

# Key Research Findings

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

Section	Description	Measures
<b>Student Demand</b>	<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><b>Click Below to Access Full Source Document:</b>  <a href="#">Fall Enrollment Trend</a></p>	<ul style="list-style-type: none"> <li>● Strong = Fleming enrolment growth is outpacing system and is equal to or greater than 3%</li> <li>● Moderate = Fleming enrolment growth is equivalent to system demand and is between 1.0 to 2.9%</li> <li>● Weak = Fleming enrolment growth is less than the system demand and is less than 1%</li> </ul>
<b>Labour Market</b>	<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"> <li>● Strong = Between 5-6 positive labour market indicators</li> <li>● Moderate = Between 3-5 positive labour market indicators</li> <li>● Weak = Between 1-2 or no positive labour market indicators</li> </ul>
<b>Competitive Analysis</b>	<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><b>Click Below to Access Full Source Document:</b>  <a href="#">Fall Conversion Report</a></p>	<ul style="list-style-type: none"> <li>● Strong = Fleming conversion ratio is greater than 2 below the system</li> <li>● Moderate = Fleming conversion ratio is 1 above, below or equal to the system</li> <li>● Weak = Fleming conversion ratio is greater than 2 above than the system</li> </ul>
<b>Financial Analysis</b>	<p>Includes a review of Contribution to Overhead (CTO) for existing programs (2010-11)</p> <p><b>Click Below to Access Full Source Document:</b>  <a href="#">Costing Analysis</a></p>	<ul style="list-style-type: none"> <li>● Strong = CTO is greater than 35%</li> <li>● Moderate = CTO is between 30 - 34%</li> <li>● Weak = CTO is between 20 – 30%</li> </ul> <p><b>No Contribution = 19% or less</b></p>

# Key Research Findings

<b>Key Performance Indicators</b>	<p>Includes KPI trends from the Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012.</p> <p><b>Click Below to Access Full Source Document:</b>  <a href="#">Key Performance Indicators</a></p>	<ul style="list-style-type: none"> <li>● Strong = Above system average in 6-7 indicators</li> <li>● Moderate = Above system average in 3-5 indicators</li> <li>● Weak = Above system average in 0-2 indicators.</li> </ul>
<b>Resource Analysis</b>	<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

## Arboriculture (43906)

### Student Demand<sup>1</sup>

• **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

- Fleming is the only college to offer the Urban Arboriculture program, which has experienced steady growth throughout the past 5 years with a mean growth rate of **36%** and an average registration of **37 students**
- Humber also offers an Urban Arboriculture Tree Care certificate (there is no application and registration data available for this)

#### Apprenticeship

- Humber and Lambton offer an Arborist Apprenticeship program (however no application and registration data is available)

#### Certificate

Program: 43906 - URBAN ARBORICULTURE																		
	2007			% Change (07-08)	2008			% Change (08-09)	2009			% Change (09-10)	2010			% Change (10-11)	% Mean Growth Rate (07-11)	5 Year Average Reg. Students
FLEMING	18	24	33		24	42	75		42	45	7		45	58	29		36	37
Total	18	24	33		24	42	75		42	45	7		45	58	29		36	37

<sup>1</sup> 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

## Labour Market

• **STRONG**

### HRSDC<sup>2</sup>

#### 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 Labour<sup>3</sup>

#### 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.”

<sup>2</sup> "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>>.

<sup>3</sup> 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

## Employment Profile<sup>4</sup>

- In 2010-2011, **68.9%** of graduates were employed in a full time position which related to this program of study provincially

Horticulture			
Total Graduates:	271	Total Graduates in Survey:	206
		Response Rate:	76.9%

594 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 Horticulture

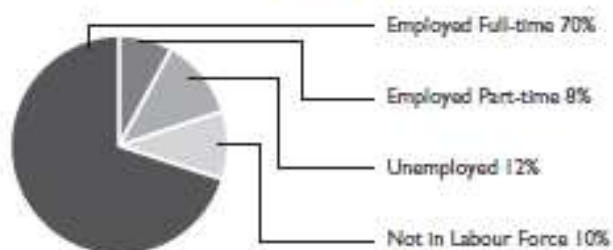
Programs	Duration	Total Grads	Total in Survey	Total in Labour Force	Colleges
Greenhouse Technician	2 Years	7	5	4	Niagara
Horticulture Technician	2 Years	121	90	79	Algonquin, Fanshawe, Humber, Lambton, Niagara, St. Clair
Integrated Land Planning Technologies – Bachelor Of Applied Arts	4 Years	17	12	12	Fanshawe
Landscape And Horticultural Techniques	1 Year	6	3	3	Niagara
Landscape Design	3 Years	33	27	23	Fanshawe
Retail Florist	1 Year	28	24	21	Algonquin, Seneca
Urban Arboriculture	1 Year	59	45	43	Humber, Sir Sandford Fleming

### Summary of Survey Data

	Program Cluster	All Programs
Survey Population	206	50,622
Labour Force Participation	90%	74%
Employment Rate <sup>a</sup>	87%	83%
Employed Part-time <sup>a</sup>	9%	18%
Employed Full-time <sup>a</sup>	78%	65%
Average Annual Earnings – Total	\$34,321	\$33,199
Average Annual Earnings – Female	\$29,045	\$31,897
Average Annual Earnings – Male	\$36,739	\$34,607
Graduate Satisfaction	83%	79%
Employer Satisfaction	88%	93%

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

<sup>4</sup> "Employment Profile." Ontario. N.p., 2011. Web. 19 July 2012.  
<<http://www.tcu.gov.on.ca/pepg/audiences/colleges/serials/eprofile09-10/profile10.pdf>>.

**Horticulture****Graduate Outcomes for Program Cluster (as a percentage of all respondents)****Top Five Industries of Employment**

	#	%
Administrative and Support Services	70	45.5%
Miscellaneous Store Retailers	10	6.5%
Various * (each at this level of participation)	7	4.5%

\* Building Material and Garden Equipment and Supplies Dealers; Food and Beverage Stores; Local, Municipal and Regional Public Administration; Professional, Scientific and Technical Services

**Top Five Occupational Categories**

	#	%
Landscape and Horticulture Technicians and Specialists	49	31.8%
Landscaping and Grounds Maintenance Labourers	20	13.0%
Retail Salespersons and Sales Clerks	9	5.8%
Artisans and Craftspersons	7	4.5%
Various* (each at this level of participation)	6	3.9%

\* Grocery Clerks and Store Shelf Stockers; Supervisors, Landscape and Horticulture

## Horticulture

### 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	
	#	%	#	%	#	%	#	%	#	%	#	%
Horticulture Technician	40	44.4	17	18.9	1	1.1	7	7.8	14	15.6	11	12.2
Integrated Land Planning Technologies – Bachelor Of Applied Arts	9	75.0	–	–	–	–	1	8.3	2	16.7	–	–
Landscape Design	18	66.7	–	–	1	3.7	–	–	4	14.8	4	14.8
Retail Florist	10	41.7	6	25.0	5	20.8	–	–	–	–	3	12.5
Urban Arboriculture	31	68.9	7	15.6	–	–	1	2.2	4	8.9	2	4.4
<b>All Programs in Cluster*</b>	<b>108</b>	<b>54.5</b>	<b>30</b>	<b>15.2</b>	<b>7</b>	<b>3.5</b>	<b>9</b>	<b>4.5</b>	<b>24</b>	<b>12.1</b>	<b>20</b>	<b>10.1</b>

\* Does not include 2 programs with fewer than 5 graduates in the labour force.

### Earnings of Full-time Employed Participants

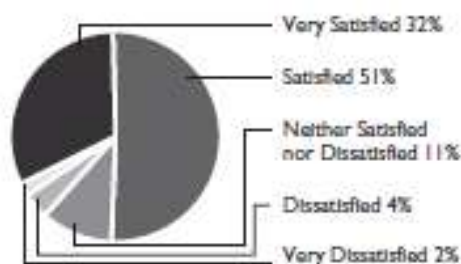
Program	Average – Females	Average – Males	Median – Females	Median – Males	Average for Program	Median for Program
Horticulture Technician	\$30,842	\$37,199	\$29,200	\$33,372	\$34,573	\$31,286
Integrated Land Planning Technologies – Bachelor Of Applied Arts	–	\$37,287	–	\$36,083	\$35,312	\$32,537
Landscape Design	–	\$44,122	–	\$46,929	\$44,028	\$43,464
Retail Florist	\$26,091	–	\$25,000	–	\$24,422	\$23,516
Urban Arboriculture	–	\$35,750	–	\$35,457	\$33,866	\$33,215
<b>All Programs in Cluster *</b>	<b>\$29,274</b>	<b>\$37,135</b>	<b>\$25,477</b>	<b>\$36,250</b>	<b>\$34,737</b>	<b>\$32,164</b>

\* Does not include 2 programs with fewer than 5 graduates in the labour force.

## Horticulture

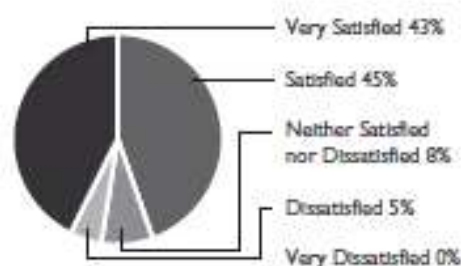
### Program Cluster Satisfaction

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



\* 194 graduates participated in this question.

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



\* 40 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	91.2%	88.9%	88.5%	87.0%	91.6%	90.0%	92.0%	85.2%	84.1%	87.0%
Percentage Employed Full-time	79.6%	77.8%	75.6%	77.5%	79.4%	80.6%	81.8%	73.9%	78.1%	77.8%
Percentage Employed Full-time Related Jobs	67.2%	61.1%	64.9%	60.1%	62.6%	70.0%	71.5%	58.5%	65.6%	60.5%
Average Annual Salary Full-time Related Jobs	\$27,025	\$27,027	\$29,615	\$30,905	\$29,836	\$32,735	\$35,885	\$35,947	\$35,253	\$36,011



# Key Research Findings

## Working in Canada<sup>5</sup>

### 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-Kawartha 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

- “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.”

Professions listed under this NOC Code include:

- **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

<sup>5</sup> "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](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 Analysis<sup>6</sup>

• **STRONG**

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

### Certificate

- Fleming has an advantage over its competitors as it is the only one to offer this program, which has been steadily growing and currently has a high conversion ratio of **2:1**

### Certificate

Program: 43906 - URBAN ARBORICULTURE															
	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
FLEMING	49	18	3:1	55	24	2:1	116	42	3:1	113	45	3:1	134	58	2:1
Total	49	18	3:1	55	24	2:1	116	42	3:1	113	45	3:1	134	58	2:1

## Financial Analysis

**NO CONTRIBUTION**

Source: Program Costing Analysis 2010/2011

- Contribution to Overhead: 17.0%
- Program Weight: 1.50
- Funding Unit: 1.10

## Key Performance Indicators

• **STRONG**

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

KPI1-Graduation Rate	+10% above system
KPI2-Working	+8% above system
KPI3-Working Related	+14% above system
KPI4-Grad. Satisfaction	+3% above system
KPI8-Student Satisfaction-Learning	+6% above system
KPI9-Student Satisfaction- Teachers	+8% above system
KPI11-Grad. Satisfaction-Program	+6% above system

<sup>6</sup> 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

## Additional Observations and Opportunities

Arboriculture specializations which are potential opportunities for Fleming to offer as post-graduate programs include:<sup>7</sup> (offered by Arboriculture Canada)

- Aerial Lift Emergency Evacuation & Extrication
- Aerial Lift Operations & Fall Protection
- Arborist Technical Rigging
- Chainsaw Safety & Cutting Techniques
- Chainsaw Train the Trainer
- Crane Assisted Technical Rigging
- Electrical Awareness
- Emergency Readiness and High Angle Rescue
- Fall Protection Systems
- Fire-Fighter Rotary and Chain Saw Safety, Cutting, & Ergonomics
- Golf Course - Chainsaw Safety & Cutting Techniques
- Ground Operations & Aerial Support
- Hazard and Danger Tree Cutting and Falling
- High Angle Tree Removal
- Ladder Safety & Work Positioning
- Production Tree Removal & Rigging
- Spar Pole Rigging
- Splicing Basics
- Structural Tree Support Systems
- Technical Tree Falling & Cutting
- Tree Biology and Care
- Tree Climbing, Fall Protection, Work Positioning
- Tree Disease Management
- Tree Dynamics and Integrated Risk Assessment
- Tree Insect Management
- Tree Pruning
- Tree Rope Access
- Urban Tree Planting
- Utility Linemen - Hazard & Danger Tree Cutting for Power Restoration
- Utility Tree Trimming
- Utility Tree Worker Comprehensive Training Program

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<sup>7</sup> "Courses." *Arboriculture Canada Training and Education LTD*. N.p., n.d. Web. 15 June 2012. <[http://www.arborcanada.com/arboriculture\\_canada\\_training\\_courses.php](http://www.arborcanada.com/arboriculture_canada_training_courses.php)>.

# Key Research Findings

## Resource Analysis

### Equipment

- Need a new 4 wheel drive truck, as the current one is breaking down
- Have lots of climbing gear and chainsaws

### Staffing

The following information was extracted from the 2009 program review:

- Hire more staff to facilitate growth and maintain quality of program

### Space

# 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:

#### Landscape and Horticulture Technicians and Specialists

(NOC 2225)

<http://www.workingincanada.gc.ca/report->

[eng.do?lang=eng&noc=2225&area=8792&titleKeyword=arborist&regionKeyword=Peterborough,+Ontario&source=1&action=final](http://www.workingincanada.gc.ca/report-eng.do?lang=eng&noc=2225&area=8792&titleKeyword=arborist&regionKeyword=Peterborough,+Ontario&source=1&action=final)

#### 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.

#### Job Duties

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.

# Key Research Findings

- 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.

## Related Occupations

- [Biological Technologists and Technicians](#)
- [Biologists and Related Scientists](#)
- [Forestry Technologists and Technicians](#)
- [Landscape Architects](#)
- [Landscaping and Grounds Maintenance Contractors and Managers](#)
- [Nursery and Greenhouse Operators and Managers](#)
- [Nursery and Greenhouse Workers](#)
- [Supervisors, Landscape and Horticulture](#)

## Labour Market

### Working in Canada

1. Employment potential for the Muskoka-Kawarthas Region is “Not available” (Working in Canada)  
[http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2225&action=final&regionKeyword=Lindsay%2C+Ontario&s=2&source=1&titleKeyword=arborist#report\\_tabs\\_container2](http://www.workingincanada.gc.ca/report-eng.do?area=8792&lang=eng&noc=2225&action=final&regionKeyword=Lindsay%2C+Ontario&s=2&source=1&titleKeyword=arborist#report_tabs_container2)

Median wage “not available”

2. Employment potential for the Toronto Region is “Not available” (Working in Canada)  
<http://www.workingincanada.gc.ca/report-eng.do?lang=eng&noc=2225&area=9219&titleKeyword=arborist&regionKeyword=Toronto,+Ontario&source=2&action=final>

Median wage = 19.86 per hour (includes landscaping jobs)

Local wage for Muskoka-Kawartha region is NA

Provincially wages are:

Low \$12.48 Median \$19.86 High 38.49

## Labour Market

### HRDSC

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

**This occupation (Arborists) is part of a larger occupational group called Technical Occupations In Life Sciences (222)**

Skill Level:

Occupations Usually Requiring College or Apprenticeship Training

## Key Research Findings

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 2006-2008 period, employment in this occupation grew slightly more rapidly than the occupational average; however, the unemployment rate, already high, also increased substantially. The average hourly wage remained practically unchanged over the same period. According to key labour market indicators, the number of job seekers was more than 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 job openings (arising from expansion demand and replacement demand) are greater than the projected job seekers (arising from school leavers, immigration and mobility), while an occupation will be in excess supply (a surplus of workers) if the projected job seekers are greater than the projected job openings. For **Technical Occupations In Life Sciences**, over the period of 2011-2020, job openings are expected to total **17,703**. It is expected that **15,255** job seekers will be available to fill these job openings.

Although labour supply exceeded demand in this occupation, projections indicate that labour supply and demand will move toward balance over the 2009-2018 period. The unemployment rate will, however, remain relatively high. The majority of job openings will result from retirements, despite a retirement rate similar to the occupational average. Job openings arising from expansion demand will represent only half of those recorded over the 1999-2008 period, but will still constitute a major source of job openings. As a result of the recent recession and the budget constraints that various levels of government are facing, new positions will be created, but they will be fewer in number than those created in the past. In terms of supply, the majority of job seekers will come from the school system. However, a large number of graduates and workers will turn to other occupations, in part because the number of graduates is too high in comparison to the overall labour demand.

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

	Level	Share
<b>Expansion Demand:</b>	6,069	34%
<b>Retirements:</b>	9,904	56%
<b>Other Replacement Demand:</b>	1,139	6%
<b>Emigration:</b>	590	3%

# Key Research Findings

<b>Projected Job Openings:</b>	17,703	100%
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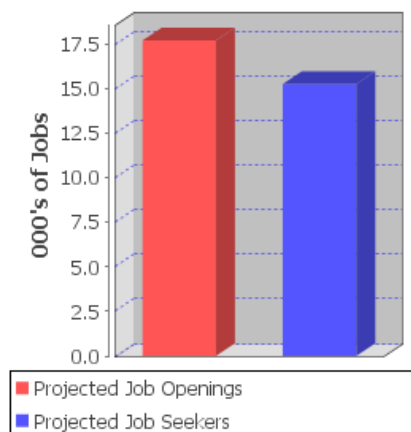
**Level Share**

<b>School Leavers:</b>	14,998	98%
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**Immigration:** 1,489 10%

<b>Net Mobility</b>	-1,232	-8%
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<b>Projected Job Seekers:</b>	15,255	100%
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## 2225 Landscape and Horticulture Technicians and Specialists

<http://www30.hrsdc.gc.ca/NOC/English/NOC/2006/Profile.aspx?val=2&val1=2225>

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.

### Example Titles

- arboriculturist
- arborist
- floriculturist
- gardener
- gardener, landscape
- golf course superintendent
- greens superintendent
- greenskeeper
- horticultural technician
- horticultural technologist
- horticulture specialist
- horticulture technician



# Key Research Findings

- horticulture technologist
- horticulturist
- hydroponics technician
- interior plantscape specialist
- landscape architectural technician
- landscape architectural technologist
- landscape designer
- landscape gardener
- landscape technician
- landscaper
- lawn care specialist
- lawn care superintendent
- plant doctor
- plantscape technician
- superintendent, greens
- tree and shrub specialist
- tree service technician
- turfgrass management specialist

## Main duties

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.

## 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.
- 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.

## Classified elsewhere

# Key Research Findings

- *Biological Technologists and Technicians* ([2221](#))
- Botanists (in [2121](#) *Biologists and Related Scientists* )
- *Forestry Technologists and Technicians* ([2223](#))
- *Landscape Architects* ([2152](#))
- *Landscaping and Grounds Maintenance Contractors and Managers* ([8255](#))
- *Nursery and Greenhouse Operators and Managers* ([8254](#))
- *Nursery and Greenhouse Workers* ([8432](#))
- *Supervisors, Landscape and Horticulture* ([8256](#))

## US Bureau of Labour

<http://www.bls.gov/oco/ocos211.htm#outlook>

### Grounds Maintenance Workers Duties

**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.

Quick Facts: Grounds Maintenance Workers	
2010 Median Pay	\$23,740 per year \$11.41 per hour
Entry-Level Education	<a href="#">See How to Become One</a>
Work Experience in a Related Occupation	None
On-the-job Training	<a href="#">See How to Become One</a>
Number of Jobs, 2010	1,249,700
Job Outlook, 2010-20	20% (Faster than average)
Employment Change, 2010-20	254,600

### Job Outlook

**Job prospects.** Overall employment of grounds maintenance workers is projected to grow 20 percent from 2010 to 2020, faster than the average for all occupations. More workers will be needed to keep up with increasing demand for lawn care and landscaping services from institutions and individual homeowners. Overall job opportunities should be very good, particularly in regions with year-round warm climates.

### Industry Standards:

The [International Society of Arboriculture](#) offers four certifications for workers at various experience levels.

### Professional Associations:

For more information about tree trimmers and pruners, including certification, visit

[International Society of Arboriculture](#)

Ontario Chapter <http://isaontario.com/>

### [Tree Care Industry Association](#)

### Employment requirements

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## Key Research Findings

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- An apprenticeship program is available for horticulturists, arboriculturists and landscape gardeners.
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### Educational Competitors

#### Individual Community College/Institute Information

(Click on Program Title to view college program page)

**There are 6 current college programs currently offering this program under either**

Humber College – Urban Arboriculture Tree Care (*Certificate*)

<http://www.humber.ca/program/urban-arboriculture-tree-care>

Humber College – Arborist Apprenticeship (*Apprenticeship – Certificate*)

<http://www.humber.ca/program/arborist-apprenticeship>

Olds College - Environmental Horticulture diploma – Arboriculture

(*Part of a program – 2 streams – Aerial & Small Tree*)

<http://www.oldscollege.ca/programs/Horticulture/arboriculture.htm>

Fleming College – Arboriculture Co-Op (*Certificate*)

<http://flemingcollege.ca/programs/arboriculture>

Lambton College – Arborist Apprenticeship (*Certificate*)

[http://www.lambton.on.ca/Programs/FT\\_Program\\_page.aspx?id=15436](http://www.lambton.on.ca/Programs/FT_Program_page.aspx?id=15436)

(2 French Language programs in Quebec)

Centre de formation professionnelle des Moissons – Arboriculture –elgag

[http://www2.inforoutefpt.org/guide/det\\_centre\\_sec.asp?QCode=868401&QRegion=16&QProg=5079&QPubId=5079](http://www2.inforoutefpt.org/guide/det_centre_sec.asp?QCode=868401&QRegion=16&QProg=5079&QPubId=5079)

Fierbourg, centre de formation professionnelle - Arboriculture –elgag

[http://www2.inforoutefpt.org/guide/det\\_centre\\_sec.asp?QCode=868401&QRegion=16&QProg=5079&QPubId=5079](http://www2.inforoutefpt.org/guide/det_centre_sec.asp?QCode=868401&QRegion=16&QProg=5079&QPubId=5079)

College	APS	APS Title	MTCU	MTCU Title	WT	FU	Duration	OccCl	TF
College	APS	APS TITLE	MTCU	MTCU TITLE	WT	FU	DURATION	OCCCL	
HUMB	1141	Urban Tree Maintenance Technician (Cancelled?)	4390 6	Urban Arboriculture	1.50	1.00	S004	A08	1.00
HUMB	1179	Urban Arboriculture	4390 6	Urban Arboriculture	1.50	1.00	S002	A08	1.00
SSFL	1163	Arboriculture	4390 6	Urban Arboriculture	1.50	1.00	S003	A08	1.00
SSFL	1285	Urban Forestry	4390 6	Urban Arboriculture	1.50	1.00	S002	A08	1.00

# Key Research Findings

SSFL	1251	Urban Forestry Technician	53906	Urban Forestry Technician	1.50	2.10	S004	A08	2.00
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# Key Research Findings

From ECOCANADA:

<http://www.eco.ca/occupationalprofiles/printOccupationalProfile.aspx?id=62>

## ECO CANADA • ENVIROCAREER

### ARBORIST

As an arborist, you maintain trees and woody plants to ensure their healthy, safe, and attractive condition. Most arborists specialize in a particular area of tree care, such as tree pruning, planting, or disease control.

#### ***At a Glance***

Imagine being 15 metres off the ground in the basket of a cherry picker, staring at the upper branches of a young maple tree looking for signs of disease. As the city's chief arborist, you have been called to this neighbourhood after residents complained their trees were beginning to look sick and were losing their leaves. It is your job to investigate the complaints and look for clues as to the cause of the tree's sudden deterioration. This neighbourhood is depending on you to keep their trees alive.

As an arborist, you examine the sick trees and learn what is harming them. You start by looking for signs of insect infestations, which can often cause serious damage to trees. You examine the branches and leaves for signs of caterpillars or flies that might have munched on them. Then you take samples of the leaves and bark, which will be examined later in the lab. You also take soil samples from the base of the tree to determine if the problem is coming from the soil or roots. If the soil around the trees was contaminated, dangerous compounds might have been picked up by the roots and carried to the leaves, which could explain why the leaves have started falling off. You will examine all these factors to find an explanation for why these trees have become sick.

#### ***Job Duties***

Duties vary significantly from job to job, but the following list includes typical job duties one might encounter as an arborist:

- Plant and transplant woody trees, including preparing the site, backfilling, staking, watering, and mulching.
- Prune trees for various reasons, and haul and chip brush.
- Evaluate trees for disease and pest problems, and perform treatments as needed.
- Support trees and breaking branches by securing cables and braces.
- Remove trees and perform stump grinding as needed.
- Manage nutrient and water supply and consumption.
- Calculate the monetary value of trees.
- Maintain records of work performed.
- Identify potentially hazardous trees and other tree-related problems.

#### ***Work Environment***

Arborists work in a variety of locations including but not limited to:

#### ***In the field:***

- Operating heavy machinery or hand tools

# Key Research Findings

- Working in private gardens and backyards, or public gardens and parks
- Consulting on client's property
- Responding to emergencies, including during storms

## In the office:

- Doing paperwork
- Communicating on the phone and in meetings with clients and colleagues
- Conducting research into tree and plant care

## In the lab:

- Processing and testing samples

## Where to Work

*There are a number of places arborists can find employment.*

*They include:*

- Tree-care service firms
- Landscape-management companies
- Tree nurseries
- Federal, provincial/territorial, or municipal parks departments
- Golf courses
- Utility companies
- Self-employment

## Education

If you are a high school student considering a career as an arborist, you should have strong marks or an interest in:

- Biology
- Chemistry
- English
- Physical Education/Outdoor Education

In most cases, the minimum education requirement to work as an arborist is a technical diploma.

If you are a post-secondary student considering a career as an arborist, the following programs are most applicable:

- Botany
- Forestry
- Biology and Environmental Studies
- Ecology
- Horticulture
- Soil Science

Many arborists also choose to become a Certified Arborist through the International Society of Arboriculture (<http://www.isa-arbor.com>). In addition, some choose to become a Registered Consulting Arborist with the American Society of Consulting Arborists (<http://www.asca-consultants.org>).

## Earnings

### Related Careers

- Agriculture specialist
- Agriculture technician
- Botanist
- Crop and livestock producer
- Ecologist
- Forester

# Key Research Findings

- Horticulturist
- Soil conservationist
- Soil scientist
- Tree planter
- Wetland biologist

## Employment Postings:

See below for the variety of postings from May 28, 2012

HRDC Site – this posting is for 15 locations across Ontario

**Job Number:** 6391463

**Title:** Arborist (CERTIFIED UTILITY ARBORIST) ([NOC: 2225](#))

**Terms of Employment:** Permanent, Full Time

**Salary:** \$20.00 to \$24.00 Hourly for 40 hours per week

**Anticipated Start Date:** As soon as possible

**Location:** VARIOUS LOCATIONS IN ONTARIO, Ontario (15 vacancies )

**Skill Requirements:**

**Education:** Some college/CEGEP/vocational or technical training

**Credentials (certificates, licences, memberships, courses, etc.):** Not applicable

**Experience:** 3 years to less than 5 years

**Languages:** Speak English, Read English, Write English

**Area of Specialization:** Tree removal, Tree pruning

**Landscape Design Skills:** Survey and assess designated sites

**Work Conditions and Physical Capabilities:** Attention to detail, Repetitive tasks, Handling heavy loads, Physically demanding, Manual dexterity, Ability to distinguish between colours, Standing for extended periods, Bending, crouching, kneeling

**Work Site Environment:** Rural community, Remote location, Various locations, Dangerous

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

**Other Information:** MUST BE A CERTIFIED UTILITY ARBORIST OR HAVE 3 YEARS OR 6000 HOURS EXPERIENCE. ONLY QUALIFIED CANDIDATES PLEASE APPLY. TRAVEL MAY BE REQUIRED. Ontario Pesticide Spray License a definite asset!

**Employer:** Tamarack Tree Care

**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 Fax:** (613) 498-0085

# Key Research Findings

**By E-mail:** tamaracktree@bellnet.ca

**Advertised until:** 2012/06/03



# Key Research Findings

**Job Number:** 6432323

**Title:** Arborist (tree climber with experience and climbing gear) ([NOC: 2225](#))

**Terms of Employment:** Seasonal, Full Time, Day

**Salary:** \$20.00 to \$24.00 Hourly for 40 hours per week

**Anticipated Start Date:** As soon as possible

**Location:** Buckhorn, Ontario (1 vacancy)

**Skill Requirements:**

**Education:** Completion of college/CEGEP/vocational or technical training

**Credentials (certificates, licences, memberships, courses, etc.):** Arboriculturists Trade Certification

**Experience:** 2 years to less than 3 years

**Languages:** Speak English

**Area of Specialization:** Tree and shrub examination and treatment, Tree removal, Hedge and shrub pruning, Tree pruning

**Own Tools/Equipment:** Safety equipment/gear, Steel-toed safety boots, Hard hat, Safety glasses/goggles, Safety harness, Gloves, Ear plugs

**Work Conditions and Physical Capabilities:** Attention to detail, Handling heavy loads, Physically demanding

**Work Site Environment:** Rural community, Various locations

**Essential Skills:** Working with others, Problem solving, Critical thinking

**Employer:** Buckhorn Tree Service

**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 Mail:**

R.R.1 Buckhorn

Buckhorn, Ontario

K0L 1J0

**By Phone: between 9:00 and 17:00:** (705) 657-3777

**By E-mail:** budandcate@hotmail.com

**Advertised until:** 2012/06/14

# Key Research Findings

**Job Number:** 6453376

**Title:** Arborist (Tree Climber) ([NOC: 2225](#))

**Terms of Employment:** Seasonal, Full Time, Day

**Salary:** \$17.00 to \$24.00 Hourly for 44 hours per week

**Anticipated Start Date:** As soon as possible

**Location:** Burlington, Ontario (2 vacancies )

**Skill Requirements:**

**Education:** Completion of college/CEGEP/vocational or technical training

**Credentials (certificates, licences, memberships, courses, etc.):** Arboriculturists Trade Certification

**Experience:** 5 years or more

**Languages:** Speak English, Read English, Write English

**Area of Specialization:** Tree and shrub examination and treatment, Tree removal, Hedge and shrub pruning, Treatment solution injections, Plant knowledge and identification, Tree pruning

**Own Tools/Equipment:** Tools, Safety equipment/gear, Steel-toed safety boots, Safety glasses/goggles, Safety harness, Gloves

**Work Conditions and Physical Capabilities:** Attention to detail, Repetitive tasks, Handling heavy loads, Physically demanding, Manual dexterity, Standing for extended periods, Bending, crouching, kneeling

**Work Site Environment:** Various locations

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

**Other Information:** Experienced arborists (with common sense and clean driver's abstract) specializing in large tree pruning & removal. Excellent wages for skilled/dedicated people. A great company to be a part of.

**Employer:** D.F. Wilby Tree Surgeons

**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 Mail:**

2388 St. Frances Drive

Burlington, Ontario

L7P 1V4

**By Fax:** (905) 335-4472

**By E-mail:** [info@wilbytrees.ca](mailto:info@wilbytrees.ca)

**Web Site:** <http://www.wilbytrees.ca>

**Advertised until:** 2012/06/20

# Key Research Findings

**Job Number:** 6431750

**Title:** Arborist (Arborist Apprentice) ([NOC: 2225](#))

**Terms of Employment:** Permanent, Full Time, Day

**Salary:** \$14.00 to \$18.00 Hourly for 55 hours per week, Bonus, Commission, Medical Benefits, Dental Benefits, Life Insurance Benefits, Group Insurance Benefits, RRSP Benefits

**Anticipated Start Date:** As soon as possible

**Location:** Stouffville, Ontario (2 vacancies )

**Skill Requirements:**

**Education:** Completion of high school

**Credentials (certificates, licences, memberships, courses, etc.):** Not required

**Experience:** Experience an asset

**Languages:** Speak English, Read English, Write English

**Area of Specialization:** Tree and shrub examination and treatment, Tree removal, Hedge and shrub pruning, Treatment solution injections, Plant knowledge and identification, Tree pruning

**Type of Landscaping Experience:** Residential projects, Park and recreation sites, Public gardens, Golf courses, Sports fields

**Work Conditions and Physical Capabilities:** Attention to detail, Physically demanding

**Work Site Environment:** Various locations

**Essential Skills:** Reading text, Writing, Oral communication, Working with others

**Employer:** Four Seasons Tree Care

**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 Mail:**

6282 Bloomington Rd

Stouffville, Ontario

L4A 7X3

**By Fax:** (416) 410-8770

**Online:** <http://www.fourseasonstreecare.com>

**Web Site:** <http://www.fourseasonstreecare.com>

**Advertised until:** 2012/06/08