

Key Research Findings

This analysis was based on the pre-determined criteria and measures listed below:

Section	Description	Measures
Student Demand	<p>Includes an assessment of OCAS (2007 - 2011) enrolment data at other colleges in terms of mean growth rate with a specific focus on Fleming's direct competitors where appropriate (Georgian, Sheridan, Seneca and Durham)</p> <p>Trends in certificate, diploma, degree, apprenticeship and continuing education (where available).</p> <p>Click Below to Access Full Source Document: Fall Enrollment Trend</p>	<ul style="list-style-type: none"> ● Strong = Fleming enrolment growth is outpacing system and is equal to or greater than 3% ● Moderate = Fleming enrolment growth is equivalent to system demand and is between 1.0 to 2.9% ● Weak = Fleming enrolment growth is less than the system demand and is less than 1%
Labour Market	<p>Includes projected employment rate growth based on a consolidation of various Ontario, Canadian, and US sources including HRSDC, Sector Council Reports US Bureau of Labour Statistics, and the MTCU Employment Profile.</p>	<ul style="list-style-type: none"> ● Strong = Between 5-6 positive labour market indicators ● Moderate = Between 3-5 positive labour market indicators ● Weak = Between 1-2 or no positive labour market indicators
Competitive Analysis	<p>Includes the number of actual colleges offering the program as well as the ratio of applications to acceptances at Fleming compared to other colleges and specific comment about Fleming's direct competitors where appropriate (Georgian, Sheridan, Seneca and Durham)</p> <p>Click Below to Access Full Source Document: Fall Conversion Report</p>	<ul style="list-style-type: none"> ● Strong = Fleming conversion ratio is greater than 2 below the system ● Moderate = Fleming conversion ratio is 1 above, below or equal to the system ● Weak = Fleming conversion ratio is greater than 2 above than the system
Financial Analysis	<p>Includes a review of Contribution to Overhead (CTO) for existing programs (2010-11)</p> <p>Click Below to Access Full Source Document: Costing Analysis</p>	<ul style="list-style-type: none"> ● Strong = CTO is greater than 35% ● Moderate = CTO is between 30 - 34% ● Weak = CTO is between 20 – 30% <p>No Contribution = 19% or less</p>

Key Research Findings

Key Performance Indicators	<p>Includes KPI trends from the Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012.</p> <p>Click Below to Access Full Source Document: Key Performance Indicators</p>	<ul style="list-style-type: none"> ● Strong = Above system average in 6-7 indicators ● Moderate = Above system average in 3-5 indicators ● Weak = Above system average in 0-2 indicators.
Resource Analysis	<p>Requires school level assessment regarding space, technology, capital equipment and human resources. Recommendations from recent Program Review Reports included here</p>	

Key Research Findings

Ecological Restoration - Joint Degree Diploma (52700)

Student Demand¹

- **STRONG**

The following information consists of OCAS yearly student fall registration data as well as a mean growth rate and average student registration for each program under these categories:

Certificate

- Georgian offers a 1 year certificate program called Environmental Techniques

Diploma

- The Ecological Restoration – Joint Degree Diploma is data included under the MTCU Title of Resources/ Environmental Technician
- Sault has the highest 5 year mean growth rate of **67%** however Fleming has the highest 5 year average student registration of **93** students
- Fleming (**11%**) is above the system 5 year average growth rate (**8%**)

Advanced Diploma

- Fleming has the highest mean growth rate (**42%**) compared to the system of (**11%**)
- Georgian has the lowest mean growth rate of **2%** but has the highest by far 5 year average student registrations (**139**)

Graduate Certificate

- Cambrian has the highest growth rate (**9%**) however their program started in 2009 and experienced a drop in 2010 so Niagara has had the steadiest growth of **5%** and also has the highest 5 year student registration average of **43** students

¹ Registration data obtained from the Program Counts by Applicant Type Report (RPT0050P) in the OCAS Reporting and Analytics Cube December 7, 2011.

Some programs/colleges may not be included because they were missing MCU codes in the OCAS dataset

Prepared by Fleming Data Research (07-2012)

Key Research Findings

Diploma

Program: 52700 - RESOURCES ENVIRONMENTAL TECHNICIAN														
	2007 2008 % Change (07-08)			2008 2009 % Change (08-09)			2009 2010 % Change (09-10)			2010 2011 % Change (10-11)			% Mean Growth Rate (07-11)	5 Year Average Reg. Students
CANADORE	27	16	-41	16	26	63	26	27	4	27	28	4	7	25
CENTENNIAL	17	26	53	26	20	-23	20	16	-20	16	14	-13	-1	19
CONFEDERATION	28	32	14	32	31	-3	31	31	0	31	37	19	8	32
→ FLEMING	68	84	24	84	95	13	95	120	26	120	97	-19	11	93
GEORGIAN							28			28	34	21	21	31
LOYALIST	18			34			34	18	-47	18	18	0	-24	22
MOHAWK	50	58	16	58	91	57	91	59	-35	59	42	-29	2	60
NIAGARA	37	46	24	46	49	7	49	48	-2	48	43	-10	5	45
NORTHERN	10			8			8			5				8
SAULT	7	8	14	8	32	300	32	32	0	32	17	-47	67	19
SENECA	22	20	-9	20	37	85	37	32	-14	32	24	-25	9	27
SHERIDAN	8	14	75	14	22	57	22	14	-36	14	9	-36	15	13
ST. LAWRENCE	19	23	21	23	34	48	34	24	-29	24	27	13	13	25
Total	311	327	5	327	479	46	479	449	-6	449	395	-12	8	392

Advanced Diploma

Program: 62700 - RESOURCES/ENVIRONMENTAL TECHNOLOGY														
	2007 2008 % Change (07-08)			2008 2009 % Change (08-09)			2009 2010 % Change (09-10)			2010 2011 % Change (10-11)			% Mean Growth Rate (07-11)	5 Year Average Reg. Students
CENTENNIAL	62	60	-3	60	78	30	78	66	-15	66	70	6	4	67
DURHAM	58	66	14	66	84	27	84	108	29	108	78	-28	10	79
FANSHAWE	68	82	21	82	110	34	110	102	-7	102	90	-12	9	90
→ FLEMING	26	50	92	50	94	88	94	76	-19	76	80	5	42	65
GEORGIAN	116	128	10	128	158	23	158	190	20	190	104	-45	2	139
SAULT				34			34	44	29	44	24	-45	-8	34
SENECA	44	42	-5	42	72	71	72	62	-14	62	72	16	17	58
Total	374	428	14	428	630	47	630	648	3	648	518	-20	11	520

Key Research Findings

Graduate Certificate

Program: 72700 - ENVIRONMENTAL CONTROL														
	2007 2008 % Change (07-08)			2008 2009 % Change (08-09)			2009 2010 % Change (09-10)			2010 2011 % Change (10-11)			% Mean Growth Rate (07-11)	5 Year Average Reg. Students
CAMBRIAN				23			23	12	-48	12	20	67	9	18
CONESTOGA	25	26	4	26	26	0	26	27	4	27	27	0	2	26
NIAGARA	37	44	19	44	45	2	45	45	0	45	44	-2	5	43
SENECA				15			15			7				11
Total	62	70	13	70	109	56	109	84	-23	84	98	17	16	85

Labour Market

• **STRONG**

Employment Ontario²

Biological Technologists and Technicians (NOC – 2221)

- Employment Ontario Rating (2009-2013):
 - **Average**
- Education and Training
 - “Completion of a three-year or equivalent program for biological technologists or a two-year or an equivalent program for biological technicians is usually required. Several different educational backgrounds can provide entrance to an occupation within this classification. Certification in biological technology or in a related field is available through provincial associations of engineering and applied science. In Ontario, the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) certifies biological technologists and technicians. The certification process includes a period of supervised work experience, usually up to two years, and a professional practice examination.”
- Demand
 - “Ontario has a vibrant biotechnology sector with strengths in the bio-medical, pharmaceutical, medical devices, agricultural-biotechnology and biomaterials field. The number of new graduates should meet industry needs. Businesses in Canada have turned to foreign workers in times of economic boom, to fill labour shortages. During an economic downturn however, large job losses can occur since biotech companies are highly dependent on well-functioning capital markets and are vulnerable to market slowdowns.”

² “2221 Biological Technologists and Technicians.” *Employment Ontario*. N.p., 2009. Web. 18 June 2012.
<http://www.tcu.gov.on.ca/eng/labourmarket/ojf/pdf/2221_e.pdf>.

Key Research Findings

- “Computer-based competencies such as bioinformatics and molecular modelling are becoming more important as companies and researchers deal with the integration of traditional and information sciences. Co-op programs are the preferred approach for many companies. In Ontario, the focus is on biosciences/life sciences, pharmaceutical medical devices, human health and the environment. People who work in these occupations require ongoing retraining and professional development to keep abreast of new information and changing technology. Increasingly, individuals in this field will require certification at a Masters or PhD level. Candidates with strong business and project management skills will have the best job prospects in a tight labour market.”

HRSDC³

Biological Technologists and Technicians (NOC – 2221)

- Job Openings (2011/2020): **18,000**
- Job Seekers(2011/2020): **15,255**
- Post-Secondary Education Graduates: **14,998**
- “Biological technologists and technicians provide technical support and services to scientists, engineers and other professionals working in fields such as agriculture, resource management, environmental protection, plant and animal biology, microbiology, cell and molecular biology and health sciences, or may work independently in these fields. They are employed in both laboratory and field settings by governments, manufacturers of food products, chemicals and pharmaceuticals, biotechnology companies, health, research and educational institutions, environmental consulting companies and resource and utilities companies.”

US Bureau of Labour⁴

Environmental Science and Protection Technicians (SOC – 19-4091)

- Employment Growth (2010/2020): **Increase 24%**
 - **29,600 (2010) to 36,600 (2020)**
- “Heightened public interest in the hazards facing the environment, as well as the increasing demands placed on the environment by population growth, are expected to spur demand for environmental science and protection technicians. Further demand is expected as a result of new and increasingly complex environmental laws and regulations.”
- “Environmental science and protection technicians should have good opportunities for employment. In addition to openings due to growth, many job openings are expected to be created by those who retire or leave the occupation for other reasons. Job candidates with an associate’s degree or experience should have the best opportunities.”
- “Job opportunities available in state and local governments will vary from year to year with the budgets of state and local environmental protection agencies.”

³ “Technical Occupations In Life Sciences (222).” *Human Resources and Skills Development Canada*.N.p., 13 June 2012. Web. 13 June 2012. <<http://www23.hrsdc.gc.ca/occupationsummarydetail.jsp?&tid=39>>.

⁴Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Environmental Science and Protection Technicians, Web. <http://www.bls.gov/ooh/life-physical-and-social-science/environmental-science-and-protection-technicians.htm>, June 13, 2012

Key Research Findings

HRSDC⁵

Landscape and Horticulture Technicians and Specialists (NOC – 2225)

- Job Openings (2011/2020): **17,703**
- Job Seekers(2011/2020): **15,255**
- Post Secondary Education Graduates: **14,998**
- “Based on projections and considering that labour supply and demand for this occupation were balanced over the 2008-2010 period, it is expected that the number of job seekers in this occupation will continue to be sufficient to fill the job openings over the 2011-2020 period. The majority of job openings will result from retirements, the retirement rate being higher than employment growth. Nevertheless, employment growth will be higher than average, benefiting from the continuing increase in landscaping and horticulture spending. With regard to labour supply, the majority of job seekers will come from the school system.”

US Bureau of Labour⁶

Grounds Maintenance Workers (SOC – 37-3013)

- Employment Growth : **Increase 20%**
 - **1,249,700 (2010) to 1,504,300 (2020)**
- “Tree trimmers and pruners, also called **arborists**, cut away dead or excess branches from trees or shrubs to clear utility lines, roads, and sidewalks. Although many workers strive to improve the appearance and health of trees and plants, some specialize in diagnosing and treating tree diseases. Others specialize in pruning, trimming, and shaping ornamental trees and shrubs. Tree trimmers and pruners use chainsaws, chippers, and stump grinders while on the job. When trimming near power lines, they usually work on truck-mounted lifts and use power pruners.”
- “More workers will be needed to keep up with increasing demand for lawn care and landscaping services from large institutions, including universities and corporate headquarters. Many aging or busy homeowners also will require lawn care services to help maintain their yards.”

⁵ "Technical Occupations In Life Sciences (222)." *Human Resources and Skills Development Canada*. N.p., 13 June 2012. Web. 13 June 2012. <<http://www23.hrsdc.gc.ca/occupationsummarydetail.jsp?&tid=39>>.

⁶ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Grounds Maintenance Workers, Web. <http://www.bls.gov/ooh/building-and-grounds-cleaning/grounds-maintenance-workers.htm>, June 13, 2012

Key Research Findings

HRSDC⁷

Biologists and Related Scientists (NOC – 2121)

- Job Openings (2011/2020): **10,440**
- Job Seekers(2011/2020): **10,875**
- Post Secondary Education Graduates: **7,474 (69%)**

- “Based on projections and considering that labour supply and demand in this occupation were balanced over the 2008-2010 period, it is expected that the number of job seekers will remain sufficient to fill job openings over the 2011-2020 period. Job openings will arise from both new positions due to expansion demand and retirements. Employment growth will be slightly stronger than average in this occupation over the projection period even though the budget constraints that various levels of government are facing will have a negative impact on job creation. However, investments in the health and biomedical research sector will remain very strong. Retirements will also represent a major source of job openings. The retirement rate will be similar to the average rate for all occupations. With regard to labour supply, the majority of job seekers will come from the school system, which is not surprising, considering the very specialized nature of this occupation.”

US Bureau of Labour⁸

Conservation Scientists and Foresters (SOC – 19-1030)

- Employment Growth : **Increase 5%**
 - **34,900 (2010) to 36,600 (2020)**

- “Employment of conservation scientists and foresters is expected to increase by 5 percent between 2010 and 2020, slower than the average for all occupations.”

- “Heightened demand for American timber and wood pellets will help increase the overall job prospects for conservation scientists and foresters. Most growth from 2010 to 2020 for conservation scientists and foresters is expected to be in federally owned forest lands, particularly in the southwestern United States. Jobs in private forests will grow alongside demand for timber and pellets, but ongoing fiscal crises will likely lessen the number of available positions in state and local governments.”

- “In recent years, preventing and suppressing wildfires has become the primary concern for government agencies managing forests and rangelands. The development of previously unused lands, in addition to changing weather conditions, has contributed to increasingly devastating and costly fires.”

⁷ "Technical Occupations In Life Sciences (222)." *Human Resources and Skills Development Canada*. N.p., 13 June 2012. Web. 13 June 2012. <<http://www23.hrsdc.gc.ca/occupationsummarydetail.jsp?&tid=39>>.

⁸ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Conservation Scientists and Foresters, on the Internet at <http://www.bls.gov/ooh/life-physical-and-social-science/conservation-scientists.htm> (visited August 03, 2012).

Key Research Findings

- “Increases in funding and new programs should create opportunities for foresters and range managers. Restoring lands affected by fires also will be a major task, particularly in the southwestern and western states, where such fires are most common.”

Sector Council Report

- “By 2011, environmental employment is expected to reach over 570,000, an increase of **8.1%** since 2006. Employment in the environment sector is expected to grow **23% faster** than the national average, estimated at **6.6%** over the same time period.”⁹
- “Certification with provincial associations is available, but **voluntary**”¹⁰
- “as of 2006, there were over 127,000 enrollments in environment-related programs at post secondary institutions in Canada, which represents approximately **7.6%** of all enrollments nationally (ECO Canada, 2011)”¹¹

⁹ “College Graduation Trends for Environment-related Programs.” *Environmental Labour Market Research*. ECO Canada, 2005. Web. 13 June 2012.

¹⁰ “2221 Biological technologists and technicians.” *Human Resources and Skills Development Canada*. N.p., 13 June 2012. Web. 13 June 2012. <<http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/QuickSearch.aspx?val65=2221>>.

¹¹ Schmidt, Dana. “Shaping a Resilient Future.” *Earth Common*. N.p., n.d. Web. 13 June 2012. <<http://www.earthcommon.com/index.php/shaping-a-resilient-future>>.

Key Research Findings

Employment Profile¹²

- In 2010-2011, **22.5%** of graduates were employed in a full time position which related to this program of study provincially

Resources

Total Graduates:	948	Total Graduates in Survey:	684	Response Rate:	72.7%
-------------------------	-----	-----------------------------------	-----	-----------------------	-------

1596 graduates were reported after the survey window had closed. While program information for these graduates has been included whenever possible, these graduates are not included in survey results, such as response rates.

Programs in Resources

Programs	Duration	Total Grads	Total in Survey	Total in Labour Force	Colleges
Blasting Techniques	1 Year	18	15	12	Sir Sandford Fleming
Ecosystem Surveys-Field Skills	1 Year	2	2	2	Sault
Environmental Control	Post Diploma	103	81	72	Conestoga, Niagara, Seneca, Sheridan
Environmental Studies	Post Diploma	38	29	26	Niagara
Environmental Technician	2 Years	217	138	94	Canadore, Centennial, Loyalist, Mohawk, Niagara, Northern, Sault, Seneca, Sheridan, Sir Sandford Fleming, St. Lawrence
Environmental Techniques	1 Year	25	18	13	Georgian
Environmental Technology	3 Years	134	94	84	Centennial, Durham, Fanshawe, Georgian, Humber, Loyalist, Seneca, Sir Sandford Fleming
Fish And Wildlife Technician	2 Years	105	76	32	Boréal, Northern, Sault, Sir Sandford Fleming
Fish And Wildlife Technology	3 Years	22	18	9	Boréal, Sir Sandford Fleming
Forest Management Technology	3 Years	34	29	22	Sault, Sir Sandford Fleming
Forest Recreation Technician	2 Years	6	5	3	Sault
Forestry Technician	2 Years	94	66	51	Algonquin, Confederation, Sault, Sir Sandford Fleming
Forestry Technology	3 Years	4	2	2	Boréal
Integrated Environmental Site Remediation – Bachelor Of Applied Technology	4 Years	1	1	1	Seneca
Renewable Resource Technician	2 Years	59	46	25	Sir Sandford Fleming
Resources Technician – Drilling	2 Years	37	26	26	Sir Sandford Fleming
Water And Waste Water Technician	2 Years	49	38	31	Algonquin, Durham

¹² "Employment Profile." Ontario. N.p., 2011. Web. 19 July 2012.

<<http://www.tcu.gov.on.ca/pepg/audiences/colleges/serials/eprofile09-10/profile10.pdf>>.

Key Research Findings

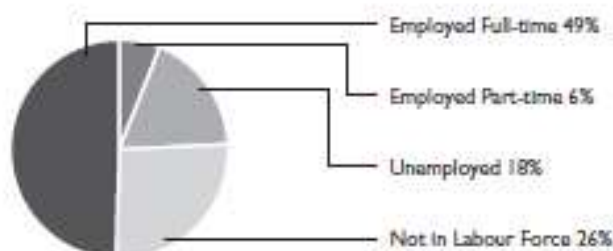
Resources

Summary of Survey Data

	Program Cluster	All Programs
Survey Population	684	50,622
Labour Force Participation	74%	74%
Employment Rate ^a	75%	83%
Employed Part-time ^a	9%	18%
Employed Full-time ^a	67%	65%
Average Annual Earnings – Total	\$36,549	\$33,199
Average Annual Earnings – Female	\$33,231	\$31,897
Average Annual Earnings – Male	\$38,403	\$34,607
Graduate Satisfaction	71%	79%
Employer Satisfaction	95%	93%

a. As a percentage of graduates in the labour force.

Graduate Outcomes for Program Cluster (as a percentage of all respondents)



Top Five Industries of Employment

	#	%
Professional, Scientific and Technical Services	76	20.7%
Utilities	29	7.6%
Administrative and Support Services	25	6.8%
Federal Government Public Administration	18	4.9%
Local, Municipal and Regional Public Administration	18	4.9%

Top Five Occupational Categories

	#	%
Civil Engineering Technologists and Technicians	29	7.8%
Water and Waste Plant Operators	19	5.1%
Inspectors in Public and Environmental Health and Occupational Health and Safety	15	4.1%
Forestry Technologists and Technicians	14	3.8%
Natural and Applied Science Policy Researchers, Consultants and Program Officers	13	3.5%

Key Research Findings

Resources

Summary of Graduate Outcomes by Program

	Full-time Employed, Program Related		Full-time Employed, Program Unrelated		Part-time Employed, Program Related		Part-time Employed, Program Unrelated		Unemployed		Not in Labour Force	
	#	%	#	%	#	%	#	%	#	%	#	%
Blasting Techniques	2	13.3	6	40.0	1	6.7	1	6.7	2	13.3	3	20.0
Environmental Control	29	35.8	22	27.2	2	2.5	4	4.9	15	18.5	9	11.1
Environmental Studies	18	62.1	5	17.2	1	3.4	—	—	2	6.9	3	10.3
Environmental Technician	31	22.5	30	21.7	1	0.7	9	6.5	23	16.7	44	31.9
Environmental Techniques	4	22.2	3	16.7	—	—	1	5.6	5	27.8	5	27.8
Environmental Technology	43	45.7	15	16.0	2	2.1	6	6.4	18	19.1	10	10.6
Fish And Wildlife Technician	10	13.2	11	14.5	1	1.3	1	1.3	9	11.8	44	57.9
Fish And Wildlife Technology	4	22.2	2	11.1	—	—	—	—	3	16.7	9	50.0
Forest Management Technology	9	31.0	3	10.3	2	6.9	—	—	8	27.6	7	24.1
Forestry Technician	16	24.2	18	27.3	—	—	1	1.5	16	24.2	15	22.7
Renewable Resource Technician	8	17.4	3	6.5	2	4.3	2	4.3	10	21.7	21	45.7
Resources Technician – Drilling	20	76.9	2	7.7	1	3.8	1	3.8	2	7.7	—	—
Water And Waste Water Technician	11	28.9	7	18.4	1	2.6	2	5.3	10	26.3	7	18.4
All Programs in Cluster*	205	30.4	127	18.8	14	2.1	28	4.2	123	18.2	177	26.3

* Does not include 4 programs with fewer than 5 graduates in the labour force.

Earnings of Full-time Employed Participants

Program	Average – Females	Average – Males	Median – Females	Median – Males	Average for Program	Median for Program
Blasting Techniques	—	\$41,683	—	\$38,064	\$41,683	\$38,064
Environmental Control	\$41,980	\$38,268	\$38,554	\$37,000	\$39,994	\$38,000
Environmental Studies	\$32,889	\$36,705	\$27,375	\$37,543	\$34,103	\$31,384
Environmental Technician	\$31,121	\$36,900	\$28,288	\$35,457	\$34,467	\$30,034
Environmental Techniques	—	\$42,222	—	\$41,537	\$42,222	\$41,537
Environmental Technology	\$33,478	\$38,248	\$29,200	\$34,800	\$36,054	\$31,494
Fish And Wildlife Technician	\$25,249	\$29,979	\$19,374	\$27,114	\$28,665	\$26,854
Fish And Wildlife Technology	—	—	—	—	—	—
Forest Management Technology	\$29,296	\$33,126	\$26,072	\$35,457	\$30,892	\$31,000
Forestry Technician	\$24,480	\$34,193	\$22,291	\$34,545	\$32,479	\$33,632
Renewable Resource Technician	\$28,392	\$42,875	\$20,759	\$43,018	\$34,975	\$30,243
Resources Technician – Drilling	—	\$54,525	—	\$50,839	\$54,525	\$50,839
Water And Waste Water Technician	—	\$36,000	—	\$36,500	\$38,996	\$39,107
All Programs in Cluster*	\$33,526	\$38,475	\$31,286	\$37,413	\$36,671	\$35,197

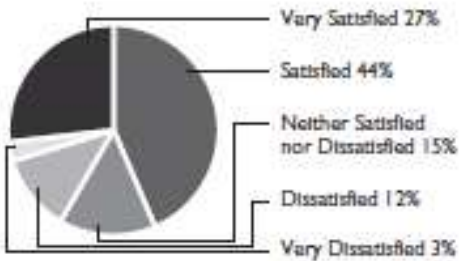
* Does not include 4 programs with fewer than 5 graduates in the labour force.

Key Research Findings

Resources

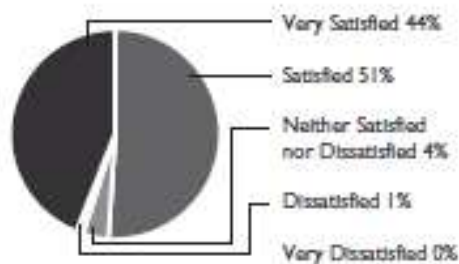
Program Cluster Satisfaction

Graduate Satisfaction with the usefulness of his/her college education in achieving his/her goals after graduation:*



* 650 graduates participated in this question.

Employer Satisfaction with employee overall college preparation for the type of work he/she was doing:*



* 73 employers participated in this survey.

Program Cluster Historical Data

	00-01 Grads	01-02 Grads	02-03 Grads	03-04 Grads	04-05 Grads	05-06 Grads	06-07 Grads	07-08 Grads	08-09 Grads	09-10 Grads
Percentage Employed	81.4%	81.9%	80.2%	80.6%	80.3%	83.5%	86.1%	81.2%	74.2%	75.2%
Percentage Employed Full-time	75.3%	73.5%	73.7%	74.1%	75.1%	75.5%	78.5%	75.8%	63.5%	66.7%
Percentage Employed Full-time Related Jobs	49.9%	49.2%	50.9%	47.2%	49.1%	48.7%	56.5%	52.3%	38.1%	41.2%
Average Annual Salary Full-time Related Jobs	\$31,073	\$31,781	\$31,524	\$33,431	\$34,855	\$34,372	\$37,034	\$38,831	\$38,526	\$40,526

Key Research Findings

Working in Canada¹³

Biological Technician & Technologist (NOC – 2221)

- Ontario Rating: **Not Available (except for Limited in the Northeast region)**

- **Wage Range by Region:**

Location	Wage (\$/hr)		
	Low	Median	High
Ontario	14.95	23.00	32.82
Hamilton--Niagara Peninsula Region	N/A	N/A	N/A
Kingston - Pembroke Region	N/A	N/A	N/A
Kitchener--Waterloo--Barrie Region	15.65	20.00	27.75
London Region	N/A	N/A	N/A
Muskoka-Kawarthas Region	14.95	23.00	32.82
Northeast Region	14.95	23.00	32.82
Northwest Region	14.95	23.00	32.82
Ottawa Region	N/A	N/A	N/A
Stratford--Bruce Peninsula Region	14.95	23.00	32.82
Toronto Region	14.95	23.00	32.82
Windsor-Sarnia Region	14.95	23.00	32.82

Working in Canada¹⁴

Landscape and Horticulture Technicians and Specialists (NOC – 2225)

- Ontario Rating: **Not Available**

- **Wage Range by Region:**

Location	Wage (\$/hr)		
	Low	Median	High
Ontario	12.48	19.86	38.49
Hamilton--Niagara Peninsula Region	15.00	17.69	23.00
Kingston - Pembroke Region	12.48	19.86	38.49
Kitchener--Waterloo--Barrie Region	15.00	17.00	23.00
London Region	12.48	19.86	38.49
Muskoka-Kawarthas Region	N/A	N/A	N/A
Northeast Region	N/A	N/A	N/A
Northwest Region	N/A	N/A	N/A
Ottawa Region	12.48	19.86	38.49
Stratford--Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	12.48	19.86	38.49
Windsor-Sarnia Region	15.00	16.00	21.00

¹³"Biological Technologists and Technicians."Working in Canada.N.p., 25 May 2012. Web. 13 June 2012.

<<http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2221&action=final&source=allnoc&titleKeyword=>>.

¹⁴ "2225 - Landscape and Horticulture Technicians and Specialists ." *Working in Canada*. N.p., 23 May 2012. Web. 13 June

2012. <http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2225&action=final@ionKeyword=Lindsay%2C+Ontario&s=2&source=1&titleKeyword=arborist#report_tabs_container2>.

Key Research Findings

Competitive Analysis¹⁵

• **MODERATE**

The following information consists of OCAS yearly fall application and registration data as well as a conversion ratio for each program under this category:

Diploma

- Fleming over 5 years has consistently had one of the lowest conversion ratios, in 2011 the ratio was **4:1** which is slightly lower than the system **(5:1)**
- Fleming's program is also in the highest demand with the highest number of applications every year

Advanced Diploma

- Fleming over 5 years has consistently had one of the lowest conversion ratios never going over **3:1**
- Fleming's program is also in the highest demand with the highest number of applications every year

Graduate Certificate

- Over 5 years Niagara has had the highest applications and also the lowest registration data (compared to Conestoga which didn't report application data from 2009-2011)

¹⁵ Application data obtained from OCAS College Count Cube October 19, 2011

Registration data obtained from the Program Counts by Applicant Type Report (RPT0050P) in the OCAS Reporting and Analytics Cube December 7, 2011.

Some programs/colleges may not be included because they were missing MCU codes in the OCAS dataset
Prepared by Fleming Data Research (07-2012)

Key Research Findings

Diploma

Program: 52700 - RESOURCES/ENVIRONMENTAL TECHNICIAN															
	App. 2007	Reg. 2007	Conversion Ratio	App. 2008	Reg. 2008	Conversion Ratio	App. 2009	Reg. 2009	Conversion Ratio	App. 2010	Reg. 2010	Conversion Ratio	App. 2011	Reg. 2011	Conversion Ratio
CANADORE	103	27	4:1	107	16	7:1	119	26	5:1	105	27	4:1	116	28	4:1
CENTENNIAL	105	17	6:1	120	26	5:1	191	20	10:1	158	16	10:1	117	14	8:1
CONFEDERATION	141	28	5:1	127	32	4:1	142	31	5:1	150	31	5:1	140	37	4:1
FLEMING	228	68	3:1	300	84	4:1	404	95	4:1	418	120	3:1	392	97	4:1
GEORGIAN	0			0			0			172	28	6:1	138	34	4:1
LOYALIST	84	18	5:1	97			118	34	3:1	102	18	6:1	104	18	6:1
MOHAWK	185	50	4:1	225	58	4:1	346	91	4:1	266	59	5:1	249	42	6:1
NIAGARA	129	37	3:1	181	46	4:1	207	49	4:1	203	48	4:1	173	43	4:1
NORTHERN	38	10	4:1	0			42	8	5:1	17			37	5	7:1
SAULT	36	7	5:1	40	8	5:1	181	32	6:1	189	32	6:1	136	17	8:1
SENECA	140	22	6:1	131	20	7:1	219	37	6:1	197	32	6:1	174	24	7:1
SHERIDAN	70	8	9:1	90	14	6:1	143	22	7:1	146	14	10:1	127	9	14:1
ST. LAWRENCE	85	19	4:1	69	23	3:1	100	34	3:1	89	24	4:1	103	27	4:1
Total	1344	311	4:1	1487	327	5:1	2212	479	5:1	2212	449	5:1	2006	395	5:1

Advanced Diploma

Program: 62700 - RESOURCES/ENVIRONMENTAL TECHNOLOGY															
	App. 2007	Reg. 2007	Conversion Ratio	App. 2008	Reg. 2008	Conversion Ratio	App. 2009	Reg. 2009	Conversion Ratio	App. 2010	Reg. 2010	Conversion Ratio	App. 2011	Reg. 2011	Conversion Ratio
CENTENNIAL	190	62	3:1	193	60	3:1	244	78	3:1	220	66	3:1	189	70	3:1
DURHAM	161	58	3:1	159	66	2:1	223	84	3:1	221	108	2:1	218	78	3:1
FANSHAWE	209	68	3:1	219	82	3:1	305	110	3:1	265	102	3:1	224	90	2:1
FLEMING	88	26	3:1	147	50	3:1	180	94	2:1	161	76	2:1	158	80	2:1
GEORGIAN	184	116	2:1	192	128	2:1	224	158	1:1	232	190	1:1	184	104	2:1
HUMBER	2			0			0			0			0		
SAULT	0			0			69	34	2:1	74	44	2:1	72	24	3:1
SENECA	136	44	3:1	191	42	5:1	204	72	3:1	217	62	4:1	191	72	3:1
Total	970	374	3:1	1101	428	3:1	1449	630	2:1	1390	648	2:1	1236	518	2:1

Key Research Findings

Graduate Certificate

Program: 72700 - ENVIRONMENTAL CONTROL															
	App. 2007	Reg. 2007	Conversion Ratio	App. 2008	Reg. 2008	Conversion Ratio	App. 2009	Reg. 2009	Conversion Ratio	App. 2010	Reg. 2010	Conversion Ratio	App. 2011	Reg. 2011	Conversion Ratio
CAMBRIAN	0			0			71	23	3:1	62	12	5:1	77	20	4:1
CONESTOGA	50	25	2:1	47	26	2:1	0	26	0:1	0	27	0:1	0	27	0:1
NIAGARA	128	37	3:1	138	44	3:1	156	45	3:1	175	45	4:1	167	44	4:1
SENECA	0			0			97	15	6:1	92			16	7	2:1
Total	178	62	3:1	185	70	3:1	324	109	3:1	329	84	4:1	260	98	3:1

Financial Analysis

• **STRONG**

Source: Program Costing Analysis 2010/2011

- Contribution to Overhead: 42.0%
- Program Weight: 1.30
- Funding Unit: 2.40

Key Performance Indicators

• **WEAK**

Source: Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012

KPI1-Graduation Rate	-
KPI2-Working	-
KPI3-Working Related	-
KPI4-Grad. Satisfaction	-
KPI8-Student Satisfaction-Learning	+5% above system
KPI9-Student Satisfaction- Teachers	+6% above system
KPI11-Grad. Satisfaction-Program	-

Key Research Findings

Additional Observations and Opportunities

Continuing Education

Various specializations for Ecosystem Management include:¹⁶

- Environmental Professionals
- Environmental Auditors
 - Compliance Environmental Auditing
 - Environmental Management Systems Lead Auditor
- Greenhouse Gas Professionals
 - Quantification – Inventory Quantification
 - Quantification – Project Quantification
 - Verification – Quantification Expert
 - Verification – Auditing Expert
 - Verification – Team Lead
- Environmental Professionals in Training
- Professional Meteorologists
 - Operational Meteorology
 - Research Meteorology
 - Applied Meteorology

Resource Analysis

Equipment

The following information was extracted from the 2010 program review:

- Establish long term forest monitoring sample plots within the Haliburton Scout Reserve (to be used by third year EM students during fall camp). Additional plots should also be established to support the learning which occurs in the Terrestrial Ecosystems course offered in third semester.

Staffing

The following information was extracted from the 2010 program review:

- Seek approval to hire two full-time faculty positions within the program.

Space

¹⁶ "EP Specializations." *ECO Canada*. Government of Canada's Sector Council Program, n.d. Web. 14 June 2012. <<http://www.eco.ca/certification/specializations/about/759/>>.

Key Research Findings

Appendix

The following is the original environmental scan conducted by the Library Researchers to form the basis of the previous summary of Key Research Findings Report.

Overview of the Profession:

This occupation falls under 2 NOC codes

- **2221 Biological technician & technologist**
- **2225 Landscape and Horticulture Technicians and Specialists**
- **2121 Biologists and Related Scientists**

2221 Biological Technician & Technologist

<http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2221&action=final&source=allnoc&titleKeyword=>

Description

This unit group includes those who survey and assess landscapes; draw sketches and build models of landscape designs; construct and maintain gardens, parks, golf courses and other landscaped environments; advise clients on issues related to horticulture; breed, cultivate and study plants; and treat injured and diseased trees and plants. They are employed by landscape designers and contractors, lawn service and tree care establishments, golf courses, nurseries and greenhouses, and municipal, provincial and national parks, or they may be self-employed.

Included Job Titles

arborist, golf course superintendent, greenskeeper, horticultural technician, horticulture specialist, horticulturist, hydroponics technician, landscape architectural technician, landscape designer, landscape gardener, landscape technician, landscaper, lawn care specialist, tree service technician.

[+ View more](#)

Job Duties

Biological technologists perform some or all of the following duties:

- Set up and conduct biological, microbiological and biochemical tests and laboratory analyses in support of research and quality control in food production, sanitation, pharmaceutical production, biotechnology and other fields
- Apply methods and techniques such as microscopy, histochemistry, chromatography, electrophoresis and spectroscopy
- Perform experimental procedures in agriculture, plant breeding, animal husbandry, biology and biomedical research
- Conduct field research and surveys to collect data and samples of water, soil, and plant and animal populations
- Conduct environmental monitoring and compliance activities for the protection of fisheries stock, wildlife and other natural resources
- Analyze data and prepare reports
- Conduct or supervise operational programs such as fish hatchery, greenhouse and livestock production programs.

Biological technicians perform some or all of the following duties:

- Assist in conducting biological, microbiological and biochemical tests and laboratory analyses
- Perform limited range of technical functions in support of agriculture, plant breeding, animal husbandry, biology, biomedical research and environmental protection

Key Research Findings

- Assist in conducting field research and surveys to collect data and samples of water, soil, and plant and animal populations
- Assist in analysis of data and preparation of reports

Common Job Titles

agricultural technician
 agricultural technologist
 agrology technician
 aquaculture technician
 bacteriological technician
 biological laboratory technologist
 botanical technician
 fish hatchery technician
 fisheries technician
 food bacteriological technician
 microbiology quality control technologist
 microbiology technologist (except medical)
 plant breeding technician
 seed technologist
 wildlife biology technician

Landscape and Horticulture Technicians and Specialists (NOC 2225)

<http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2225&action=final&source=allnoc&titleKeyword=>

Description

Biological technologists and technicians provide technical support and services to scientists, engineers and other professionals working in fields such as agriculture, resource management, environmental protection, plant and animal biology, microbiology, cell and molecular biology and health sciences, or may work independently in these fields. They are employed in both laboratory and field settings by governments, manufacturers of food products, chemicals and pharmaceuticals, biotechnology companies, health, research and educational institutions, environmental consulting companies and resource and utilities companies.

Included Job Titles

agricultural technician
 agricultural technologist
 agrology technician
 aquaculture technician
 bacteriological technician
 biological laboratory technologist
 botanical technician
 fish hatchery technician
 fisheries technician
 food bacteriological technician
 microbiology quality control technologist
 microbiology technologist (except medical)
 plant breeding technician
 seed technologist
 wildlife biology technician

Job Duties

Key Research Findings

The following is a summary of the main duties for some occupations in this unit group:

- Arborists and tree service technicians examine trees and shrubs to diagnose problems and disease, and apply various treatments such as pruning, spraying, repairing damaged areas and injecting with treatment solutions.
- Golf course superintendents direct crews who maintain the health and appearance of golf courses and their surrounding landscapes, plant and move trees, and apply fertilizers, fungicides, herbicides and pesticides.
- Horticulturists plan and co-ordinate the growth and use of plants for landscaping, ornamental uses and other purposes.
- Landscape designers and landscape architectural technicians and technologists survey and assess sites, prepare drawings, sketches and reports and perform other duties to assist landscape architects in designing landscaped environments.
- Landscape gardeners plant and maintain private and public lawns and gardens.
- Landscapers plan and construct landscaped environments which may include trees, shrubberies, lawns, fences, decks, patios and other landscape structures.
- Lawn care specialists visit clients, assess the health of lawns, and apply fertilizer, pesticides and other lawn care products.

2121 Biologists and Related Scientists

Description

Biologists and related scientists conduct basic and applied research to extend knowledge of living organisms, to manage natural resources, and to develop new practices and products related to medicine and agriculture. They are employed in both laboratory and field settings by governments, environmental consulting companies, resource and utilities companies, chemical, pharmaceutical and biotechnical companies and health and educational institutions.

Included Job Titles

Anatomist
 Bacteriologist
 Bioinformatician
 Biologist
 Botanist
 cell biologist
 ecologist
 embryologist
 geneticist
 histologist
 immunologist
 marine biologist
 microbiologist
 molecular biologist
 parasitologist
 pharmacologist
 physiologist
 protozoologist
 toxicologist
 virologist
 zoologist

Key Research Findings

Job Duties

Biologists perform some or all of the following duties:

- Plan and conduct studies of the environment, and of the population, distribution, structure and functional characteristics and behaviour of plants and animals
- Conduct ecological and environmental impact studies and prepare reports
- Study, identify and classify plant and animal specimens
- Conduct experiments in plant or animal growth, heredity and breeding
- Prepare reports and plans for management of renewable resources
- May supervise biological technologists and technicians and other scientists.

Microbiologists and cell and molecular biologists perform some or all of the following duties:

- Conduct research into the structure, function, ecology, biotechnology and genetics of micro-organisms, including bacteria, fungi, protozoans, and algae
- Conduct research into the structure and functioning of human, animal and plant tissues and cells
- Conduct studies into the identification, effects and control of human, plant and animal pathogens and toxins
- Conduct clinical or laboratory studies to test, evaluate and screen drugs and pharmaceuticals
- Conduct molecular or biochemical studies and experiments into genetic expression, gene manipulation and recombinant DNA technology
- Conduct research to discover, develop and refine, and evaluate new products
- May participate in the commercialization of new products
- May supervise biological technologists and technicians and other scientists
- May conduct biostatistical data analysis using computer modelling techniques.

Biologists and related scientists may specialize at the macroscopic level, in fields such as botany, zoology, ecology and marine biology or, at the cellular and molecular level, in fields such as genetics, immunology, pharmacology, toxicology, physiology, pathology, bacteriology and virology.

Labour Market

Working in Canada

Biological Technician & technologist

Employment potential for much of the province is below:

Provincial Employment Potential Information

The following table identifies employment conditions within **Ontario**.

Location	Employment Potential	Release Date
<i>N/A = This information is not available</i>		
Hamilton--Niagara Peninsula Region	N/A	N/A
Kingston - Pembroke Region	N/A	N/A
Kitchener--Waterloo--Barrie Region	N/A	N/A
London Region	Limited	2009-09-25
Muskoka-Kawartha Region	N/A	N/A
Northeast Region	Limited	2008-04-29
Northwest Region	N/A	N/A
Ottawa Region	N/A	N/A

Key Research Findings

The following table identifies employment conditions within **Ontario**.

Location	Employment Potential	Release Date
Stratford--Bruce Peninsula Region	N/A	N/A
Toronto Region	Fair	2010-02-24
Windsor-Sarnia Region	N/A	N/A

[http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2221&action=final&source=allnoc&titleKeyword=](http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2221&action=final&source=allnoc&titleKeyword=Biologist Labour Market Information)
Biologist Labour Market Information

Employment potential for much of the province in below:
Provincial Employment Potential Information (2121)

Outlook & Prospects - Ontario

Provincial Employment Potential Information

The following table identifies employment conditions within **Ontario**.

Location	Employment Potential	Release Date
Hamilton--Niagara Peninsula Region	N/A	2011-12-01
Kingston - Pembroke Region	N/A	2012-04-13
Kitchener--Waterloo--Barrie Region	N/A	2012-03-15
London Region	Fair	2012-03-30
Muskoka-Kawartha Region	N/A	2012-04-13
Northeast Region	Fair	2012-04-13
Northwest Region	N/A	2011-12-01
Ottawa Region	Fair	2012-04-13
Stratford--Bruce Peninsula Region	Fair	2012-04-13
Toronto Region	Fair	2012-02-08
Windsor-Sarnia Region	N/A	2011-11-01

[Source: [Labour Market Information - HRSDC](#)]

http://www.workingincanada.gc.ca/print_report-eng.do?noc=2121&area=8792

Landscape & Horticulture Technician Labour Market Information

Employment potential for much of the province in below:

Provincial Employment Potential Information (2225)

N/A for all regions

http://www.workingincanada.gc.ca/print_report-eng.do?noc=2225&area=9219

HRDSC

1. National Outlook – 10-Year Projection (2011-2020)

Key Research Findings

Search Result : Technical Occupations In Life Sciences (222)

Skill Level:	Occupations Usually Requiring College or Apprenticeship Training
Occupations in this Group:	Biological Technologists and Technicians (2221) Agricultural and Fish Products Inspectors (2222) Forestry Technologists and Technicians (2223) Conservation and Fishery Officers (2224) Landscape and Horticultural Technicians and Specialists (2225)
Employment (non-student) in 2010:	39,195
Median Age of workers in 2010:	39.5 years old
Average Retirement Age in 2010:	59 years old

Over the 2008-2010 period, employment in this occupation declined. Although the unemployment rate also decreased, it remained higher than the average. The average hourly wage increased more quickly than the average for all occupations. According to key labour market indicators, the number of job seekers was sufficient to fill the job openings in this occupation.

Over the 2011-2020 period, an occupation will be in excess demand (a shortage of workers) if the projected number of job openings is significantly greater than the projected number of job seekers. An occupation will be in excess supply (a surplus of workers) if the projected number of job openings is smaller than the projected number of job seekers. For **Technical Occupations In Life Sciences**, over the 2011-2020 period, job openings (arising from expansion demand and replacement demand) are expected to total **18,000** and **15,255** job seekers (arising from school leavers, immigration and mobility) are expected to be available to fill the job openings.

Based on projections and considering that labour supply and demand for this occupation were balanced over the 2008-2010 period, it is expected that the number of job seekers in this occupation will continue to be sufficient to fill the job openings over the 2011-2020 period. The majority of job openings will result from retirements, the retirement rate being higher than employment growth. Nevertheless, employment growth will be higher than average, benefiting from the continuing increase in landscaping and horticulture spending. With regard to labour supply, the majority of job seekers will come from the school system.

Projection of Cumulative Job Openings and Job Seekers over the Period of 2011-2020

	Level	Share
Expansion Demand:	6,100	34%
Retirements:	9,904	55%
Other Replacement Demand:	1,139	6%
Emigration:	893	5%
Projected Job Openings:	18,000	100%
	Level	Share
School Leavers:	14,998	98%
Immigration:	1,489	10%

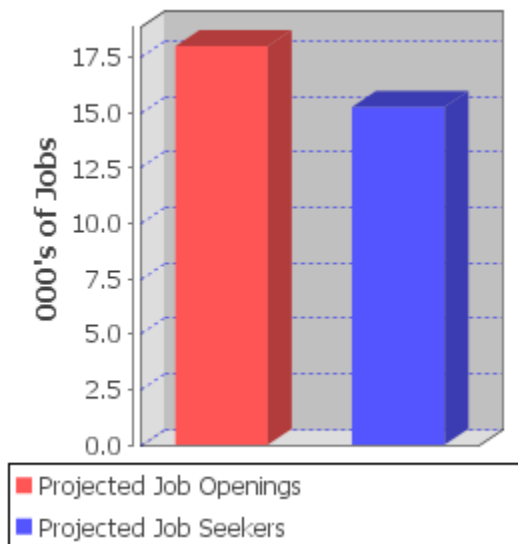
Key Research Findings

Net Mobility

-2,990	-20%
--------	------

Projected Job Seekers:

15,255	100%
--------	------



Median wage for this occupational group in the Muskokas-Kawartha region is \$23.00 per hour
National wages rates are below:

Wage Estimates

Location	Wage (\$/hr)			Note
	Low	Median	High	
Canada	13.50	21.50	33.33	Note
Alberta	23.72	30.67	39.84	Note
British Columbia	14.00	18.75	25.12	Note
Manitoba	13.50	22.20	37.50	Note
New Brunswick	13.15	16.00	23.37	Note
Newfoundland and Labrador	14.73	27.47	38.00	Note
Northwest Territories	N/A	N/A	N/A	Note
Nova Scotia	14.21	19.46	27.76	Note
Nunavut	N/A	N/A	N/A	Note

Key Research Findings

Location	Wage (\$/hr)			Note
	Low	Median	High	
Ontario	14.95	23.00	32.82	Note
Prince Edward Island	N/A	N/A	N/A	Note
Québec	13.08	18.75	26.37	Note
Saskatchewan	12.80	23.01	33.33	Note
Yukon	N/A	N/A	N/A	Note

Search Result : Life Science Professionals (212)

Skill Level:	Occupations Usually Requiring University
Occupations in this Group:	Biologists and Related Scientists (2121) Forestry Professionals (2122) Agricultural Representatives, Consultants and Specialists (2123)
Employment (non-student) in 2010:	24,080
Median Age of workers in 2010:	42.1 years old
Average Retirement Age in 2010:	61 years old

Over the 2008-2010 period, this occupation experienced a drop in employment and its unemployment rate increased. Moreover, the average hourly wage grew slightly less quickly than the average for all occupations, but remained high. According to key labour market indicators, the number of job seekers was sufficient to fill the job openings in this occupation.

Over the 2011-2020 period, an occupation will be in excess demand (a shortage of workers) if the projected number of job openings is significantly greater than the projected number of job seekers. An occupation will be in excess supply (a surplus of workers) if the projected number of job openings is smaller than the projected number of job seekers. For **Life Science Professionals**, over the 2011-2020 period, job openings (arising from expansion demand and replacement demand) are expected to total **10,440** and **10,875** job seekers (arising from school leavers, immigration and mobility) are expected to be available to fill the job openings.

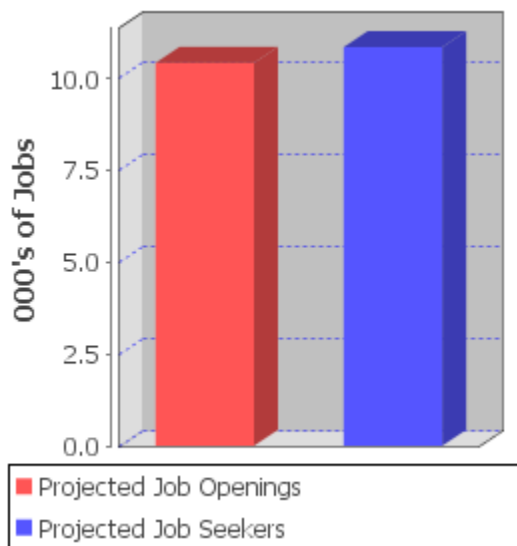
Based on projections and considering that labour supply and demand in this occupation were balanced over the 2008-2010 period, it is expected that the number of job seekers will remain sufficient to fill job openings over the 2011-2020 period. Job openings will arise from both new positions due to expansion demand and retirements. Employment growth will be slightly stronger than average in this occupation over the projection period even though the budget constraints that various levels of government are facing will have a negative impact on job creation. However, investments in the health and biomedical research sector will remain very strong. Retirements will also represent a major source of job openings. The retirement rate will be similar to the average rate for all occupations. With regard to labour supply, the majority of job seekers will come from the school system, which is not surprising, considering the very specialized nature of this occupation.

Projection of Cumulative Job Openings and Job Seekers over the Period of 2011-2020

Key Research Findings

	Level	Share
Expansion Demand:	3,799	36%
Retirements:	5,109	49%
Other Replacement Demand:	972	9%
Emigration:	560	5%
Projected Job Openings:	10,440	100%

	Level	Share
School Leavers:	7,474	69%
Immigration:	2,478	23%
Other	923	8%
Projected Job Seekers:	10,875	100%



Wage Estimates – Biologists

Wages - Canada

Wage Estimates

Location	Wage (\$/hr)			Note
	Low	Median	High	
Canada	16.00	31.25	49.23	Note
Alberta	29.11	43.25	58.43	Note
British Columbia	17.34	32.21	45.64	Note
Manitoba	17.00	29.72	42.31	Note
New Brunswick	17.72	26.73	42.51	Note

Key Research Findings

Location	Wage (\$/hr)			Note
	Low	Median	High	
Newfoundland and Labrador	18.27	31.81	47.55	Note
Northwest Territories	22.88	39.08	45.93	Note
Nova Scotia	15.14	26.91	40.42	Note
Nunavut	N/A	N/A	N/A	Note
Ontario	14.00	29.81	52.20	Note
Prince Edward Island	22.73	26.95	47.18	Note
Québec	17.86	26.37	44.62	Note
Saskatchewan	24.21	32.82	49.23	Note
Yukon	12.34	32.52	43.46	Note

[Source: [Labour Market Information - HRSDC](#)]

US Bureau of Labour

Conservation Scientists & Foresters

<http://www.bls.gov/ooh/life-physical-and-social-science/conservation-scientists.htm>

Conservation scientists and foresters manage overall land quality of forests, parks, rangelands, and other natural resources.

Duties

Conservation scientists and foresters typically do the following:

- Monitor forestry and conservation activities to assure compliance with government regulations
- Establish plans for managing forest lands and resources
- Supervise activities of other forestry and conservation workers
- Choose and prepare sites for new trees using controlled burning, bulldozers, or herbicides to clear land
- Negotiate terms and conditions for forest harvesting and land-use contracts
- Direct and participate in forest-fire suppression
- Determine ways to remove timber with minimum environmental damage
- Monitor forest-cleared lands to ensure that they are suitable for future use

Conservation scientists manage, improve, and protect the country's natural resources. They work with landowners and federal, state, and local governments to devise ways to use and improve the land while safeguarding the environment. Conservation scientists advise farmers, farm managers, and ranchers on how they can improve their land for agricultural purposes and control erosion.

Key Research Findings

Foresters have a wide range of duties, and their responsibilities vary depending on their employer. Some primary duties of foresters include drawing up plans to regenerate forested lands, monitoring the progress of those lands, and supervising tree harvests. They also come up with plans to keep forests free from disease, harmful insects, and damaging wildfires.

Foresters may choose and direct the preparation of sites on which trees will be planted. They advise on the type, number, and placement of trees to be planted. When the trees reach a certain size, foresters decide which trees should be harvested and sold to sawmills.

Many conservation scientists and foresters supervise forest and conservation workers and technicians, directing their work and evaluating their progress. For more information, see the profiles on [forest and conservation workers](#) and [forest and conservation technicians](#).

Conservation scientists and foresters evaluate data on forest and soil quality, assessing damage to trees and forest lands caused by fires and logging activities. In addition, they lead activities such as fire suppression and planting seedlings. Fire suppression activities include measuring how quickly fires will spread and how successful the planned suppression activity turns out.

Scientists and foresters use their skills to determine a fire's impact on a region's environment.

Communication with firefighters and other forest workers is an important component of fire suppression activities because the information that conservation scientists and foresters give can change how firefighters work.

Conservation scientists and foresters use a number of tools to perform their jobs. They use clinometers to measure the heights of trees, diameter tapes to measure a tree's circumference, and increment borers and bark gauges to measure the growth of trees so that timber volumes can be computed and growth rates estimated.

In addition, conservation scientists and foresters often use remote sensing (aerial photographs and other imagery taken from airplanes and satellites) and geographic information systems (GIS) data to map large forest or range areas and to detect widespread trends of forest and land use. They make extensive use of hand-held computers and global positioning systems (GPS) to study these maps.

The following are some types of conservation scientists and foresters:

Procurement foresters buy timber by contacting local forest owners and negotiating a sale. This activity typically involves taking inventory on the type, amount, and location of all standing timber on the property. Procurement foresters then appraise the timber's worth, negotiate its purchase, and draw up a contract. The forester then subcontracts with loggers or pulpwood cutters to remove the trees and to help lay out roads to get to the timber.

Other foresters, mostly in the federal government, study issues facing forests and related natural resources. They may study issues such as tree improvement and harvesting techniques, global climate change, improving wildlife habitats, and protecting forests from pests, diseases, and wildfires.

Urban foresters live and work in larger cities and manage urban trees. They are concerned with quality-of-life issues, including air quality, shade, and storm water runoff.

Conservation education foresters train teachers and students about issues facing forest lands.

Two of the most common types of conservation scientists are range managers and soil conservationists.

Range managers, also called range conservationists, protect rangelands to maximize their use without damaging the environment. Rangelands contain many natural resources and cover hundreds of millions of acres in the United States, mainly in the western states and Alaska.

Range managers may inventory soils, plants, and animals; develop resource management plans; help to restore degraded ecosystems; or help manage a ranch. They also maintain soil stability and vegetation for uses such as wildlife habitats and outdoor recreation. Like foresters, they work to prevent and reduce wildfires and invasive animal species.

Soil and water conservationists give technical help to people who are concerned with the conservation of soil, water, and related natural resources. For private landowners, they develop programs to make

Key Research Findings

the most productive use of land without damaging it. They also help landowners with issues such as dealing with erosion. They help private landowners and governments by advising on water quality, preserving water supplies, preventing groundwater contamination, and conserving water.

Job Outlook

Conservation Scientists and Foresters

Percent change in employment, projected 2010-20

Total, All Occupations

14%

Conservation Scientists and Foresters

5%

Conservation Scientists

5%

Foresters

5%

Note: All Occupations includes all occupations in the U.S. Economy.

Source: U.S. Bureau of Labor Statistics, Employment Projections program

Employment of conservation scientists and foresters is expected to increase by 5 percent between 2010 and 2020, slower than the average for all occupations.

Heightened demand for American timber and wood pellets will help increase the overall job prospects for conservation scientists and foresters. Most growth from 2010 to 2020 for conservation scientists and foresters is expected to be in federally owned forest lands, particularly in the southwestern United States. Jobs in private forests will grow alongside demand for timber and pellets, but ongoing fiscal crises will likely lessen the number of available positions in state and local governments.

In recent years, preventing and suppressing wildfires has become the primary concern for government agencies managing forests and rangelands. The development of previously unused lands, in addition to changing weather conditions, has contributed to increasingly devastating and costly fires.

Increases in funding and new programs should create opportunities for foresters and range managers. Restoring lands affected by fires also will be a major task, particularly in the southwestern and western states, where such fires are most common.

Job Prospects

Employment projections data for conservation scientists and foresters, 2010-20

Occupational Title	SOC Code	Employment, 2010	Projected Employment, 2020	Change, 2010-20		Employment by Industry
				Percent	Numeric	
SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program						
Conservation Scientists and Foresters	19-1030	34,900	36,600	5	1,700	[XLS]

Key Research Findings

Employment projections data for conservation scientists and foresters, 2010-20						
Occupational Title	SOC Code	Employment, 2010	Projected Employment, 2020	Change, 2010-20		Employment by Industry
				Percent	Numeric	
Conservation Scientists	19-1031	23,400	24,600	5	1,200	[XLS]
Foresters	19-1032	11,500	12,000	5	500	[XLS]

Professional Associations:

EcoCanada

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

Canadian Land Reclamation Association

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

Society for Ecological Restoration

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

Canadian Council on Ecological Areas

http://www.ccea.org/en_leaf.html

Association for the Advancement of Sustainability in Higher Education

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

Employment Requirements

NOC 2221 Biological Technologists & Technicians

<http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/QuickSearch.aspx?val65=2221>

Employment requirements

- Completion of a two- to three-year college program in a field related to agriculture, biology, microbiology, wildlife or resource management is usually required for employment as a biological technologist.
- Completion of a one- to two-year college program in a related field is required for employment as a biological technician.
- Certification with provincial associations is available, but voluntary.

NOC – 2225 Landscape & Horticulture Technicians & Specialists

<http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/QuickSearch.aspx?val65=2225>

Employment requirements

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- Experience as a landscape and grounds maintenance labourer may be required for golf course superintendents, landscape gardeners and landscapers.

Key Research Findings

- An apprenticeship program is available for horticulturists, arboriculturists and landscape gardeners.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Educational Programs Leading to this Occupation

Education/Training

Completion of a three-year or equivalent program for biological technologists or a two-year or an equivalent program for biological technicians is usually required. Several different educational backgrounds can provide entrance to an occupation within this classification. Certification in biological technology or in a related field is available through provincial associations of engineering and applied science. In Ontario, the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) certifies biological technologists and technicians. The certification process includes a period of supervised work experience, usually up to two years, and a professional practice examination.

(http://www.tcu.gov.on.ca/eng/labourmarket/ojf/pdf/2221_e.pdf)

NOC – 2121 Biologists & Related Scientists

Main duties

Biologists perform some or all of the following duties:

- Plan and conduct studies of the environment, and of the population, distribution, structure and functional characteristics and behaviour of plants and animals
- Conduct ecological and environmental impact studies and prepare reports
- Study, identify and classify plant and animal specimens
- Conduct experiments in plant or animal growth, heredity and breeding
- Prepare reports and plans for management of renewable resources
- May supervise biological technologists and technicians and other scientists.

Microbiologists and cell and molecular biologists perform some or all of the following duties:

- Conduct research into the structure, function, ecology, biotechnology and genetics of micro-organisms, including bacteria, fungi, protozoans, and algae
- Conduct research into the structure and functioning of human, animal and plant tissues and cells
- Conduct studies into the identification, effects and control of human, plant and animal pathogens and toxins
- Conduct clinical or laboratory studies to test, evaluate and screen drugs, pharmaceuticals and nanoparticles used in biomedical applications
- Conduct molecular or biochemical studies and experiments in genetic expression, gene manipulation and recombinant DNA technology to develop new or alternative methods of producing products
- Conduct research in biotechnology to discover, develop and refine, and evaluate new products
- May participate in the commercialization of new products
- May supervise biological technologists and technicians and other scientists
- May conduct biostatistical data analysis using computer modelling techniques.

Biologists and related scientists may specialize at the macroscopic level, in fields such as botany, zoology, ecology and marine biology or, at the cellular and molecular level, in fields such as genetics,

Key Research Findings

immunology, pharmacology, toxicology, physiology, pathology, bacteriology, virology, biotechnology and bioinformatics.

Employment requirements

- A bachelor's degree in biology or in a related discipline is required for biologists.
- A master's or doctoral degree in biology or a related discipline is required for employment as a research scientist in biology.
- Post-doctoral research experience is usually required before employment in academic departments or research institutions.

Educational Competitors

Educational Competitors

Fleming College

Ecosystem Management Technician

<http://flemingcollege.ca/programs/ecosystem-management-technician>

Ecosystem Management Technology

<http://flemingcollege.ca/programs/ecosystem-management-technology>

Ecosystem Management Advanced Standing

<http://flemingcollege.ca/programs/ecosystem-management-technology-advanced-standing>

Cambrian College

Environmental Monitoring & Impact Assessment Graduate Certificate (3 semesters)

<http://www.cambriancollege.ca/Programs/Programs/201209EMPD.HTM>

Confederation College

Forest Ecosystem Management Technician (Co-Op)

<http://www.confederationnc.on.ca/node/551>

Niagara College

Ecosystem Restoration (Certificate – Post-diploma)

<http://www.niagaracollege.ca/content/Programs/EnvironmentalStudies/EcosystemRestoration.aspx>

Sault College

Natural Environment Technician – Conservation & Management (Diploma)

<http://www.saultcollege.ca/Programs/Programs.asp?progcode=5220&cat=overview&groupcode=NRS#bd-header>

Natural Environment Techniques – Conservation & Management (3 yr. diploma)

<http://www.saultcollege.ca/Programs/Programs.asp?progcode=5221&cat=overview&groupcode=NRS#bd-header>

Seneca College

Environmental Landscape Management

<http://www.senecacollege.ca/fulltime/EVLC.html>

Urban Land Regeneration

Key Research Findings

<http://www.senecacollege.ca/fulltime/ULR.html>

British Columbia Institute of Technology

Sustainable Resource Management

<http://www.bcit.ca/study/programs/7270dipl>

Laurentian University

Conservation & Restoration Option in Biology

http://laurentian.ca/Laurentian/Home/Departments/Biology/Undergraduate/Programs+%28previous+curriculum%29/options/cons_restor.htm?Laurentian_Lang=en-CA

College	APS	APS Title	MTCU Code	MTCU Title	WT	FU	TF
CAMB	1279	Environmental Monitoring & Impact Assessment	72700	Environmental Control	1.20	1.40	1.00
NIAG	1138	Ecosystem Restoration	72703	Environmental Studies	1.20	1.00	1.00
SAUL	1175	Ecosystem Surveys-field Skills	42703	Ecosystem Surveys-field Skills	1.20	1.10	1.00
SAUL	1111	Renewable Resource Technician	54204	Renewable Resource Technician	1.30	2.40	2.00
SAUL	1181	Natural Environment Technician - Conservation and Management	52700	Environmental Technician	1.30	2.40	2.00
SAUL	1182	Natural Environment Technologist - Conservation Management	62700	Environmental Technology	1.30	3.30	3.00
SENE	1067	Environmental Landscape Management	52221	Recreation - Parks Operation And Services	1.10	2.00	2.00
SENE	1290	Urban Land Regeneration	72700	Environmental Control	1.20	1.40	1.00
SSFL	1143	Ecosystem Management Technician	54204	Renewable Resource Technician	1.30	2.40	2.00
SSFL	1144	Ecosystem Management Technology	64204	Forest Management Technology	1.30	3.60	3.00

Employment Postings:

Freshwater Stewardship Intern

Organization: Eastern Charlotte Waterways Inc.

Job Type: Internship

Location: Blacks Harbour, NB

Posting Date: Jul 19, 2012

Deadline: Aug 03, 2012

Website: <http://www.ecwinc.org/opportunity.pdf>

Organization Description:

Eastern Charlotte Waterways Inc. (ECW) is a not-for-profit environmental resource and research centre in Southwestern New Brunswick

Job Description:

In partnership with the Government of Canada's Science Horizons Youth Internship Program, ECW is seeking candidates for a six-month temporary position. The successful candidate will assist with the

Key Research Findings

development of a provincial volunteer lake monitoring program in New Brunswick. The internship will be based at the ECW office in Blacks Harbour.

Duties:

- Prepare a jurisdictional review of volunteer water monitoring programs in North America
- Consult with the provincial Department of Environment and Local Government to ensure that recommendations are in line with established quality assurance protocols
- Consult with established NB lake associations to determine volunteer capacity and knowledge gaps
- Assist groups in the Fredericton area currently involved with a pilot volunteer monitoring program, and assess this pilot program's effectiveness
- Prepare a final report that will analyze the feasibility of a provincial volunteer lake monitoring project and propose the appropriate next steps
- Assist with the organization of, and present findings at, the 2nd Annual New Brunswick Lakes Workshop
- Contribute to other ECW environmental projects when necessary
- Assist with ECW clerical tasks as directed

Qualifications:

Preferred Qualifications:

- Prior experience in stakeholder engagement
- Knowledge of current freshwater concerns in New Brunswick
- Experience with freshwater environmental monitoring
- Experience with analyzing environmental policy and/or monitoring methodology
- Strong written and oral communication skills suitable to present technical concepts
- Experience organizing and executing public events
- Fluency in both English and French

Mandatory Qualifications:

- Have graduated with a degree or diploma from a university, college, post-secondary school of technology, post-secondary institution or CEGEP. These may be privately or publicly funded institutions.
- Are not attending school.
- Are unemployed or under-employed (working in a position that requires less than a person's knowledge, skill or ability).
- Are not in receipt of Employment Insurance during their internship.
- Are aged 30 years or under (at the commencement of the project).
- Are legally entitled to work in Canada (includes individuals who are Canadian citizens, those with permanent Canadian residency status, those with a valid Canadian work permit to work on a full time basis, or persons who have been granted refugee status in Canada).
- Will complete and submit the Personal Identification Form and Employer/Intern Letter of Understanding (templates provided by Environment Canada).
- Will make available to Environment Canada any models developed and data gathered while undertaking the project.
- Will consent to participate in the assessment of the project.
- Will submit a final project report to the employer by the completion of the project.

These mandatory qualifications are established by Science Horizons. For more information visit:

<http://www.ec.gc.ca/scitech/default.asp?lang=En&n=B58899DC-1>

Apply To:

Key Research Findings

The deadline to apply is 4:00PM ADT on August 3rd, 2012.

The internship will begin on August 13th, 2012 and conclude on January 25th, 2013.

The salary for the internship is \$14/hr for 37.5 hours/week over 24 weeks.

Please submit a current CV and cover letter to ECW's Executive Director:

Donald Killorn.

Eastern Charlotte Waterways Inc.

881 Main Street

Blacks Harbour NB E5H 1E6

Ph: (506) 456-6001

Fx: (506) 456-6187

<http://www.ecwinc.org>

info[at]ecwinc.org

Environmental Technician - BQRAP

Organization: Lower Trent Region Conservation Authority

Job Type: Contract/Project/Temporary

Location: Trenton, ON

Posting Date: Jul 13, 2012

Deadline: Jul 26, 2012

Website: <http://www.ltc.on.ca>

Organization Description:

Job Description:

GENERAL DESCRIPTION:

Lower Trent Conservation is seeking an Environmental Technician to assist with implementation activities of the Bay of Quinte Remedial Action Plan (BQRAP). The Environmental Technician will report to the Watershed Management Coordinator.

JOB TASKS:

1. Assist with delivery of the BQRAP Habitat Enhancement Program including:
 - a. Providing advice and assistance to landowners regarding shoreline naturalization and habitat enhancement
 - b. Assisting with promotion of the program and implementation of demonstration projects
2. Airphoto interpretation and field verification of natural heritage features to assist with the development of the BQRAP Natural Heritage Strategy
3. Assist with other inventories and ecological studies, as required
4. Development and delivery of a septic system care program (data collection and distribution of materials)
5. Prepare written reports, as required
6. Catalogue BQRAP information/data
7. Complete other related duties as assigned

CONDITIONS OF EMPLOYMENT:

- *Contract to December 31, 2012 (*Potential for contract renewal)
- full-time (40 hours/week)
- \$22.77/hour

Qualifications:

- Post-secondary education in environmental sciences or related field
- Minimum 2 years experience related to the major job tasks
- Strong oral, written, analytical, and decision-making skills
- Able to work independently and in a team environment

Key Research Findings

- Air photo interpretation
- Understanding and use of ESRI Geographic Information systems software
- Strong terrestrial and wetland plant identification skills
- Valid Province of Ontario driver's licence

Apply To:

Forward your cover letter specifying how you learned about this job opportunity, clearly marked "Environmental Technician", along with a resume by July 26, 2012 at 4:00 PM via email to:

Anne Anderson, Watershed Management Coordinator

Lower Trent Conservation, 714 Murray Street, RR 1, Trenton, Ontario K8V 5P4

Websites: www.ltc.on.ca and www.bqrap.ca Email: information@ltc.on.ca

Lower Trent Conservation is an equal opportunity employer.

We thank all applicants for their interest but only those selected for an interview will be contacted.

Register with WorkCabin and send your resume and cover letter directly to this employer

Stewardship Coordinator

Organization: The Riverwood Conservancy

Job Type: Full-time

Location: Mississauga, ON

Posting Date: Jul 09, 2012

Deadline: Aug 03, 2012

Website: http://www.riverwoodconservancy.org/Job_Opportunities.html

Organization Description:

Job Description:

The Riverwood Conservancy is seeking a Stewardship Coordinator to join our team. Position description In this full-time, 8-month contract position, the Stewardship Coordinator (SC) provides leadership to The Riverwood Conservancy (TRC) Stewardship Program. The SC develops stewardship plans that help to restore, protect and improve the ecology of Riverwood, a 150-acre green space in central Mississauga within the Credit River corridor.

The SC identifies stewardship events that support the stewardship plan, and develops event work-plans to achieve the plan, including invasive species management, habitat renewal, erosion control, protection of water resources and other improvements. The SC communicates with, organizes and helps guide volunteer corporate and school groups to perform these events.

The SC trains and guides volunteer stewardship leaders to support the Stewardship Program. The SC provides supervision and guidance to the TRC summer student in stewardship activities performed by secondary school students.

The SC coordinates the Native Plant Propagation Program, and establishes a bank of native plants for use in ecological restoration.

The SC provides leadership to, and works with volunteers on the Stewardship Committee (with our partners, the City of Mississauga, Credit Valley Conservation and University of Toronto Mississauga) to develop, coordinate and implement the stewardship plan.

The SC assists TRC teachers to integrate stewardship elements into the elementary and secondary school programs. The SC works with other staff to implement a Youth Plan.

A long-term objective of the Stewardship Program is to establish a comprehensive Stewardship Management Plan for Riverwood, which the SC leads.

Position responsibilities

- Evaluate Riverwood natural heritage areas for restorative stewardship activities
- Be a leader on the Stewardship Committee and identify stewardship priorities
- Coordinate stewardship events and develop project and event work-plans for corporate and school groups

Key Research Findings

- Train volunteer stewardship leaders to support these events; supervise volunteers supporting stewardship
- Lead and further develop the Native Plant Propagation Program
- Lead and further develop an invasive species management plan
- Provide guidance to the TRC summer student and secondary school student volunteers
- Liaise with the City, CVC and UTM
- Develop, with other staff, a Youth Plan in support of City youth
- Regularly monitor and evaluate the components of the Stewardship Program including plantings and invasive species management
- Establish a stewardship management plan for Riverwood (long-term responsibility)
- Maintain the field equipment
- Provide guidance to TRC teachers to integrate stewardship into lesson plans at the primary and secondary levels
- Prepare reports as needed for staff and the Stewardship Committee
- Write a column for Samara, the TRC quarterly newsletter

Contract fee: \$22,500

July 2012

Qualifications:

- Demonstrated hands-on experience and knowledge of environmental stewardship in natural areas
- Knowledge of restoration ecology, invasive plant management and conservation
- Experience in field monitoring and field research
- Experience in native plant propagation
- Experience working with volunteers and committees
- Strong interpersonal skills and an ability to work with the public
- A clear communicator with very strong organizational skills and multi-tasking ability
- The ability to think in holistic terms
- Computer skills, including MS Office
- Valid Police check or the ability to acquire one
- Emergency first aid and CPR training is an asset, training provided if needed
- Driver's license and vehicle is an asset

Apply To:

All interested candidates are requested to submit their resume and a cover letter by mail, fax or email (in Word format only please) by Friday August 3, 2012 to:

Brian Packham

The Riverwood Conservancy

4300 Riverwood Park Lane Mississauga, ON L5C 2S7

Info@TheRiverwoodConservancy.org

www.TheRiverwoodConservancy.org

fax: 905-279-4303

52188 **Posted:** 09-Jul-2012

68

Job Title: Intermediate Plant Ecologist / Reclamation Special

Location: SASKATOON

Details: RESPONSIBILITIES:

Key Research Findings

Intermediate level project management.

Manage and conduct biological surveys with a focus on vegetation associations, plant species of conservation concern (including rare species), and weed/invasive species.

Develop, implement and assess effectiveness of vegetation reclamation plans.

Environmental effects assessments.

Provide technical support in plant and wetland ecology, including study design, field programs, statistical analysis, and reporting.

Prepare proposals and work plans

Managing tasks according to client-approved scopes of work, and delivering high quality reports on time and within budget;

REQUIREMENTS:

Post-graduate degree in biology or landscape ecology with specialization in plant ecology or botany; a BSc is acceptable if significant experience can be demonstrated.

Eligible for, or possessing a professional designation (e.g. P.Ag., P. Biol).

3-5 years of direct experience with plant taxonomy, plant identification, and ecosite assessment techniques.

Plant species identification skills and field species inventory experience including familiarity with western provinces and federal government guidelines and protocols for surveying rare and at-risk plant species and rare plant communities.

Experience with reclamation techniques for impacted sites and native habitat including wetlands.

Knowledge of soils classification and assessment techniques is an asset.

Knowledge of terrestrial and wetland classification survey and mapping methods.

Able to work effectively as a member of a multi-disciplinary team, and also independently with minimal supervision and direction.

Able to demonstrate excellent organizational, technical writing/research and communication skills.

Field work and travel is required.

of 1

Positions:

Employment Full Time

Terms:

Apply by 31-Aug-2012

Date:

Requirements

Education University Bachelor's Degree

:

Experience: 3-5 Years

Application Information

How to Apply online by copy and pasting the following link into your browser

Apply: <https://sjobs.brassring.com/TGWEbHost/jobdetails.aspx?partnerid=25283&siteid=51>

Key Research Findings

91&AReq=8518BR

Employer AMEC Earth & Environmental

Name:

Contact Kelly Crook

Name:

Contact

Email: kelly.crook@amec.com

Employer

Website: www.amec.com

Job Number: 6521353

Title: Biologist (Senior Ecologist or Biologist) (NOC: 2121)

Terms of Employment: Permanent, Full Time, Day

Salary: \$30.00 to \$40.00 Hourly for 40 hours per week, Other Benefits, Medical Benefits, Dental Benefits, Disability Benefits, Life Insurance Benefits, Group Insurance Benefits, Vision Care Benefits

Anticipated Start Date: As soon as possible

Location: Vancouver, British Columbia (1 vacancy)

Skill Requirements:

Education: Completion of university

Experience: 5 years or more

Languages: Speak English, Read English, Write English

Type of Work Experience: Environmental consulting company

Specialization in Biology: Aquatic biology, Botany, Ecology, Plant physiology, Zoology

Area of Work Experience: Fisheries, Forestry, Mineral resources or mining

Environmental Studies: Environmental assessment and monitoring, Site remediation

Project and Personnel Management Skills: Manage field studies, Financial or budget management, Multidisciplinary projects co-ordination, Preparing or evaluating technical proposals, Technical writing and article authoring, Staff training and development, Supervise field crews, Supervise other biologists

Work Conditions and Physical Capabilities: Attention to detail, Combination of sitting, standing, walking

Work Site Environment: Outdoors, In/on water, Wet/damp, Air conditioned

Work Location Information: Various locations

Ability to Supervise: Working groups, Staff in various areas of responsibility

Transportation/Travel Information: Willing to travel, Travel expenses paid by employer, Public transportation is available

Key Research Findings

Essential Skills: Reading text, Document use, Numeracy, Writing, Oral communication, Working with others, Problem solving, Decision making, Critical thinking, Job task planning and organizing, Significant use of memory, Finding information, Computer use, Continuous learning

Employer: EDI Environmental Dynamics Inc

How to Apply:

Please apply for this job only in the manner specified by the employer. Failure to do so may result in your application not being properly considered for the position.

By E-mail: employment@edynamics.com

Web Site: <http://www.edynamics.com/>

Advertised until: 2012/07/28

JUNIOR & INTERMEDIATE ENVIRONMENTAL SCIENTISTS

LOG IN/BECOME A MEMBER

JOB LOCATION: Calgary, AB

DATE POSTED: Monday, July 23, 2012

CLOSING DATE: Wednesday, August 22, 2012

APPLY BY: - Company Website

EMPLOYMENT TYPE: Full-time employment

EDUCATION REQUIREMENTS: University Degree

WORK EXPERIENCE: 0 years

ORGANIZATIONAL INFORMATION At Marquis Alliance we know our people are at the heart of our achievements, so we strive to foster a culture where people truly love to work. In addition to offering a competitive compensation and benefits package, we offer professional development, profit sharing commensurate with personal and company success, real growth opportunities, options with Secure Energy Services Ltd., flexibility, and the chance to be an integral part of our exciting future. We are committed to ensuring the safety of our team, and the communities we work in, while delivering exceptional customer service.

QUALIFICATIONS: • Possess a university degree with 0-5 years of experience in the environmental field;

- Excellent communication and organizational skills;
- Strong technical writing skills;
- The ability to multi-task;
- Works well independently;
- Strong work ethic and positive attitude;
- Competency with Microsoft Word and Excel; and
- A valid Class 5 driver's license.

JOB DUTIES: • Report writing including; Phase I, II, and III environmental site assessments, pre disturbance assessments, wildlife surveys, wetland assessments, water well testing, drilling waste management, soil and groundwater monitoring;

- Field work; remediation/reclamation, vegetation assessments, soil profiling and classification,

Key Research Findings

groundwater monitoring, water well testing, wildlife surveys, and wetland assessments;

- Plant identification of forest, prairie, and weed species; and
- Data management and file compilation.

Key Research Findings

JUNIOR ECOLOGIST

LOG IN/BECOME A MEMBER

JOB LOCATION: Edmonton, AB

DATE POSTED: Thursday, July 19, 2012

CLOSING DATE: Tuesday, July 31, 2012

APPLY BY: - Email

ORGANIZATIONAL INFORMATION Clark Ecoscience and Sustainability is a young Edmonton, Alberta firm interested in restoring and rebuilding native ecosystems. Our work ranges from in-office design to field site assessments for soils, plants, and aquatics. During all projects our work has included helping plant production companies to produce native plants. Our bigger projects so far are Edmonton's development storm water management facilities native ecosystems in Larch Park and Walker Lakes.

QUALIFICATIONS: • Knowledge of Alberta's native flora and fauna

- Strong botany skills are a high asset
- 2010 Alberta Reclamation Criteria Certification is an asset
- Excellent computer (Word, Excel, etc) and writing/presenting skills
- Statistic skills (ANOVA, NMS, t-test, etc.)
- Native plant identification experience is an asset
- Introduced species identification skills are an asset
- Capability of building, fostering and improving positive client and public relationships

JOB DUTIES: The Junior Ecologist is leading field and lab work in both urban and rural ecosystems. Field data collection will occur in sensitive and non-sensitive grassland and mixed-forest sites. The Junior Ecologist will manage a field assistant, lead summer data collection, guide sample processing, assess data, co-author report(s), and present to clients. This includes conducting Alberta's 2010 Reclamation Criteria. This project runs from August 2012 to January 2013.