

# **Appendix K**

## **Curricula Vitae**

Valerie Wyatt is a knowledgeable field ecologist and project manager with thirteen years of professional experience. Valerie has successfully managed or directed dozens of projects including impact assessments, community plans and biological inventories. These projects involved the implementation of natural heritage policy of the Ontario Provincial Policy Statement, Greenbelt Plan, Oak Ridges Moraine Act and municipal policy documents for numerous municipal draft plan applications throughout southern Ontario. Valerie's expertise includes field inventories of vegetation communities, breeding birds and other wildlife; analysis of community significance, terrestrial linkages, habitat assessment and ecological land classification; integration of engineering, hydrogeological, planning and geomorphological studies; and review agency liaison. Valerie has served on the Technical Committee for Guelph's Natural Heritage Strategy, the Steering Committee for Environment Canada's and the Canadian Wind Association's Bird Monitoring Database Project and has appeared as an expert witness before the Ontario Municipal Board.

## EDUCATION

B.Sc., University of Guelph, Guelph, Ontario, 1994

M.Sc. (Specialized Honors), University of Guelph, Guelph, Ontario, 1996

Certificate, Ecological Land Classification Training Course, Southern Ontario, Ontario, 2001

## PROJECT EXPERIENCE

### Linear Infrastructure

Highway 401, Oxford County Road 3 to Cedar Creek Road, Ontario (Avian Specialist)

*Inspected bridge culvert sites and ensured compliance with contract and Migratory Bird Act requirements, reporting to Senior Environmental Inspector.*

Vector Pipeline, Sarnia, ON (Terrestrial Ecologist)

*Conducted breeding bird surveys during pipeline construction in accordance with National Energy Board requirements; prepared nest preservation plans and installed appropriate buffer zones; monitored buffer effectiveness and nest success.*

### Oil & Gas

Vector Pipeline, Sarnia, ON (Terrestrial Ecologist)

*Conducted breeding bird surveys during pipeline construction in accordance with National Energy Board requirements; prepared nest preservation plans and installed appropriate buffer zones; monitored buffer effectiveness and nest success.*

Vector Pipeline, Sarnia, ON (Terrestrial Ecologist)

*Conducted breeding bird surveys during pipeline construction in accordance with National Energy Board requirements; prepared nest preservation plans and installed appropriate buffer zones; monitored buffer effectiveness and nest success.*

### Power

Plateau Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

Port Alma Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

Ostrander Point Wind Energy Park Environmental Assessment (Team Lead - Technical Reporting)

Gosfield-Comber Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

Wolfe Island Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

St. Leon II Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

\* denotes projects completed with other firms

Kingsbridge II Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

Melancthon II Wind Power Project Environmental Assessment (Team Lead - Technical Reporting)

Kingsbridge I Wind Plant Post-construction Monitoring (Project Manager)

Melancthon I Wind Plant Post-construction Monitoring (Project Manager)

### **Research / Laboratories**

Canadian Wildlife Service Forest Bird Monitoring Program, Ontario\* (Technician)

*This ongoing program seeks to determine the status and trends of forest birds in Ontario. Valerie was responsible for database coordination, quality control and analysis of information collected by a large network of volunteers*

Niagara Escarpment Forest Bird Productivity Study, Niagara Escarpment, Ontario\* (Project Coordinator)

*A three-year study in conjunction with the Niagara Escarpment Commission examined the effects of forest fragmentation and development on breeding bird productivity*

### **Residential Development**

Brentwood Post-development Monitoring (Project Manager)

Creditview Environmental Implementation Report (EIR) (Project Manager)

Springbrook Creek Environmental Implementation Report (EIR) (Project Manager)

Cedar Hills Subdivision, Shelburne, ON (Project Manager)

Ballymore Homeowners' Guide (Project Manager)

Renaissance Estates EIS, Aurora, Ontario (Project Manager)

Richmond Hill Post Construction Monitoring, Richmond Hill, Ontario (Project Manager)

*Prepared, coordinated and conducted post-construction monitoring program of wetland vegetation, wildlife and water quality following residential development of two large sites adjacent to locally and provincially significant wetlands*

Brentwood Subdivision, Aurora, Ontario (Project Manager)

Monora Adult Lifestyle Community, Orangeville, Ontario (Project Manager)

Stoney Creek North Subdivision, London, Ontario (Project Manager)

### **Retail / Commercial**

First Professional Management Commercial Development, Huntsville, Ontario (Project Manager)

First London North Commercial Development, London, Ontario (Project Manager)

### **Sports, Recreation & Leisure**

Cardinal Landing Golf Course Expansion EIS (Project Manager)

Puslinch Township Driving Range EIS (Project Manager)

Eagle's Nest Golf Course, Vaughan, Ontario (Project Manager)

*Coordinated environmental design and obtained approvals relating to forest buffers, tree preservation, naturalized stormwater management, turf and water management, ESA and ANSI impacts, cold water stream protection; prepared Environmental Management and Maintenance Protocol.*

\* denotes projects completed with other firms

**Valerie E. Wyatt** M.Sc.  
Senior Project Manager

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**Georgian Bay Club Environmental Impact Assessment,  
Blue Moutain, Ontario (Terrestrial Ecologist)**

*Conducted field surveys, environmental impact assessment and consultation with agencies, including the Niagara Escarpment Commission, regarding significant wildlife habitat, significant valleylands and fish habitat*

**Grand Niagara Resort Environmental Impact Report,  
Niagara Falls, Ontario (Project Manager)**

*Preparation of Environmental Impact Assessments for two golf courses and associated resort and conference centre development, addressing the effects on two Provincially Significant Wetlands, three watercourses and a host of locally, regionally and provincially significant plant species to the satisfaction of the City, Region and Ministry of Natural Resources*

**Castle Glen Golf Course and Resort, Blue Moutains,  
Ontario (Project Manager)**

*Coordination of extensive field inventory program, including vegetation community classification, vascular plants, breeding birds, amphibians; coordinated searches and mapping of Endangered butternut specimens; prepared constraints analyses and Environmental Impact Assessments*

## PUBLICATIONS

Rose-breasted Grosbeak (*Pheucticus ludovicianus*). *Atlas of the Breeding Birds of Ontario*, 2007.

Challenges and Rewards of Birding in the Remote North. *Birding*, 2004.

Rose-breasted Grosbeak (*Pheucticus ludovicianus*). *The Birds of North America*, 2002.

Extent of double-brooding and seasonal movement of nesting females in northern population of Wood Thrushes. *Wilson Bulletin*, 2000.

Pairing success of Wood Thrushes in a fragmented agricultural landscape. *Wilson Bulletin*, 1999.

Nest reuse by Wood Thrush and Rose-breasted Grosbeak. *Wilson Bulletin*, 1999.

Wildlife Watchers: Report on Monitoring Issue 5. *Ministry of the Environment, supplement to Seasons*, 1999.

Forest Bird productivity in the Credit Valley Watershed. *Presentation to Credit Valley Conservation, Orangeville, Ontario*, 1998.

Forest Bird productivity on the Niagara Escarpment - Halton Section. *Niagara Escarpment Commission*, 1998.

Zen and the art of Wood Thrush maintenance. *Conserving Forest Birds in Southern Ontario. Long Point Bird Observatory Special Publication*, 1998.

Wildlife Watchers: Report on Monitoring Issue 4. *Ministry of the Environment, supplement to Seasons*, 1998.

Use of *Anenome canadensis* in Rose-breasted Grosbeak nests. *Ontario Birds*, 1997.

Re-use of a Wood Thrush nest. *Ontario Birds*, 1997.

Drag and shear stress partitioning in sparse desert creosote communities. *Canadian Journal of Earth Science*, 1997.

Wildlife Watchers: Report on Monitoring Issue 3. *Ministry of the Environment, supplement to Seasons*, 1997.

Is the Niagara Escarpment a source for songbirds? A case study of the Wood Thrush. *Presentation to the Leading Edge 1997, Burlington, Ontario*, 1997.

The impact of domestic cats on wildlife populations. *Presentation to the Ontario Wildlife Rehabilitators Education Network, Toronto, Ontario*, 1997.

Sediment flux and airflow on the stoss slope of barchan dune. *Geomorphology*, 1996.

Nicole Kopysh is a Terrestrial Ecologist and Project Manager who has been involved in multi-sized projects from various sectors including aggregates, renewable energy and development. Nicole has successfully managed or directed environmental impact assessments, constraints analyses, natural environment technical reports, environmental implementation reports and natural heritage monitoring programs. Her experience involves the implementation of the natural heritage policy of the Ontario Provincial Policy Statement, Greenbelt Plan, Oak Ridges Moraine Act, Migratory Birds Convention Act and municipal policy documents for municipal draft plan applications throughout southern Ontario. Nicole is also a skilled birder and has field experience conducting bird surveys, species at risk surveys, general terrestrial monitoring and assessments, wildlife inventories and habitat assessments.

## EDUCATION

BES, University of Waterloo / Bachelor of Environmental Studies, Honours Environment and Resource Studies, Co-op Program, Waterloo, Ontario, 1998

## PROFESSIONAL ASSOCIATIONS

Member, Society of Canadian Ornithologists

Member, Ontario Field Ornithologists

## PROJECT EXPERIENCE

### Aggregate Services

Neubauer Pit, Township of Puslinch, Ontario (Project Assistant, Ecologist)

*Natural environment field inventories and Level II Natural Environment Technical Report*

Hillsburgh Huxley Pit, Hillsburgh, Ontario (Project Assistant, Ecologist)

*Natural environment field inventories, Woodlot Assessment of Significance and Level II Natural Environment Technical Report*

Proposed Bromberg Pit, Ayr, Ontario (Project Assistant, Ecologist)

*Natural environment field inventories and Level I Natural Environment Technical Report*

### Commercial / Retail Development

First Capital Holdings Trust, Guelph, Ontario (Project Manager)

*Environmental Implementation Report. Vegetation buffers, wildlife corridor, tree conservation plan, planning and design of invasive species removal, design of compliance and performance monitoring program.*

### Natural Sciences & Heritage Resources

Forest Bird Research - Canadian Wildlife Service\* (Field Assistant)

*Located Wood Thrush nests, monitored nesting success, banded adult and nestling birds, and conducted vegetation surveys.*

Forest Bird Research - Smithsonian Institution\* (Field Assistant)

*Located and monitored Hooded Warbler nests and conducted insect sweep net sampling. Located Blue-headed Vireo nests and conducted playback experiments.*

Ontario Breeding Bird Atlas - Ontario Nature-Federation of Ontario Naturalists\* (Assistant Coordinator)

*Coordinated and managed various aspects of a province-wide conservation/research project. This involved coordinating coverage to ensure project goals were met; hiring, training and managing contract staff; development of funding proposals; coordination of field work; management of volunteers and working committees; assistance in preparation of Atlas book for publication.*

\* denotes projects completed with other firms

**Colonial Marshbird Census - Bird Studies Canada\***  
(Project Coordinator)

*Developed the project outline, scope, organization and staffing. Scheduled the project timelines and tasks. Performed key field work in marshes throughout southern Ontario.*

**Ontario Eastern Screech-owl Survey - Ontario Breeding Bird Atlas\* (Project Manager)**

*Developed project proposal, project timeline, schedule and budget. Responsible for communications, data management and handling. Launched survey and coordinated volunteer involvement.*

**Power**

**Chinodin Melancton and Grey Highlands Wind Projects, Ontario (Terrestrial Ecologist)**

*Coordinating and conducting monitoring of bats and migratory and breeding birds for wind turbine development.*

**Proton Wind Program, Southgate Township, Ontario (Terrestrial Ecologist)**

*Coordinating and conducting monitoring of migratory and breeding birds for wind turbine development, preparation of comprehensive technical appendix to the Environmental Screening Report.*

**Wolfe Island Wind Power Project, Wolfe Island, Ontario (Terrestrial Ecologist)**

*Study design, coordination and conducting of monitoring for spring migratory birds, fall migrating raptors, staging waterfowl, winter raptors and grassland bird populations. Design and conducting specific studies to target avian Species at Risk. Assessment of amphibian populations, mammal populations, and wildlife corridors. Preparation of technical report appendix to the Environmental Screening Report.*

**Residential Development**

**Almas Property, Hamilton, Ontario (Project Manager)**

*Environmental Impact Statement and Natural Heritage Assessment*

**Golhar Residence, Hockley Valley, Ontario (Project Manager)**

*Development of environmental review for a proposed pond located within the Niagara Escarpment Protection Area.*

**Glaspell Homeowner's Guide, Whitby, Ontario (Project Manager)**

**Fourteen Mile Creek Long-term Natural Heritage Monitoring Program, Oakville, Ontario (Natural Heritage Monitoring Project Director)**

*A watershed-based inventory and monitoring program for a study area in the Fourteen Mile Creek watershed was developed in association with the Conservation Authority to assess human induced stress on the greater ecosystem. The program included one year of inventory work and four subsequent years of monitoring and incorporated the following components: streamflow and rainfall monitoring, erosion and creek morphology, groundwater, vegetation and Ecological Land Classification, breeding birds, fish, water quality and benthos.*

**Sports, Recreation & Leisure**

**Clublink Wyndance Golf Courses, Uxbridge, Ontario (Project Manager)**

*Natural heritage assessment and development of environmental report addendum and significant species plan.*

\* denotes projects completed with other firms

## PUBLICATIONS

Eastern Screech-Owl pp. 290-291. *Atlas of the Breeding Birds of Ontario*, 2007.

Kopysh, N. Other Owls!. *Ontario Breeding Bird Atlas Newsletter*. Vol 5, Issue 1., 2005.

Kopysh, N. On the Prowl for Owls. *OFO News* 22(1): 12-13., 2004.

Kopysh, N. Owling for EASO. *Ontario Breeding Bird Atlas Newsletter*. Vol 3, Issue 2., 2003.

Kopysh, N. and C. Weseloh. Reporting Colonial Species. *Ontario Breeding Bird Atlas Newsletter*. Vol 3, Issue 2., 2003.

Buehler, D.M., D.R. Norris, B.J.M. Stuchbury and N.C. Kopysh. Food Supply and Parental Feeding Rates of Hooded Warblers in Forest Fragments. *Wilson Bulletin* 114(1), 122-127., 2002.

Morton, E., J. Howlett, N.C. Kopysh and I. Chiver. Overcoming the cost of male incubation: blue-headed vireos memorize the locations where intruders sing. *In submission to Proc Royal Soc of London, biology letters.*, 2002.

Timmermans, S. and N. Kopysh. What's Happening With Colonial Marshbirds?. *Ontario Breeding Bird Atlas Newsletter*. Vol 1, Issue 2., 2001.

Andrew Taylor is a knowledgeable terrestrial ecologist and project manager. He has successfully managed both small and large projects, including environmental impact statements, constraint analyses and environmental implementation reports. In addition, he has coordinated natural heritage components of Environmental Assessments. These projects involve the implementation of natural heritage policies of the Ontario Provincial Policy Statement, Greenbelt Plan and municipal policy documents. Andrew also has experience with policies pertaining to Threatened and Endangered Species including Butternut.

Andrew has strong field skills including identification of vascular plants, breeding amphibians (calling frogs and toads), breeding salamanders (adult and egg studies), reptiles and bats, with a particular emphasis on birds, butterflies and dragonflies. He is skilled at assessing wildlife habitat, applying Ecological Land Classification (ELC) and delineating wetland boundaries. Andrew is experienced at analyzing natural heritage features for the presence of Significant Woodlands or Significant Wildlife Habitat using guidance documents such as the 'Natural Heritage Reference Manual, How Much Habitat is Enough?' and the 'Significant Wildlife Habitat Technical Guide'.

Andrew has provided terrestrial ecology expertise in a wide range of sectors, including urban lands, energy (including renewable energy), recreational development, infrastructure and aggregate extraction.

## EDUCATION

B.Sc. (Hons), University of Guelph / Environmental Toxicology, Guelph, Ontario, 2001

Certificate, Ecological Land Classification for Southern Ontario, Turkey Point, Ontario, 2006

## AWARDS

2000 University of Guelph, Dean's List

1997 University of Guelph, Dean's List

## PROJECT EXPERIENCE

### Aggregate Services

St. Marys Cement (SMC) Flamborough Quarry License Environmental Impact Study and Level 2 Natural Environment Technical Report (Ecologist)

*Identification and impact assessment of natural heritage features, compensation and management plan for Species at Risk (Butternut), water balance to maintain provincially significant wetland, salamander habitat and migration study, assessment of provincially significant woodland and significant wildlife habitat, environmental impacts of transportation.*

### **Linear Infrastructure**

#### **Natural Science Reports Related to MTO Highway Improvement Works, Various Sites, Ontario (Terrestrial Ecologist)**

*Produced numerous Natural Sciences reports related to highway improvement works. Where required, Fisheries Act authorization was obtained and Fish Habitat Compensation Plans were developed. Potential impacts to terrestrial vegetation, wetlands and wildlife were described for the following studies:*

- Highway 3 (Essex County): Preliminary Design Study;
- Highway 40 (Municipality of Chatham-Kent): Detail Design Study;
- Highway 401 (Kitchener): Post-construction Compliance Monitoring;
- Highway 401 (Essex County, near Comber): Post-construction Compliance Monitoring;
- Highway 26 (County of Grey): Post-construction Compliance Monitoring;
- Highway 17 (Sudbury): Preliminary Design Study;
- Highway 9 (Municipality of South Bruce): Post-construction Compliance Monitoring.

### **Multi-Unit / Family Residential**

#### **Crates Marina, Keswick, Ontario (Project Manager / Ecologist)**

*Environmental policies, approvals and design. Identification of natural heritage features and sensitive species.*

#### **Kortright East Development, Guelph, Ontario (Project Manager / Ecologist)**

*Environmental Implementation Report. Vegetation buffers, wildlife corridor, tree conservation plan, planning and design of invasive species removal, design of compliance and performance monitoring program.*

#### **Southeast Sutton Development Area Plan, Sutton, Ontario (Project Manager / Ecologist)**

*Environmental policies, approval and design. Identification of natural heritage features and constraints for Development Area Plan. Plan of Subdivision forest buffers, mitigation of impacts to forest resources, sensitive vegetation and Species at Risk. Participation in Ontario Municipal Board discussions.*

### **Natural Sciences & Heritage Resources**

#### **Fourteen Mile Creek Development, Oakville, Ontario (Ecologist)**

*Natural Heritage Monitoring Program Director - directed monitoring program of vegetation communities, change in species composition, avian wildlife, aquatic Species at Risk, benthic invertebrate communities, hydrogeology, geomorphology and erosion.*

#### **Activa Waterloo East, Waterloo, Ontario (Ecologist)**

*Terrestrial and Aquatic Monitoring Program - monitoring of vegetation communities, changes in species composition and disturbance levels were undertaken, interpreted and reported. Directed monitoring of benthic invertebrate communities.*

### **Power**

#### **Wolfe Island Wind Project Environmental Assessment - 86 Turbines, 197.6 MW, Wolfe Island, Ontario (Ecologist)**

*Study design, coordination and conducting of monitoring for spring migratory birds, fall migrating raptors, staging waterfowl, winter raptors and grassland bird populations. Design and conducting specific studies to target avian Species at Risk. Assessment of amphibian populations, mammal populations, wildlife corridor and migratory bat populations. Preparation of technical report appendix to the Environmental Screening Report.*

#### **Melancthon Wind Plant - 45 Turbines, 67.5 MW, Melancthon and Amaranth Townships, Ontario (Ecologist)**

*Completion of post-construction monitoring program to assess direct mortality and potential avoidance impacts to breeding birds within the wind power facility. Technical reporting.*

#### **Kingsbridge I Wind Plant - 22 Turbines, 39.6 MW, Goderich, Ontario (Ecologist)**

*Phase I wind farm post-construction monitoring. Assessment of direct mortality of avian and bat species. Assessment of potential avoidance behaviour by migratory birds. Technical reporting.*

**Andrew Taylor** B.Sc.  
Ecologist

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Proton Wind Program - 50 Turbines, 100 MW,  
Southgate Township, Ontario (Ecologist)  
*Coordinating and conducting monitoring of migratory and  
breeding birds for wind turbine development, preparation of  
comprehensive technical appendix to the Environmental  
Screening Report.*

Port Alma Wind Power Project - 44 Turbines, 101.2  
MW, Municipality of Chatham-Kent, Ontario (Ecologist)  
*Coordinating and conducting monitoring of winter raptors,  
spring migratory shorebirds, breeding birds, fall migrating  
raptor and avian Species at Risk populations for wind turbine  
development. Prepared comprehensive technical report  
appendix to the Environmental Screening Report.*

Kingsbridge II Wind Project Environmental Assessment -  
69 Turbines, 158.7 MW, Goderich, Ontario (Ecologist)  
*Coordinating and conducting monitoring of migratory and  
breeding bird populations for wind turbine development.  
Prepared comprehensive technical report appendix to the  
Environmental Screening Report.*

Melancthon II Wind Project Environmental Assessment -  
88 Turbines, 132 MW, Melancthon & Amaranth  
Townships, Ontario (Ecologist)  
*Conducted monitoring of breeding bird populations or wind  
turbine development.*

**Research / Laboratories**

Rice Lake Plains Joint Initiative, Northumberland County,  
Ontario\* (Ecologist)  
*Tallgrass prairie research program. Identification and detailed  
cataloging of remnant tallgrass prairie sites, landowner liaison  
and education, development of tallgrass prairie management  
plans, reporting of findings.*

Alderville First Nations Black Oak Savannah, Alderville,  
Ontario\* (Ecologist)  
*Tallgrass prairie and black oak savannah research program.  
Technical reporting. Vegetation monitoring, tallgrass prairie  
reconstruction, wildlife monitoring, Species at Risk  
reintroduction.*

**Sports, Recreation & Leisure**

Sunnidale Park Master Plan, Barrie, Ontario (Ecologist)  
*Identification and delineation of ecological management units.  
Design of management plans for ecological units, wetland and  
forest habitat rehabilitation. Technical reporting.*

\* denotes projects completed with other firms

Ms. Weeks is a graduate of the University of Guelph, with a degree in Environmental Science. Gwendolyn has particular knowledge in the fields of ecology and terrestrial biology. She is certified in both the Ontario Ministry of Natural Resources Ecological Land Classification (ELC) and Wetland Evaluation systems.

Through past work experience, Ms. Weeks has gained strong field skills in plant and wildlife identification, terrestrial monitoring, applying ELC and wetland evaluation principles, and she possesses a strong understanding of planning regulations and policies in a natural heritage context. Gwendolyn is experienced in a broad range of environmental services, including terrestrial monitoring and assessment, wildlife inventory, floral inventory, habitat assessment, agency liaison, and client relations.

Ms. Weeks is the author of a number of environmental impact statements, environmental assessments, natural heritage reviews, environmental constraints analyses, and letters of compliance for a variety of sectors, including residential developments, recreational developments, and energy projects (including renewable energy). Gwendolyn has also provided terrestrial ecology expertise on a wide range of projects, including work for Government agencies and the aggregate industry.

## EDUCATION

B.Sc. (Env.), Environmental Sciences, University of Guelph, Guelph, Ontario, 2004

Wetland Evaluation Course Certificate, Ontario Ministry of Natural Resources, North Bay, Ontario, 2005

Ecological Land Classification for Southern Ontario, Training Course Certificate, Ontario Ministry of Natural Resources, Turkey Point, Ontario, 2004

## PROJECT EXPERIENCE

### **Environmental Assessments**

Gordon Creek Developments, Guelph, Ontario (Project Manager)

*Designed a fieldwork program in order to assess natural heritage features within the study area, and presented the Terms of Reference for the study to the City of Guelph Environmental Advisory Committee. Provided input to the project design based on findings of the field program, and authored and Environmental Impact Statement for the proposed development. The site contained a number of significant features, including Provincially Significant Wetland and wildlife corridors. Liaised with City and Conservation Authority.*

**Gwendolyn A. Weeks** B.Sc. (Env)  
Environmental Scientist

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**Clerview Environmental Constraints Analysis and EIS,  
Guelph, Ontario (Ecologist, Project Manager)**

*Performed a preliminary environmental constraints analysis for the subject lands, using published resources and an initial field investigation to identify constraints to development. Wetland boundaries on site were delineated according to the methodology outlined in the Ontario Wetland Evaluation System. Information was presented to the client in report format. The constraints analysis was used in the production of the draft plan of subdivision, for which an EIS was prepared. The field program and report format for the EIS was presented to and negotiated with the Guelph Environmental Advisory Committee (EAC). A full three-season field program was undertaken, and findings were reported in the EIS. The draft plan was reviewed to identify potential environmental impacts to the adjacent natural areas, and mitigation measures were recommended. The final EIS will be presented to the Guelph EAC.*

**Simpson Lands EIS and Terrestrial Monitoring,  
Waterloo, Ontario (Ecologist)**

*Designed a terrestrial monitoring program for the subject lands based on City of Waterloo and GRCA guidelines. Monitoring of vegetation communities, changes in species compositions, and disturbance levels was undertaken, interpreted, and reported. Requirements for the EIS field program were designed and discussed with relevant agencies. An EIS was prepared that considered the proposed plan of development, the potential environmental impacts related to the plan, and discussed mitigation measures for each potential impact.*

**University of Waterloo Northwest Campus EIS,  
Waterloo, Ontario (Ecologist)**

*Undertook a review and assessment of the natural heritage components associated with the subject lands, including floral, faunal and community investigations. The information gathered was used to create an updated Greenspace System on the subject lands and to propose trail linkages between the site and adjacent lands. Reviewed the draft plan of development in relation to the subject lands in order to identify potential environmental effects and recommend mitigation measures.*

**Activa Branchton - Dundas Lands Environmental Impact  
Statement, Cambridge, Ontario (Ecologist, Task  
Manager)**

*Compiled three seasons worth of field data, including information on flora and fauna. Reviewed field data in conjunction with the preliminary design plan in order to recommend changes to elements of the plan to reflect consideration for the surrounding natural environment. Identified potential environmental effects related to the final design plan and recommend mitigation measures in the final Environmental Impact Statement.*

**Dallan Lands Environmental Impact Assessment, Guelph,  
Ontario (Ecologist, Project Manager)**

*Upon receipt of a preliminary design plan, a Terms of Reference was prepared and submitted to the City of Guelph Environmental Advisory Committee outlining the proposed approach for a complete Environmental Assessment for the proposed development. Three-season field inventories related to flora and fauna were performed, and wetland boundaries were evaluated in co-operation with the Grand River Conservation Authority. Review of potential impacts was undertaken and presented in an Environmental Impact Statement.*

**Victoria South Golf Course Environmental Constraints  
Analysis and Impact Statement, Guelph, Ontario  
(Ecologist, Project Manager)**

*Completed a natural heritage review of the subject lands, and inventoried the site using Ecological Land Classification, as well as collecting data on flora and fauna. Completed an Environmental Constraints Analysis to present the findings of both the review and field inventories for consideration during preliminary site design for a recreational golf facility. Upon receipt of the preliminary design plan, a Terms of Reference was prepared and submitted to the City of Guelph Environmental Advisory Committee outlining the proposed approach for a complete Environmental Assessment for the proposed development. Review of potential impacts was undertaken and presented in an Environmental Impact Statement.*

# Gwendolyn A. Weeks B.Sc. (Env)

## Environmental Scientist

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### Castleberg EIS, Caledon, Ontario (Project Manager)

*Undertook a natural heritage review of a lot for residential development, and authored an Environmental Impact Statement based on the Toronto and Region Conservation Authority's guidelines, including recommendations for mitigation of impacts.*

### Aurora Compliance Letter, Aurora, Ontario (Project Manager)

*Responsible for client contact and project coordination. Performed ELC and a full natural heritage review on a residential lot in order to demonstrate that a proposed development was in compliance with existing land use designations and the Oak Ridges Moraine Conservation Plan. Deliverables included mapping of natural heritage resources and associated regulation boundaries, as well as a letter of compliance.*

### Simmonds Checklist EIS, Grimsby, Ontario (Ecologist)

*Performed a natural heritage review of an existing lot for development potential. Reporting was in the form of an Environmental Impact Statement Checklist, as required by the Region of Niagara.*

### **Natural Sciences & Heritage Resources**

#### Century Acquisitions Ltd. Environmental Constraints Analysis, Markham, Ontario (Ecologist, Project Manager)

*An investigation of the subject lands was undertaken in the field and through review of published materials to identify environmental constraints to development. Information on flora, vegetation communities, wildlife and wildlife habitat, as well as environmental functions of the site was recorded. The subject lands were located within both the Greenbelt and Rouge North Management Plan Areas and, as such, discussions on the relevant policies were included in the final report.*

### Dean Golf Facility Natural Heritage Review, Whitchurch-Stouffville, Ontario (Ecologist, Project Manager)

*The subject lands were reviewed to identify existing natural heritage features, including flora, vegetation communities, fauna, wildlife habitat, and environmental functions. The proposed land use was reviewed, and potential environmental impacts to the subject lands were identified. The subject lands were located within the Greenbelt, and so additional discussions related to Greenbelt policy compliance were also undertaken as part of the Natural Heritage Review.*

### Buffalo Springs EIS Update and Homeowners' Manual, Oro-Medonte, Ontario (Ecologist & Project Manager)

*Designed and undertook fieldwork in order to update an out-dated Environmental Impact Assessment for a large residential development in Oro-Medonte in order to clear Ontario Municipal Board conditions for the project. Authoring of the updated EIS as well as an Environmental Stewardship Guide for new homeowners, which aimed to acquaint residents with their natural surroundings and educate them as to how to protect those areas through their daily actions. Liaised with the Ministry of Natural Resources and local Conservation Authority throughout this project.*

### Activa Waterloo West Side Lands, Waterloo, Ontario (Ecologist)

*Pre-construction monitoring on the subject lands was initiated in 1999 and continued during pre-construction years, with the intention of providing baseline environmental information prior to area grading and construction. This program addressed the City of Waterloo's development monitoring requirements, implemented for Laurel Creek and other watercourses within the City.*

*The scope of work for the terrestrial monitoring included photographic and descriptive inventories of 22 stations on the subject lands. Terrestrial monitoring was conducted once per year with results analyzed, catalogued and compared with previous observations where applicable.*

**Kingsbridge II Wind Project - Natural Heritage Component, Goderich, Ontario (Ecologist)**

*Undertook a review of natural heritage features within the study area for the Kingsbridge II Wind Project near Goderich, Ontario. Various agencies were contacted to obtain information on significant natural features within the study area. This information, along with data collected in the field, was presented in a Technical Appendix that formed part of the larger Environmental Screening Report for this project.*

**Melancthon II Wind Project - Natural Heritage Component, Shelburne, Ontario (Ecologist)**

*Completed a review of the natural heritage features within the study area for the Melancthon II Wind Project for Canadian Hydro Developers Inc. Work included contact and discussion with various agencies to obtain information on significant natural features. Also, field reconnaissance was undertaken within the study area to apply Ecological Land Classification for Southern Ontario. Prepared a Technical Appendix on the Natural Heritage features of the study area, to support the Environmental Screening Report for this project.*

**Richmond Hill Subdivisions Monitoring, Richmond Hill, Ontario (Project Manager)**

*Collected data and samples for a monitoring program. Tasks include dealing with an analytical laboratory, following protocol, using technical equipment, flora identification. Both terrestrial and aquatic monitoring tasks were performed. Compiled reports that presented and analysed the monitoring data for 2004, 2005 and 2006 monitoring years.*

**Stream Assessment and Rehabilitation Strategy, Beaver Valley, Ontario\* (Project Co-Manager, Ecologist)**

*Designed a study to determine the relative physical, chemical and biological health of a degraded reach of the Beaver River, in relation to the undisturbed upper reaches. Based on this comparison, a rehabilitation strategy was designed for the subject reach. The report was presented to the landowner, Trout Unlimited and the Grey-Sauble Conservation Authority.*

**Nature Counts, Hamilton, Ontario\* (Ecological Land Classification Technician)**

*Performed ELC within the City of Hamilton's boundary, from Ancaster to Puslinch. Designated Areas of Natural and Scientific Interest (ANSI) were inventoried for flora, fauna and disturbance level, and classified using ELC. Other tasks included air photo interpretation, field navigation and leadership.*

**Transportation Planning**

**Highway 69 Site Selection of Highway Maintenance Patrol Yards - MTO, Parry Sound to Sudbury (Terrestrial Ecologist)**

*This study was undertaken in order to assess a number of alternative locations for patrol yards within the study area, and to identify preferred alternatives at three locations. Performed Ecological Land Classification within each identified patrol yard alternative. Identification of flora and fauna, and habitat description. The study area contained significant features including Provincially Significant Wetlands, habitat for significant species, and variety of habitats. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

\* denotes projects completed with other firms

**Highway 11 at the South Entrance of Powassan - MTO  
(Terrestrial Ecologist)**

*This study was carried out to update a Preliminary Design Report that recommended interchange locations for this stretch of Highway 11.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area contained significant features, a variety of habitats, and cultural communities. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

**Veuve River Bridge and Amable du Fond River Bridges  
in Sudbury and North Bay - MTO, Multiple Sites,  
Ontario (Terrestrial Ecologist)**

*This study was carried out as part of the preliminary design for improvements to these two bridges located on Highways 535 and 630, respectively. Terrestrial investigations characterized vegetation communities in the vicinity of each bridge according to Ecological Land Classification (ELC) for southern Ontario, and the Forest Ecosystems of Central Ontario. Observations of ecological linkages, wildlife and wildlife habitats were also made. Fieldwork and reporting were undertaken according to MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages. Fieldwork and reporting were undertaken according to MTO regulations and guidelines.*

**Highway 6 (Hanlon Expressway) Improvements from  
South of Maltby Road to the Speed River - MTO,  
Guelph, Ontario (Terrestrial Ecologist)**

*This study was undertaken as part of the Planning, and Preliminary Design phase of the proposed improvements. Field investigations focused on characterizing vegetation communities in the study area using Ecological Land Classification (ELC) for southern Ontario. Other observations of ecological linkages, wildlife and wildlife habitat were also made. The study area contained significant natural features, including provincially significant wetlands and known occurrences of rare species.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages. Fieldwork and reporting were undertaken according to MTO regulations and guidelines.*

**Highway 17 at the West Junction of Municipal Road 55  
- MTO, Sudbury, Ontario (Terrestrial Ecologist)**

*The purpose of this study was to identify the location and configuration for a new interchange to provide access to the west junction of Sudbury Municipal Road 55 from Highway 17. This work also included the planning for the future four-lane alignment of Highway 17, and the preliminary design of an interim two-lane Highway 17.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area contained a wide range of upland forest habitats, wetlands, an agricultural reserve, and cultural communities. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

**Highway 17 Southwest By-Pass - MTO, Sudbury, Ontario (Terrestrial Ecologist)**

*The purpose of this study was to identify a four-lane highway plan for this section of Highway 17, through the Sudbury area, with access restricted to interchange locations only.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area contained a variety of upland and wetland habitats, including Areas of Natural and Scientific Interest. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

**Future Highway 11/17 - MTO, North Bay, Ontario (Terrestrial Ecologist)**

*This study was carried out to update previous studies that have been undertaken since the early 1960s to investigate ways to increase safety and efficiency on Highway 11/17 through the North Bay area.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area contained significant features including Provincially Significant Wetlands, a variety of upland habitats, and cultural communities. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

**Aquatic and Terrestrial Biology Retainer Services, Southern Ontario (Ecologist)**

*Provided terrestrial biology support for Natural Sciences work associated with ten proposed culvert repair projects, located throughout the Southwestern Region. The purpose of the assignment was to document the existing aquatic ecological features and to provide an assessment of migratory bird use in the vicinity of each culvert. Agency and field data were then considered in terms of the proposed culvert repairs, and recommendations for appropriate environmental protection measures were provided.*

**Highway 23 Widening - MTO, Palmerston to Harriston, Ontario (Terrestrial Ecologist)**

*The purpose of this project was to identify any improvements necessary to ensure that Highway 23, between Palmerston and the West limits of Harriston, met expected operational needs and standards.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area consisted mainly of agricultural land with remnant upland deciduous forest. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

**Gwendolyn A. Weeks** B.Sc. (Env)  
Environmental Scientist

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**Highway 26 Widening - MTO, Thornbury to Meaford,  
Ontario (Terrestrial Ecologist)**

*Retained by the Ministry to assess possible design alternatives and develop the preliminary design for recommended improvements to Highway 26 in the study area. The project included the review and assessment of pavement condition, drainage, intersections, entrances, illumination, and highway alignment.*

*Performed Ecological Land Classification along the study corridor. Identification of flora and fauna, and habitat description. The study area contained Areas of Natural and Scientific Interest, prominent valleys, cliff features, and high-quality fruit-crop lands. Fieldwork and reporting conducted in accordance with MTO regulations and guidelines.*

*Concurrent with the submission of the Fisheries and Aquatic Ecosystems Report, a Terrestrial Ecosystems Report was submitted to characterize existing conditions, and to address predicted impacts and required mitigation to on-site vegetation communities, terrestrial wildlife and their habitats, and adjacent ecological linkages.*

James completed his Bachelor of Environmental Studies at the University of Waterloo, with a focus on applied ecology and environmental policy. He has successfully completed numerous certificate workshops related to ecological assessments and is a designated health assessor of Endangered butternut trees, issued by the Ontario Ministry of Natural Resources.

James has acquired a variety of terrestrial and aquatic field skills, including Ecological Land Classification (ELC), botanical inventories, winter wildlife surveys, herptofauna identification (egg mass / call / specimen), bat monitoring, spawning surveys, and is certified as a Class 2 Electro-fishing Backpack Crew Leader. James specializes in vegetation assessments, particularly plant identification, ELC, wetland delineation, and vegetation monitoring. Additionally, he has gained experience writing natural heritage components of Environmental Impact Studies, Environmental Assessments, and Natural Environment Technical Reports.

James provides expertise in a variety of sectors, including aggregate extraction, energy, urban lands development, and highway infrastructure. He has led or assisted in project tasks pertaining to forest restoration, ecological monitoring, and field research of rare species, among others.

## EDUCATION

Certificate, Ontario Wetland Evaluation System, North Bay, Ontario, 2009

Certificate, Ecological Monitoring and Assessment Network, Turkey Point, Ontario, 2008

Certificate, Ecological Land Classification for Southern Ontario, Kingston, Ontario, 2007

Certificate, Butternut Health Assessment, Burlington, Ontario, 2009

B.E.S., University of Waterloo / Environmental Studies / Geography, Waterloo, Ontario, 2006

## PROFESSIONAL ASSOCIATIONS

Member, Botanical Society of America

Member, Field Botanists of Ontario

## PROJECT EXPERIENCE

### Aggregate Services

Proposed Quarry, Flamborough, Ontario (Ecologist)

*Aquatic surveys included stream flow discharge and uploading of data loggers. Terrestrial surveys included winter wildlife surveys and health assessments of over 100 butternut trees using current OMNR guidelines.*

Acton Quarry Environmental Review, Acton, Ontario (Terrestrial Ecologist)

*Assist with extensive amphibian surveys to identify significant wildlife habitat, species composition, and presence or absence of pure Jefferson salamander specimens. Surveys included call-counts, egg mass surveys, pit and aquatic trapping, and tail clippings of potential Jefferson species (in conjunction with the OMNR). Surveys were conducted over a two year period.*

### Environmental Mitigation and Monitoring

Various Urban Lands Projects, Waterloo and Oakville, Ontario (Terrestrial Ecologist)

*Assist with monitoring vegetation communities using guidelines outlined in the Ecological Monitoring and Assessment Network and the local Conservation Authority. Field surveys consisted of identifying vascular plants growing within pre-determined plots and determining their respective cover. Data analysis included assessment of frequency, dominance, and importance value.*

\* denotes projects completed with other firms

### **Environmental Site Remediation**

Georgia Pacific PCB Remediation, Thorold, Ontario  
(Terrestrial Ecologist)

*Ecological Land Classification; mapping and evaluation of species at risk (Butternut); develop vegetation monitoring plots to determine density, frequency, dominance, and importance value; data synthesis, and technical memorandum.*

### **Linear Infrastructure**

Victoria Road North Class EA, Guelph, Ontario  
(Terrestrial Ecologist)

*Assist with Project Management of a proposed road widening, including background data review of applicable legislation and guidelines; conduct or delegate appropriate field surveys; agency consultation; prepare a draft Natural Environment Technical Report.*

Various Road and Highway Improvement Projects,  
Ontario (Terrestrial Ecologist)

*Produced Natural Sciences reports related to highway improvement works. Potential impacts to terrestrial vegetation, wetlands and wildlife were described for the following studies, among others:*

- Highway 11 (Huntsville): Preliminary Design Study;*
- Highway 3 (Jarvis): Detailed Design Study;*
- Highway 401 (Kitchener): Preliminary and Detailed Design Study;*
- Highway 11 (Powassan): Preliminary Design Study*

### **Oil & Gas**

Union Gas Lobo Compressor Station Expansion,  
Strathroy, Ontario (Terrestrial Ecologist)

*Assist with Project Management of a proposed compressor station expansion, including proposal and budget; conduct/delegate appropriate field surveys; background data review of Official Plan, Significant Wildlife Habitat Technical Guide, Ontario Provincial Policy Statement, etc.; agency consultation; prepare draft and final EIS report.*

### **Power Transmission & Distribution**

Bruce to Milton Transmission Project, Milton, Ontario  
(Terrestrial Ecologist)

*180 km linear study area of proposed hydro transmission lines from Bruce Nuclear to Milton, Ontario. Assisted with ELC, butternut health assessments, flora inventories, and winter wildlife surveys.*

### **Renewable Energy**

Island Falls Energy Project, Smooth Rock Falls, Ontario  
(Terrestrial Ecologist)

*Field work component of a proposed hydroelectric dam in Northern Ontario. Assist with ELC, botanical inventory, and soils surveys in remote areas.*

Kingsbridge II, Melancthon, Ostrander, Parkhill and  
Plateau Wind Energy Project, various municipalities,  
Ontario (Terrestrial Ecologist)

*Assist with installation, troubleshooting, and data retrieval of Anabat SD1 monitoring devices from various study areas. Received training for data interpretation and isolation of bat calls based on digital graph patterns. Additionally, post-construction surveys of avian mortality under active wind turbines were completed at Kingsbridge II and Melancthon sites.*

### **Research / Laboratories**

Duntroon License Expansion, Duntroon, Ontario  
(Terrestrial Ecologist)

*Design and conduct a multiple year research program to assess the habitat characteristics of American hart's-tongue fern, a federal and provincial Special Concern species. Research examined soil (temperature, moisture, nutrient composition), ambient air (temperature, humidity, and dewpoint temperature), tree canopy cover, associate species, and snow depth. The purpose was to create a model to determine suitability of habitat to support populations of hart's-tongue fern. A preliminary transplant of 500 ferns was conducted where post-transplant monitoring studies are ongoing.*

James Leslie B.E.S.  
Terrestrial Ecologist

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**Terrestrial Assessments**

Master Service Plan, Cayuga and Jarvis, Ontario  
(Terrestrial Ecologist)

*Develop ELC mapping of the towns of Jarvis and Cayuga. The purpose was to collect background data for Master Service Plan revisions. Data interpretation included ecological constraints analyses and authoring a technical memorandum.*

Jill is an environmental biologist and project manager with 8 years of experience in environmental consulting. She has a background in invertebrate biology and environmental toxicology with experience in a range of environmental, toxicological and health and safety services, and has worked for a variety of industry sectors, including mining, pulp & paper, aggregates, energy, urban land and development. Jill has successfully managed both ecotoxicity studies and terrestrial studies and, through understanding planning regulations and policies in a natural heritage context, has experience with various environmental impact statements, constraints analyses, and natural heritage components of Environmental Assessments.

Jill offers valuable experience in wildlife identification, inventory and handling, as well as habitat assessment and both agency and client liaison. She has extensive public speaking experience and has disseminated project results at conferences, in addition to teaching various workshops and seminars.

Jill has a thorough knowledge of aquatic and terrestrial ecotoxicology and, when serving as the terrestrial ecotoxicology lab manager, she managed, designed and conducted ecotoxicological assessments, and is quite familiar with many statistical methods and use of software analyses and writing SOPs.

## EDUCATION

B.Sc., Zoology, Specialized Honours, University of Guelph, Guelph, Ontario, 1995

WHMIS Instructor, Cambridge, Ontario, 2003

Joint Health and Safety Level 1 Certification, OSG / Cambridge, Ontario, 2003

Joint Health and Safety Level 2 Certification, OSG / Cambridge, Ontario, 2005

First Aid Instructor, Toronto, Ontario, 2006

CPR Instructor, Toronto, Ontario, 2006

## PROJECT EXPERIENCE

### Ecotoxicity

Toxicity Testing - Aquatic Vertebrates (Rainbow trout, Bluegill Sunfish, Fathead minnow) (Environmental Toxicologist)

Toxicity Testing - Terrestrial Invertebrates (*Lumbricus*, *Eisenia fetida/andrei* & *Collembola*) (Environmental Toxicologist)

Ecotoxicity Evaluation of Three Decontamination Agents, Guelph, Ontario (Environmental Toxicologist)

*Conducted an ecotoxicity assessment (plant and invertebrates), with new potential military decontamination agents to estimate risk to terrestrial receptors. The terrestrial toxicity testing was conducted by amending standardized clean soil with individual substances.*

Sudbury Area Risk Assessment of Metal-contaminated Soils,, Various Sites, Ontario (Environmental Toxicologist)

*Conducted ecotoxicity assessments of metal-contaminated boreal forest soils collected along a concentration gradient of metals, down-wind from smelting operations in Sudbury, Ontario. Bioassays were conducted with earthworms and plants. Soil testing with and without pH adjustment in order to delineate the contribution of low soil pH to metal bioavailability and toxicity to soil organisms. Data were used as one line of evidence of an area-wide ecological risk assessment.*

**Ecotoxicity Evaluation of Metal-contaminated Soils in Support of ER, Various Sites, Quebec (Environmental Toxicologist)**

*Conducted an ecotoxicity assessment of 40 surface and subsurface soils collected near a decommissioned smelting operation in Quebec. Bioassays were conducted with earthworms, collembola and four different species of plants. Bioaccumulation of metals in the plant test species was also determined. Toxicity and bioaccumulation data from this site-soil assessment were used in support of a site-specific ecological risk assessment.*

**Hudson Bay Mining and Smelting, Cycles III EEM Studies, Flin Flon, Manitoba (Terrestrial Biologist)**

*Aided in the Metal Mining Environmental Effects Monitoring (MTEM) program by performing fish inventories and habitat surveys, as well as plume delineation. This complex site contained five discharges and HBMS was one of the first mines in Canada to complete an EEM study.*

**TransCanada Pipeline (TCPL) Station 110 Sediment Sampling Program, Ramore, Ontario (Terrestrial Biologist)**

*Sediment samples were collected from Little Wildgoose Creek and its tributary to determine PCB, PHC, BTEX, dioxan and furan concentrations, and to compare the tributary influence on the creek.*

**TransCanada Pipeline (TCPL) Station 105 Sediment Sampling Program, Haileybury, Ontario (Terrestrial Biologist)**

*Sediment and soil samples were collected to delineate historical contamination zones in drainage ditches and the nearby Wabi Creek. Samples were analyzed for PCB, PHC, BTEX and metal concentrations. Background soil samples were obtained to determine anthropogenic influence and background levels.*

**Effects of PHC Contamination in Site and Laboratory Spiked Soils, Guelph, Ontario (Project Manager)**

*Determined the effects of PHC F3 on growth and reproduction of three plant and two invertebrate species, from site soils collected from northwest Calgary, as well as on soils that were spiked in the lab to generate specific concentration gradients.*

**Toxicity Testing - Aquatic Invertebrates (Ciriodaphnia dubia, Daphnia magna) (Environmental Toxicologist)**

**Toxicity Testing - Axenic Aquatic Plants (Selenastrum, Anabaena, Navicula, Skeletonema & Lemna) (Environmental Toxicologist)**

**Toxicity Testing - Terrestrial Plants (monocots and dicots) under GLP Protocols (Environmental Toxicologist)**

**Environmental Inspection / Post Construction Monitoring**

**Site Monitoring of Road Expansions and Development, Guelph, Ontario (Project Manager)**

*Site monitoring of Clair Road expansion in the City of Guelph.*

**Site Monitoring of Retail Development, Guelph, Ontario (Project Manager)**

*Ongoing site monitoring of retail development involved preparation, coordination and conducting of post-construction monitoring program of wetland vegetation, wildlife and water quality, following development of the Walmart site, adjacent to a locally significant wetland in the City of Guelph.*

**Site Monitoring of Housing Development, Guelph, Ontario (Project Manager)**

*Ongoing site monitoring of various housing developments in the City of Guelph*

**Environmental Sciences**

**14 Mile Creek Natural Heritage Monitoring Program, Ontario (Terrestrial Biologist)**

*Tree plot and transect surveys, as well vegetation inventory.*

**Winter Wildlife Monitoring - Various Projects Throughout Southern Ontario, Ontario (Terrestrial Biologist)**

*Responsible for coordinating and undertaking surveys on wildlife species that are active in the winter. Skill indirect animal observation, identifying animals tracks, feeding evidence, scat, and den/nesting sites. Use of standardized government protocols for collection and monitoring, as well as report of findings.*

**Amphibian Breeding and Habitat in Ontario, Technical Appendix, Guelph, Ontario (Terrestrial Biologist)**

*Literature review and compilation of data to create an appendix for amphibian breeding and habitat preferences in Ontario to augment wildlife monitoring programs and aid in technical reports.*

**Pincombe Drain - Natural Heritage Component - Conceptual Storm Drainage and Stormwater Management Master Drainage Plan, London, Ontario (Terrestrial Biologist)**

*Completed a review of the Dingman Creek Subwatershed Study (UTRCA) and Natural Heritage Study (Earth Tech) to determine the natural heritage features within the study area through the preparation of a Natural Heritage Review in support of a development plan for the protection, enhancement and restoration of the environmental features of the Pincombe Drain tributary area, as land use changes occur.*

**Constraints and Opportunities Reports, Various Sites, Ontario (Terrestrial Biologist)**

*Identified potential environmental constraints to development on the natural heritage features. A development footprint was determined through reviewing the background literature and agency liaison. C&O experience includes:*

- Summit Estates Residential Subdivision, Woodstock, Ontario
- Winzen Residential Developments on Myers Road, Cambridge, Ontario
- Cambridge Commercial Development (97 & Franklin), Cambridge, Ontario
- London Psychiatric Site (in support of an Official Plan and Zoning By-Law Amendment required for a Land Use Planning Application), London, Ontario
- Komoka - Kilworth Residential Subdivision, Middlesex County, Ontario
- Walton - Chippewa Land Development, Niagara Falls, Ontario

**Environmental Assessments for Land Development, Various Sites, Ontario (Terrestrial Biologist)**

*Characterize the natural environment and identify the potential impacts from development on natural heritage features, and identify mitigation measures, evaluate alternatives for various projects. EA experience includes:*

- Victoria Park Lake Improvements Class Environmental Assessment in support of improvements to Victoria Park Lake, Kitchener, Ontario
- Rosedale Channel Stabilization Natural Environment Report as part of the Class Environmental Assessment, Brantford, Ontario

**Environmental Impact Studies for Land Development, Various Sites, Ontario (Terrestrial Biologist)**

*Conducted wildlife species inventories, reviewed background records and collected agency data. Provided information on the existing natural environment whereby potential environmental impacts on natural heritage features from land development proposals was identified and assessed. Prepared compensation and management plans for species at risk, and determined mitigation solutions and buffer zone recommendations. EIS experience includes:*

- *Bostwick West Community Plan Natural Environment Report in support of the proposed Bostwick West Area Plan, London, Ontario*
- *Trelane – 6th Line Milton Natural Environment Report to refine the limits of the Natural Heritage System components of the Protected Countryside that have been identified on the property, Milton, Ontario*
- *Summit Estates Residential Subdivision EIS, Woodstock, Ontario*
- *Sunninglea Scoped EIS in support of a medium and high density development, London, Ontario*
- *Activa Weiss Residential Subdivision EIS, Kitchener, Ontario*
- *200 West Main Street Scoped EIS in support of an application for re-designation from Open Space to Residential, Welland, Ontario*
- *Winzen Residential Developments on Myers Road, Cambridge, Ontario*

**MTO Highway 11 Expansion, Matheson, Ontario (Terrestrial Biologist)**

*Terrestrial and aquatic habitat characterization along the Highway 11 corridor, north of Matheson, ON.*

**Wilmot Generator Station - Natural Heritage Component, Kitchener, Ontario (Terrestrial Biologist)**

*Completed a review of the natural heritage features within the study area. Work included consultation with various agencies to obtain information pertaining to significant natural features. Preparation of a technical appendix regarding natural heritage features of the study area to support the re-application of the environmental screening report for this project.*

**St. Marys Proposed Flamborough Quarry Environmental Impact Study, Flamborough, Ontario (Terrestrial Biologist)**

*Coordination of technical appendices in support of an EIS report for the proposed quarry site.*

**Amphibian Monitoring - Various Projects Throughout Southern Ontario, Ontario (Terrestrial Biologist)**

*Responsible for coordinating and undertaking amphibian monitoring for various projects. Skill in amphibian identification through direct observation and call-counts. Use of standardized government protocols for collection and monitoring, as well as report of findings.*

**Dufferin Aggregates Acton Quarry Expansion Environmental Impact Assessment, Acton, Ontario (Terrestrial Biologist)**

*Performed amphibian surveys and assisted with fisheries and benthic surveys. Background research involved consulting with various agencies to obtain historical records, mapping and jurisdictional boundaries, along with local EIS reports and mapping information (including NRVIS mapping). Work schedule table revisions and revisions to draft report appendices were completed.*

**Level II Natural Environment Technical Report for Proposed Aggregate Application in West Montrose, Waterloo, Ontario (Terrestrial Biologist)**

*Performed amphibian, winter wildlife, fisheries and benthic surveys. Background research consisted of consulting with various agencies (including GRCA and OMNR) to obtain historical records of natural sciences and heritage resources, including NRVIS mapping databases. Compiled results with technical data collected in the field, which were presented as a Technical Appendix that formed part of the larger environmental screening report for this project. Authored first draft of Level II Natural Environment Technical Report.*

### **Power**

#### Hydro One, Milton, Ontario (Terrestrial Biologist)

*Coordinated field investigations with land access in support of the development of a high voltage transmission line from Kincaidne to Milton. Designed and implemented a database whereby land owners were notified of upcoming field activities, field crews were informed of land restrictions, and all events were tracked.*

#### Gilead Wind Power Project, Picton, Ontario (Terrestrial Biologist)

*Conducted winter wildlife, raptor (including owl) surveys.*

#### Wolfe Island Wind Power Project, Kingston, Ontario (Terrestrial Biologist)

*Conducted evening bat surveys.*

#### Melancthon EcoPower Centre Project, Grey County, Ontario (Terrestrial Biologist)

*Developed a bird count spreadsheet to tabulate the species per hectare for a wind turbine development of a 4000 ha property.*

### **Research / Laboratories**

Designing and Examining Relationships Between Behaviour, Habitat & Morphology on Snails, Littorinids\* (Research Student)

Nest Checks for Common Tern & Caspian Tern Sites\* (Field Assistant)

Trapped & Banded Herring Gulls, *Larus argentatus*\* (Field Assistant)

Shannon completed her undergraduate degree with honours in Sociology and Biology and her Masters degree in Botany at the University of Guelph. Her M.Sc. focused on quarry rehabilitation using alvar ecosystems as a restoration target.

Shannon is certified in Ontario Ministry of Natural Resources Ecological Land Classification (ELC) and in Ontario Wetland Evaluation Systems, adding to her experience in habitat assessments, vegetation surveys, vegetation and soil sampling, vascular plant identification and statistical analysis. Shannon possesses strong skills in public relations with both the public and private sectors: she has presented her research at both national and international conferences; she has been a Teaching Assistant for several University of Guelph courses including Biology, Ecology and Plants in the Ontario Landscape; and she has presented project-related results at various workshops and seminars for governing agencies and local interest groups regarding a large scale environmental assessment.

Shannon also is a published author for various publications including an article in the journal Applied Vegetation Science.

## EDUCATION

B.A., B.Sc., University of Guelph / Sociology and Biology (Hons), Guelph, Ontario, 2003

M.Sc., University of Guelph / Botany, Guelph, Ontario, 2006

Certificate, Ontario Ministry of Natural Resources Ecological Land Classification for Southern Ontario (ELC), Turkey Point, Ontario, 2006

Certificate, Ontario Ministry of Natural Resources Ontario Wetland Evaluation Systems (OWES) Training Course, North Bay, Ontario, 2008

## PROJECT EXPERIENCE

### Environmental Assessments

Bruce to Milton Transmission Reinforcement Project Environmental Assessment Report, Southern Ontario (Lead Terrestrial Ecologist)

*The field component included four seasons of data including ELC of all vegetation communities in a 180 km long study area, three-season flora inventory, winter wildlife, significant wildlife habitat assessment and incidental wildlife. Researched and wrote the Terrestrial Appendix and terrestrial component of the EA. Worked with agencies and client to achieve appropriate mitigation measures, including helping implement a biodiversity initiative.*

### Natural Sciences & Heritage Resources

Nature Counts Natural Areas Inventory, Hamilton Conservation Authority\* (Ecological Land Classification Coordinator)

*Provided the Hamilton Conservation Authority and the City of Hamilton with current vegetation inventories and identified and classified Areas of Natural and Scientific Interest (ANSI) using Ecological Land Classification (ELC). Other tasks included habitat mapping, air photo interpretation, orienteering, GPS, ground truthing, mineral and organic soil description and identification and soil moisture regimes and drainage.*

\* denotes projects completed with other firms

Shannon D. Catton M.Sc.  
Terrestrial Ecologist / Project Manager

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**Research / Laboratories**

Biophysical Comparisons of Quarry Floors and Alvars of Southern Ontario, University of Guelph\* (Researcher and Technician)

*Examined the ecological similarities and differences of abandoned limestone quarry floors and alvars to determine whether alvar habitat could be a potential restoration target for abandoned limestone quarry floors. Developed sampling designs, identified lichens, mosses and vascular plants and performed statistical analyses on descriptive and multi-variate data.*

\* denotes projects completed with other firms

## PUBLICATIONS

Tomlinson, S., U. Matthes, P.J. Richardson, D.W. Larson.  
The ecological equivalence of quarry floors to alvars.  
*Applied Vegetation Science* 11:73-82, 2008.

A comparison of the biophysical characteristics and seed banks of abandoned limestone quarry floors in southern Ontario and alvars. *M.Sc. Thesis, Department of Biology, University of Guelph, Ontario, 2006.*

A comparative analysis of the seed bank, vegetation and environmental conditions of abandoned limestone quarry floors of southern Ontario and alvars on the Bruce Peninsula, Canada. *Presentation to the World Conference on Ecological Restoration by the Society of Ecological Restoration (SER), Spain, 2005.*

Biological and physical comparisons of quarry floors and alvars. *Presentation to the Aggregate Producers' Association of Ontario Pit and Quarry Restoration Workshop, Hamilton, Ontario, 2005.*

The quarry-to-alvar initiative: progress report. *The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2004.*

A comparative analysis of the seed bank, vegetation and environmental characteristics of abandoned limestone quarry floors of southern Ontario and alvars on the Bruce Peninsula. *Presentation to the Ontario Ecology and Ethology Colloquium (OEEC), Mississauga, Ontario, 2004.*

Using alvars as a reference ecosystem to restore abandoned limestone quarries. *Presentation at the A.D. Latornell Conservation Symposium, Alliston, Ontario, 2004.*

The quarry-to-alvar initiative: progress report. *The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2003.*

The quarry-to-alvar initiative: restoring value to abandoned quarries. *The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2002.*

# Robert Stamp

Ornithologist



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Bob joined Stantec in 2004 as an avian ecologist. He has been birding for more than 50 years and has compiled an extensive life list. At Stantec, Bob is responsible for carrying out seasonal bird and wildlife field surveys throughout Ontario, including pre and post construction monitoring at wind farms across the province. Bob also has extensive experience conducting bird surveys for development and aggregate projects.

## EDUCATION

Bachelor of Science, Honors, McMaster University,  
Biology, Hamilton, Ontario.

## PROFESSIONAL MEMBERSHIPS

Ontario Field Ornithologists, Member

Hamilton Naturalists Club, Member

## PROJECT EXPERIENCE

Port Alma Wind Project, Municipality of Chatham-Kent,  
Ontario (Ornithologist)

*Pre and post construction bird surveys.*

Melancthon Wind Project, Dufferin County, Ontario  
(Ornithologist)

*breeding bird surveys and post construction monitoring*

Wolfe Island Wind Project, Wolfe Island, Ontario  
(Ornithologist)

*Pre and post construction breeding, migratory and wintering  
birds.*

Port Dover and Nanticoke Wind Project, Ontario  
(Ornithologist)

*Pre and post construction bird surveys.*

\* denotes projects completed with other firms