmental Programs: -7.9%

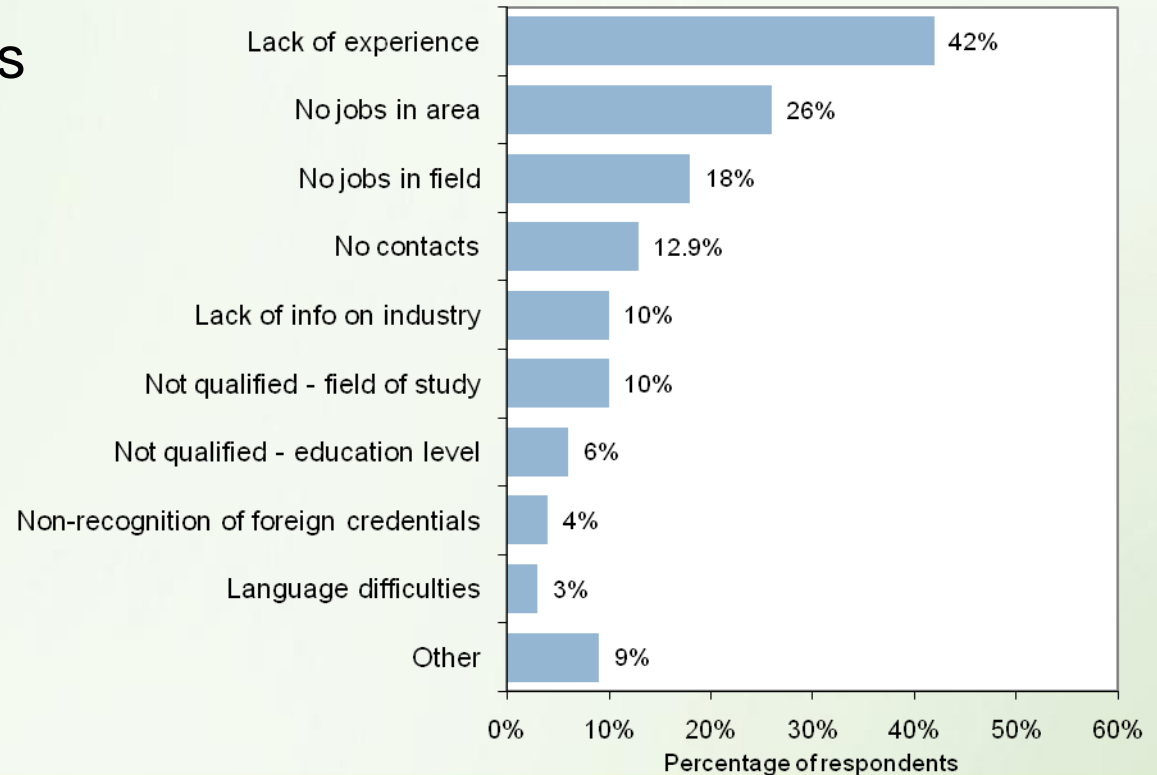


* data available for 2001 to 2003

Employee Recruitment

- 38% of respondents were offered employment while in school.
- 55% found work within six months of completing education.

Barriers to Finding Work

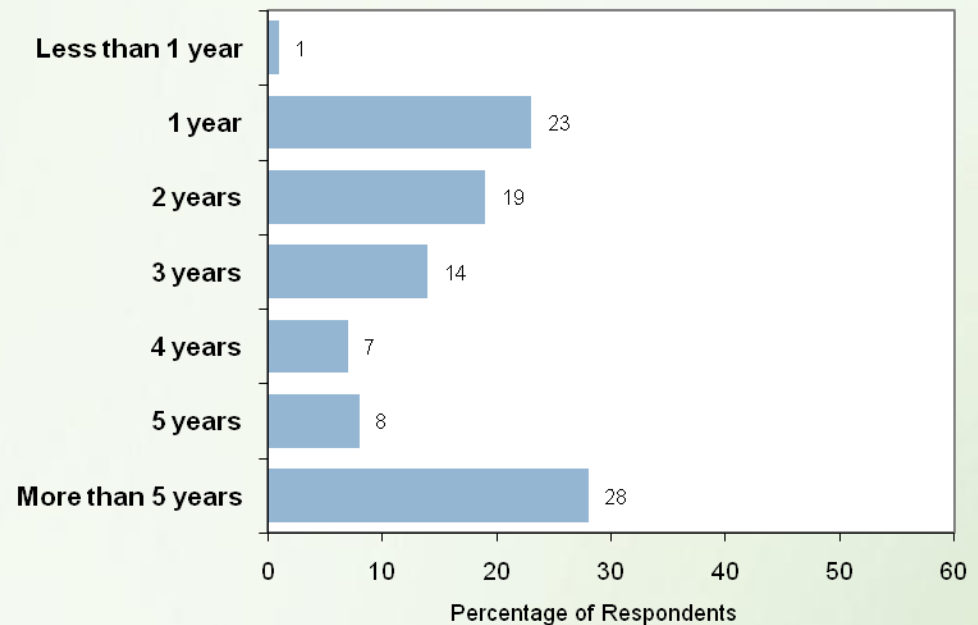




Employee Retention

Average Length of Time with Previous Employer

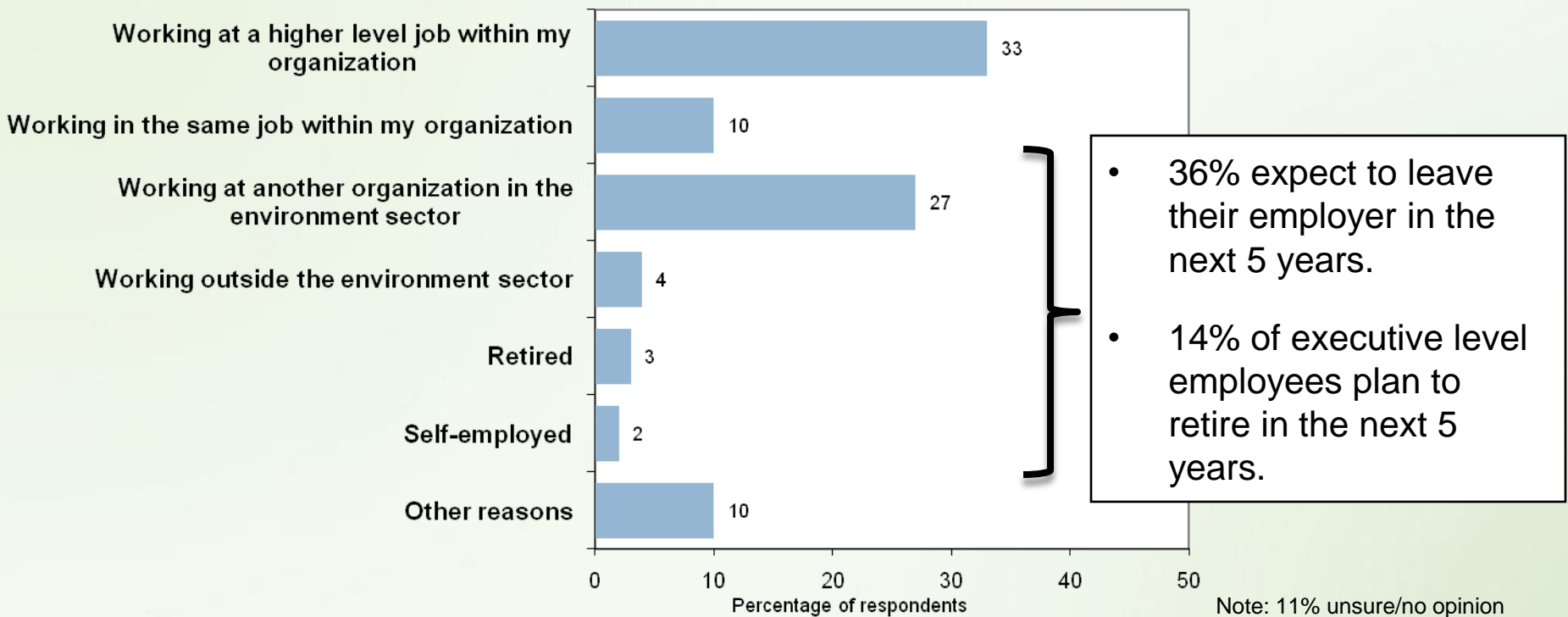
- 72% worked less than 5 years with their previous employer.



Note: Respondents in the workforce for more than 5 years.

Employee Retention (cont.)

Employee Career Plans in the Next 5 Years





Summary:

Environmental Employees are...

- Motivated by a desire to improve the environment.
- Highly educated workforce; most have post-secondary credentials.
- Participating in continuing education and returning to school or attend courses.
- Satisfied by work, in general.
- Changing jobs frequently; motivations to stay include salary, career advancement, benefits.



Workforce Trends

- An abundance of vacancies
 - More currently available at the mid-level.
- Good demographics for growth
 - An aging workforce (10% higher than national average).
 - Steady industry growth (up to 60% higher than national average).



What does this mean for the future of the workforce?

- Unlimited career opportunities (Over 40,000 occupations).
- A succession of up to 25 different jobs in a variety of occupations.
- In up to 5 different sectors of the economy.
- A variety of concurrent work roles (multi-tasking).
- Planned and unplanned gaps of no work.
- Individuals will need to manage numerous transitions between work and learning.

Source: Government of Alberta Human Resources and Employment, "Building and Educating Tomorrows Workforce." 2006

ECO Canada's Programs and Services

Mission Statement:

To ensure an adequate supply of people with demonstrated skills and knowledge required to meet the environmental human resource needs of the public and private sectors.



Practitioners/ Employers

- **Recruitment**
 - ECO Job Board/ BEAHR
 - Resume Database
 - Feature Employer
 - Internships
- **Labour Market Information.**
- **Employer of the Year Awards.**

Educators/ Students

- **Canadian Center for Environmental Education Bachelors Degree.**
- **Post Secondary Environmental Program Database**
- **ECO Canada Services for Students and Educators**



Get Your Foot in the Door...

ECO Canada Internships:

- 6-12 month terms.
- Wage subsidy.
- Intern finds employer.
- Online Application.

Available to:

- Post-secondary graduates.
- Practitioners under 30.



*ECO Canada Intern: Environmental Specialist
Environnement limitée - Montreal*

Occupational Profiles

Wildlife Biologist



Habitat Biologist

Environment Canada
Canadian Wildlife Service

- “At a Glance” Descriptions
- Job Duties
- Educational Requirements
- Role Models
- Career Opportunities
- Work Environment
- Resources
- Explore Related Careers



Certification for Environmental Professionals



CCEP: Canadian Certified Environmental Practitioner

- Available exclusively to experienced practitioners
- Signifies demonstrated expertise in a field of specialization

CEPIT: Canadian Environmental Practitioner-in-Training

- Available to recent grads & newer practitioners
- Stepping stone and career development tool

CEA: Auditing Certifications

- Certified Environmental Auditor- CEA
- Certified Environmental Sustainable Forest Management Auditor
CEA (SFM)



Building Environmental Aboriginal Human Resources (BEAHR)

Mission Statement:

BEAHR is committed to increasing Aboriginal employment in the environmental sector through career awareness, the provision of training and employment resources, and recognition of environmental excellence.





BEAHR's Resources

- Aboriginal EnviroCareers (Career Awareness).
- BEAHR Internship Program.
- BEAHR Employer's Guide.
- BEAHR Learning Institute (Training Programs):
 - Environmental Monitor Training Program.
 - Environmental Site Assessment Assistant.
 - Local Environmental Coordinator.



Addressing the Employment and Education Gaps



Social Responsibility

All citizens require environmental awareness

- Ensure young Canadians have the tools to make sound environmental decisions.
- Ensure educators have the tools to impart factual environmental information.
- Facilitate national environmental discussions.
- Positively impact public policy decisions.
- Illustrate the linkages between environmental topics and K-12 education.
- Ensure post-secondary programs meet employment requirements.



Principles of Excellent Environmental Education

- Credibility;
- Values;
- Hands-on and learner-centered;
- Comprehensive;
- Link social, economic, political, moral, and ethical dimensions,
- Promote responsible citizenship;
- Understand the past, a sense of the present and a positive vision of the future.



Opportunities for K-12

- Young Canadians are the leaders in environmental awareness and activities.
- All Canadians need factual information regarding the environment.
- Teachers require environmental information that can be easily incorporated into the curriculum.
- Student groups require environmental information learning and other group activities.
- Linkages with business and the community on environmental issues is required.
- The environment is local, national and international.



Opportunities for K-12 (con't)

- Mechanisms to blend Traditional Ecological Knowledge (TEK) with western scientific knowledge.
- Ensuring all students graduate with a sound understanding of environmental issues and principles.
- Ensuring those students that have an interest in environmental careers graduate with the appropriate pre-requisites and a sound understanding of required further environmental education and training.
- School-to-work transition mechanisms.



Students in the 21st Century will need:

“For their educational, social and career success in the twenty-first century, students will require effective work habits and the ability to make sound decisions, solve problems, plan effectively, work independently, communicate well, research, evaluate themselves realistically and explore new educational and career opportunities.”

"Today's students...are used to the instantaneity of hypertext, downloaded music, phones in their pockets, a library on their laptops, beamed messages and instant messaging. They've been networkedThey have little patience for lectures, step-by-step logic and 'tell-test' instruction."

(Digital Natives, Digital Immigrants, Marc Prensky, 2001)

Source: Choices Into Action



Opportunities for Post-Secondary Education

- A supply of new entrants that have sound understanding of science, mathematics and career expectations to assist in retention issues.
- Partnerships with employers to assist graduates in school-to-work transitions.

Partnerships & “ECO Futures”

ECO Canada's
Environmental Education Strategy



Partnerships for 21st Century Education

The key to developing any environmental education strategy is partnerships between:

- Educators.
- Governments.
- Business and Industry.
- Communities.



SO WHAT NOW? LOOKING INTO THE FUTURE

- Understanding the influences changing our lives and our work.
- Supporting ourselves and others to make effective choices in this era of rapid change.
- Developing skills now for resiliency in the future career management and career literacy skills.



Results Round Table Discussion

*“Moving Environmental Education from the Fringes
into the Educational Mainstream”*

Build awareness of the possibilities for new directions in education:

- Exploring new visions for connecting students to post-secondary programs and/or the work place with recognized business and industry credentials.
- Investigate a new model for curriculum collaboration through partnerships with the community at large.
- Learners will have the opportunity to use workplace experiences to further their own career investigations.
- Design a seamless secondary to post-secondary concept in action that includes dual credits, advanced standing and preferential seats.



ECO Canada = ECO Futures

- Conduct research into the current environmental career decision-making processes of youth.
- Develop a partnership with other provincial departments and school districts resulting in a strong and collaborative environmental teacher community.
- Work individually and collectively with provinces to incorporate environmental strategy into the existing provincial secondary level curriculum in a coordinated ongoing way.
- Link this to career information/resources and career path processes.



Next Steps:

Stakeholder Consultation and Involvement

- Provincial and National Steering Committees to guide and support project goals and objectives.
- Conduct research and a literature review to inform and guide our work.
- Work collaboratively with Ministries of Education, Advanced Education, Environment, and Employees of each province and CMEC and FLMM in the creation of a Pan Canadian environmental education strategy.

Pilots

- Determine pilot locations and work in partnerships with schools, communities and business and industry to design unique pilots based on community needs.



ECO Schools

- Design an ECO Futures School Concept.

ECO Partnership Model

- Scholarships.
- High School Internship/Summer Internship Programs.
- A national recognition system to reward schools for ECO Futures' initiatives in partnership with existing programs.

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"Let every individual and institution now think and act as a responsible trustee of Earth, seeking choices in ecology, economics and ethics that will provide a sustainable future, eliminate pollution, poverty and violence, awaken the wonder of life and foster peaceful progress in the human adventure."

— **John McConnell**,
Founder of International Earth Day

