

Appendix D. Staff Summaries

Name: Andrew Taylor, BSc

Company or organization: Stantec Consulting Ltd.

Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Phone: (519) 836-6050 **Fax:** (519) 836-2493

Email: andrew.taylor@stantec.com

Andrew Taylor 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. He is familiar with various Acts and their application to projects, including the Migratory Birds Convention Act, Endangered Species Act, Species at Risk Act and others. 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.

Andrew was the Senior Advisor for this Natural Heritage Assessment.

Name: Katherine St. James, BSc, MSc

Company or organization: Stantec Consulting Ltd.

Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Phone: (519) 836-6050 **Fax:** (519) 836-2493

Email: Katherine.St.James@stantec.com

Katherine St. James is a Terrestrial Ecologist certified in Ecological Land Classification (ELC) with several years' experience in ecological field surveys, specializing in herpetofauna and bird surveys. She has been employed in both the public and private sectors and has experience working on a range of projects such as species at-risk, wind development and monitoring, wetland restoration, wildlife hazard management, environmental impact studies, and various other development projects. She specializes in environmental sciences, ecology, and bio-geographical studies, and completed her master's research on potential barrier effects on salamander populations. During her master's research and consulting experience, Katherine has routinely conducted ecological assessments and collected field information on vegetation, birds, amphibians, and other wildlife species throughout Ontario.

Katherine assisted with the preparation of this report.

Name: David L. Charlton, M.Sc., P.Ag., LEED® AP
Company or organization: Stantec Consulting Ltd.
Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5
Phone: (519) 836-6050 **Fax:** (519) 836-2493
Email: david.charlton@stantec.com

David Charlton is a LEED® Accredited Professional, who has been contributing to sustainable resource management practices since 1982. He has developed a practical approach to impact assessment and conflict resolution through his central role in a number of Environmental Assessments and watershed management plans dealing with the protection, restoration and management of a range of ecosystems.

David has written more than 200 impact assessments, and has been cited for his work by the Ontario Provincial Planning Institute and the Ontario Municipal Board, among others. He has provided planning and management services to a range of industrial resource sectors including aggregate, forestry and agriculture. He has conducted pure and applied scientific research for all levels of Canadian government on topics ranging from Species at Risk, wetland management to agricultural land stewardship. He has worked closely with all interests, ranging from development proponents to public interest groups, to solve difficult resource management issues. David has served on several advisory committees, such as the City of Guelph Environmental Advisory Committee, and has appeared as an expert witness in front of Boards and Tribunals including the Ontario Municipal Board, the Consolidated Hearings Board and the Ontario Court of Justice.

David provided senior review this Natural Heritage Assessment report.

Name: Matthew Ross, B.Sc., FWT
Company or organization: Stantec Consulting Ltd. (*former address*)
Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Matthew Ross is a terrestrial ecologist whose skills include bird, mammal, reptile and plant identification. He is adept at conducting wildlife and wildlife habitat surveys, including those that relate to environmental assessment, conservation and species at risk. Matthew is familiar with provincial and federal guidelines, including Ontario Wetland Evaluation System (OWES), Ecological Land Classification (ELC) and Renewable Energy Approvals (REA). He has conducted surveys for a variety of development projects, including renewable energy, aggregate extraction and residential, and has work experience in both the public and private sector. In addition, Matthew recently obtained his Ecological Land Classification certificate.

Matthew carried out ELC work for this project.

Name: Don Graham, M.Sc., B.Ed., B.A
Company or organization: Stantec Consulting Ltd. (*former address*)
Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Don Graham is a Field Biologist with Stantec's Terrestrial Team providing environmental management consultation services to projects across Ontario. Don has a diverse background, having completed his Master of Science in Zoology at the University of Guelph and continued his education obtaining a Teaching Certificate from the University of Western Ontario, as well as the Ontario Wetland Evaluation System (OWES) course offered by the Ministry of Natural Resources. Don has extensive experience conducting terrestrial fieldwork and writing terrestrial components of reports which meet provincial and municipal requirements for Class EA for Transportation Facilities,

Municipal Class EA, Environmental Impact Studies and Natural Heritage Evaluations. Don's experience includes transportation, servicing, residential, industrial and commercial projects. His projects have involved a broad spectrum of field survey types including assessment of breeding birds, amphibians, vegetation communities, vegetation species, reptiles and Species at Risk in a variety of habitats within southern, central, eastern and northern Ontario, using protocols of the Ontario Breeding Bird Atlas, Marsh Monitoring Program and Ecological Land Classification. He is familiar with pertinent policies such as the Natural Heritage policies of the Provincial Policy Statement, Conservation Authority Regulatory Areas, the Endangered Species Act and the Migratory Bird Convention Act, and is experienced at effective regulatory agency liaison.

Don carried out ELC and wildlife inventory work for this project.

Name: Brandon Holden

Company or organization: Stantec Consulting Ltd.

Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Phone: (519) 836-6050 **Fax:** (519) 836-2493

Email: brandon.holden@stantec.com

Brandon Holden is a skilled Terrestrial Ecologist with extensive birding experience in Ontario and Eastern North America since 1997. Having recorded 365 species in Ontario, Brandon has a keen personal interest in finding vagrant bird species. To date, he has found and photographed the first Black-tailed Gull (*Larus crassirostris*) for the province, the first Sooty/Short-tailed Shearwater (*Puffinus* sp.) for the province, and has the second provincial records of both Neotropic Cormorant (*Phalacrocorax brasilianus*) and Black Swift (*Cypseloides niger*). Brandon was voted onto the Ontario Bird Records Committee (OBRC), a significant accomplishment, as this makes him the youngest member in the committee's 30 year history. In 2012 he was elected to the position of Chair with the OBRC. Brandon has personally located and identified specimens of every avian species listed in Ontario as special concern, threatened or endangered by COSSARO and COSEWIC, other than the presumed extinct Eskimo Curlew. Brandon is responsible for conducting seasonal bird and wildlife field surveys throughout Ontario, including programs at remote sites. He is highly familiar with various bird survey protocols, including those for species at risk in Ontario.

Brandon conducted avian surveys for this project.

Name: Kathryn Walpole, Tech. Dip.

Company or organization: Stantec Consulting Ltd. (*former address*)

Address: 70 Southgate Dr. Suite 1, Guelph, ON N1G 4P5

Kathryn Walpole is a Terrestrial Ecologist with training in wildlife sampling, capture and management techniques. She is familiar with flora and fauna identification, data collection, background research, and technical reporting. She has surveyed and sampled flora and fauna using a variety of protocols in various terrains across Ontario and beyond. She has worked with Environmental Monitoring Assessment Network (EMAN), Ecological Land Classification (ELC), and Ontario Wetland Evaluation System (OWES), as well as Bird and Bat Guidelines for Wind Power Projects. Kathryn's formal training is supported with relevant work experience where she has provided technical support for a variety of development and natural heritage preservation projects. She has strong wildlife identification skills and can collect, tabulate, analyze, and interpret ecological information, and identify and classify ecosystem types. She is familiar with legislation concerning natural resource management.

Kathryn conducted wildlife surveys for this project.

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. He is familiar with various Acts and their application to projects, including the *Migratory Birds Convention Act*, *Endangered Species Act*, *Species at Risk Act* and others. 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

Proposed Bromberg Pit, Ayr, Ontario (Terrestrial Ecologist)

Natural environment field inventories with emphasis on Species at Risk (SAR).

Neubauer Pit, Town of Puslinch, Ontario (Terrestrial Ecologist)

Natural environment field inventories with emphasis on Species at Risk (SAR).

Dufferin Aggregates Acton Quarry Extension, Acton, Ontario (Terrestrial Ecologist)

The extension of the existing Acton Quarry is proposed to meet the need for additional close-to-market aggregate resources of high quality Amabel Dolostone. Andrew has conducted extensive ecological field surveys and habitat assessments for breeding birds, amphibians and mammals with specific emphasis on Species at Risk (SAR).

St. Marys Cement 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.

Andrew Taylor B.Sc.

Ecologist

Electrical Power Distribution

Bruce to Milton Transmission Reinforcement Project,
Multiple Sites, Ontario (Terrestrial Ecologist)

Terrestrial surveys related for Species at Risk (SAR) protected under the provincial Endangered Species Act (2007).

Coote's Paradise Transmission Reinforcement Project,
Hamilton, Ontario (Terrestrial Ecologist)

Terrestrial surveys included vegetation community assessments, floral inventory, with emphasis on Species at Risk (SAR).

Natural Sciences & Heritage Resources

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.

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.

Oil & Gas

Bickford to Dawn Pipeline Project, Chatham, Ontario (Terrestrial Ecologist)

Terrestrial surveys included vegetation community assessments, floral inventory and Species at Risk (SAR) habitat assessments. Study design and development in conjunction with local Ontario Ministry of Natural Resources (OMNR) district for Eastern Foxsnake, including a SAR 17b permit application.

Renewable Energy

Environmental Screening Report / Environmental Review Report, Multiple Projects, Various Sites, Ontario (Terrestrial Ecologist)

Environmental Screening Reports (ESR's)/Environmental Review Reports (ERR's) were prepared for various wind energy projects in compliance with the Ministry of the Environment's Guide to Environmental Assessment Requirements for Electricity Projects and the Canadian Environmental Assessment Act (CEAA).

Andrew's involvement included pre-construction study design, coordination and conducting of monitoring for avian and other wildlife species, including targeted surveys for Species at Risk (SAR). Avian studies included breeding grassland and forest birds, wintering raptors and migratory surveys for waterfowl, raptors, passerines and shorebirds. Andrew also conducted and coordinated acoustic bat surveys including data collection, species identification, data analysis and reporting, and co-authoring technical reports as part of the following projects:

- Wolfe Island Wind Project (Wolfe Island, Ontario; 86 turbines);
- Port Alma Wind Power Project (Municipality of Chatham-Kent, Ontario; 44 turbines);
- Plateau Wind Project (Municipality of Grey Highlands & Melancthon Township, Ontario; 18 turbines);
- Kingsbridge II Wind Project (Huron County, Ontario; 69 turbines);
- Gosfield Comber Wind Energy Project (Essex County, Ontario; 149 turbines);
- Chatham Wind Power Project (Municipality of Chatham-Kent, Ontario; 44 turbines); and
- Melancthon Wind Plant, Phases I & II (Melancthon and Amaranth Townships, Ontario; 177 turbines)

* denotes projects completed with other firms

Andrew Taylor B.Sc.

Ecologist

Post-construction Monitoring Programs, Multiple Projects, Various Sites, Ontario (Terrestrial Ecologist)

The post-construction of monitoring of renewable energy projects assess the direct impacts to birds and bats and indirect impacts to breeding, migrating and wintering wildlife. The purpose of post-construction monitoring programs is to verify predictions of the pre-construction assessment and if necessary, implement appropriate measures to mitigate adverse effects. Andrew has coordinated and conducted monitoring field studies including assessment disturbance to grassland, forest and wetland breeding birds, staging waterfowl and shorebirds, tundra swans and wintering raptors and co-authored or authored the post-construction monitoring reports for the following projects:

- Wolfe Island Wind Project (Wolfe Island, Ontario; 86 turbines);
- Melancthon Wind Plant, Phase I & II (Melancthon & Amaranth Townships, Ontario; 177 turbines);
- Kingsbridge I Wind Plant (Huron County, Ontario; 22 turbines); and
- Port Alma Wind Power Project (Municipality of Chatham-Kent, Ontario; 44 turbines);

Renewable Energy Approval (REA), Multiple Projects, Various Sites, Ontario (Terrestrial Ecologist)

Natural Heritage Assessments (NHA's) and Environmental Impact Studies (EIS's) were prepared in accordance with Ontario Regulation 359/09 issued under the Environmental Protection Act with guidance obtained from the Draft Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2010). NHA's included records review and site investigation which included, but not limited to, vascular plant surveys. Ecological Land Classification (ELC) and wildlife surveys for avian species, amphibians, reptiles, mammals and invertebrates. Results of the field investigations were used to identify and evaluate significant natural heritage features including wetlands, woodlands, valleylands and significant wildlife habitat. Outside the REA process, field surveys and habitat assessment were completed for species protected under the provincial Endangered Species Act.

Andrew coordinated and conducted field studies, habitat assessments for Species at Risk (SAR), authored technical reports and public consultation for the following renewable energy projects:

- Grand Renewable Energy Park (Haldimand County, Ontario; 69 turbines and solar totalling 253.1 MW);
- Port Dover and Nanticoke Wind Project (Norfolk and Haldimand Counties, Ontario; 58 turbines);
- Ostrander Wind Energy Park (Prince Edward County, Ontario; 9 turbines);

- Fairview Wind Farm (Simcoe County, Ontario; 4 turbines);
- Whittington Wind Farm (Dufferin County, Ontario; 3 turbines);
- Springwood Wind Farm (Wellington County, Ontario; 4 turbines); and
- Brooke-Alvinston Wind Farm (Lambton County, Ontario; 4 turbines)

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.

Transportation Planning

City of Toronto Fort York Pedestrian Footbridge, Toronto, Ontario (Terrestrial Ecologist)

Coordinated Natural Sciences component of project including assessment of potential impacts, with an emphasis on Species at Risk (SAR).

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 11 (Town of Bracebridge): Preliminary Design;
- Highway 24 (Cambridge): Detailed Design;

* denotes projects completed with other firms

Andrew Taylor B.Sc.

Ecologist

- Highway 8 (Perth County): Detailed Design;
- 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.

Katherine St. James is a Terrestrial Ecologist certified in Ecological Land Classification (ELC) with several years' experience in ecological field surveys, specializing in herpetofauna and bird surveys. She has been employed in both the public and private sectors. Her experience spans on a range of projects such as Species at Risk, wind development and monitoring, wetland restoration, wildlife hazard management, environmental impact studies, and various other development projects.

Katherine has successfully managed both small and large projects, including environmental impact statements (EIS), constraint analyses, and natural heritage assessments for wind, solar, and hydroelectric. She is familiar with various Acts and their application to projects, including the Migratory Birds Convention Act, Endangered Species Act, Species at Risk Act, and others.

EDUCATION

B.Sc. (Hons) of Environmental Science, Minor in Biology,
University of Waterloo, Waterloo, Ontario, 2005

M.Sc. of Geography and Environmental Management,
University of Waterloo, Waterloo, Ontario, 2009

Ontario Provincial Ecological Land Classification (ELC),
Timmins, Ontario, 2012

PROJECT EXPERIENCE

Environmental Assessment

Brantford -Kirkwall Pipeline, Brantford, Ontario
(Terrestrial Lead)

Terrestrial lead managing field investigations, including correspondence with client and agencies. Provided development of methods and field survey protocols.

Sprott Power Wind Project Analysis, Ontario (Ecologist)

Analyzed status and viability of various wind farms available for purchase throughout Ontario

Algonquin Power's Amherst Island Wind Farm, Amherst Island, Ontario (Terrestrial Ecologist)

Produced NHA and EIS reports for a 37-turbine wind farm located on Amherst Island, Ontario.

Suncor's Cedar Point Wind Farm, Forest, Ontario
(Terrestrial Ecologist)

Produced NHA and EIS reports for this 72-turbine wind farm located near Chatham, Ontario.

Cambridge Hydro EIS - Preston 27 kv Feeder,
Cambridge, Ontario (Terrestrial Ecologist)

Managed field work, mapping and produced EIS report for this hydro-line upgrade in Cambridge, Ontario.

Renewable Energy Natural Heritage Assessments*,
Ontario (Project Manager)

Conducted terrestrial evaluations including Ecological Land Classification, wildlife habitat assessments, and Species at Risk evaluations for various wind and solar projects including Oxley Wind Farm, Silvercreek Solar Park, 77 Netherby Solar Park, Armow Wind Farm, South Kent Wind Farm, and Skyway 124 Wind Farm.

Wetland Restoration*, Chatham, Ontario

Created wetland EIS and detailed restoration plan for Mud Creek Provincially-Significant Wetland after construction occurred within wetland.

* denotes projects completed with other firms

Katherine St. James MSc, BSc

Terrestrial Ecologist

PUBLICATIONS

The Ecological Effects of Cleared Boundaries of BPNP.
Master's Thesis, 2009.

"How We Mark Our Territory". 2009 A.D. Latornell
Conference Symposium, 2009.

"Assessing Stream Management Needs on Public Land
in Pinedale, Wyoming". *Conference Presentation at
2007 CAG-ONT, 2007.*

Predicting Birdstrike Hazard from Gulls at Landfill Sites.
*International Bird Strike Committee, Warsaw Poland,
2003.*

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services



David Charlton is a LEED® Accredited Professional, who has been contributing to sustainable resource management practices since 1982. He has developed a practical approach to impact assessment and conflict resolution through his central role in a number of Environmental Assessments and watershed management plans dealing with the protection, restoration and management of a range of ecosystems.

David has written more than 200 impact assessments, and has been cited for his work by the Ontario Provincial Planning Institute and the Ontario Municipal Board, among others. He has provided planning and management services to a range of industrial resource sectors including aggregate, forestry and agriculture. He has conducted pure and applied scientific research for all levels of Canadian government on topics ranging from Species at Risk, wetland management to agricultural land stewardship. He has worked closely with all interests, ranging from development proponents to public interest groups, to solve difficult resource management issues. David has served on several advisory committees, such as the City of Guelph Environmental Advisory Committee, and has appeared as an expert witness in front of Boards and Tribunals including the Ontario Municipal Board, the Consolidated Hearings Board and the Ontario Court of Justice.

EDUCATION

M.Sc, Resources Development, University of Guelph, Guelph, Ontario, 1986

B.Sc., Agriculture, University of Guelph, Guelph, Ontario, 1982

Certificate, Forest Gene Conservation Association / Butternut Health Assessor, Angus, Ontario, 2013

Qualified Electrofishing Operator (Class 2), Ontario Ministry of Natural Resources, Guelph, Ontario, 2012

Fisheries Assessment Specialist and Fisheries Contracts Specialist, MTO/DFO/OMNR Fisheries Protocol Course, Downsview, Ontario, 2010

Temperate Wetland Restoration Training Course, Ontario Ministry of Natural Resources, Peterborough, Ontario, 2004

Ontario Wetland Evaluation System, Southern Manual, (3rd Edition) and Ontario Wetland Evaluation System, Northern Manual, (1st Edition), Ontario Ministry of Natural Resources, Lowville, Ontario, 1995

REGISTRATIONS

LEED Accredited Professional, Canada Green Building Council

MEMBERSHIPS

Professional Agrologist, Agricultural Institute of Canada

PROJECT EXPERIENCE

Renewable Energy

Amherst Island Wind Farm, Amherst Island, Ontario (Wetland Specialist)

Performed senior review of wetland assessments and wetland impacts

Linear Infrastructure

Highway 6 (Hanlon Expressway) Interchange at Laird Road, GWP 3002-05-00, Guelph, Ontario (Project Principal)

Detail design and environmental assessment of a new interchange at Highway 6 (Hanlon Expressway) and Laird Road, in the City of Guelph, including widening Laird Road (east of the highway), realignment of Laird Road (west of the highway), a new underpass structure, reconstructing the Laird Road and Southgate Drive intersection, signaling the N-E/W and S-E/W ramp terminals, and municipal illumination. The interchange will include a two-span bridge and seven ramps

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

Highway 26 Improvements, GWP 167-91-00, St. Vincent / Sydenham Boundary (Woodford) to Meaford, Ontario (Project Principal)

Detail design and environmental assessment project for improvements to Highway 26, including the realignment of intersections, culvert replacements, and new passing lanes

Highway 26 Rehabilitation, GWP 57-00-00, Thornbury to Meaford, Ontario (Project Principal)

Detail design and environmental assessment project for improvements to Highway 26, including the realignment of intersections, culvert replacements, and new passing lanes

Intersection Improvements, Highway 26 at Grey County Road 40 and Camperdown Road, GWP 3097-06-00, Grey County, Ontario (Project Principal)

Detail design and environmental assessment for intersection improvements

Highway 401 Interchange Improvements / Structure Replacements, GWP 3070-09-00, London, Ontario (Project Principal)

Preliminary design and environmental assessment for structure replacements and interchange improvements at:

- Highway 401/ Westminster Drive (Site 19-366, west of London)
- Highway 401/Highway 19 (Site 23-210, Ingersoll), and
- Highway 401/Norwich Avenue (Site 23-170, Woodstock)

Highway 17 Route Planning Study and New Highway 69 Connection, GWP 5031-09-00, Sudbury to Markstay, Ontario (Natural Scientist)

Route planning, preliminary design, and environmental assessment study to develop a route for a future four-lane controlled access Highway 17 between Sudbury and Markstay, including a new Highway 69 connection to the Sudbury Southeast Bypass

Highway 144 Route Planning Study, GWP 5023-09-00, Sudbury, Ontario (Natural Scientist)

Route planning, preliminary design, and environmental assessment study to develop a future controlled access Highway 144 through the communities of Chelmsford and Dowling in the City of Greater Sudbury

Highway 26 Improvements, GWP 57-00-00, Thornbury to Meaford, Ontario (Project Principal)

Planning, preliminary design and environmental assessment to develop improvements for Highway 26 between Thornbury and Meaford. The project included the development, assessment and recommendations for passing lane and intersection improvement alternatives; recommendations for drainage improvements; preliminary design of structural rehabilitation / extension for two culverts; and minor geometric improvements

Highway 17, Interchange at the West Junction of Sudbury Municipal Road 55, GWP 156-98-00, Sudbury, Ontario (Natural Scientist)

Route planning study and environmental assessment for the future four-lane alignment of Highway 17, and preliminary design of an interim two-lane Highway 17 including an interchange west of the west junction of Highway 17 and Sudbury Municipal Road 55

Highway 17, Sudbury Southwest By-Pass, GWP 5825-05-00, Sudbury, Ontario (Natural Scientist)

Planning, preliminary design and environmental assessment for the four-laning of the Sudbury Southwest By-Pass (Highway 17) from Municipal Road 55 (middle junction) easterly to Highway 69 (13.3 km). Project included defining the alignment for four-laning, interchange improvements and/or additions, and service road connections to make this section of Highway 17 a fully-controlled access freeway

Highway 6 (Hanlon Expressway) Improvements, Speed River to Maltby Road, GWP 3002-05-00, Guelph, Ontario (Project Principal)

Planning, preliminary design and environmental assessment to upgrade the existing Hanlon Expressway to full freeway standards with access restricted to interchange locations. Two interchange locations were selected, and a preliminary design was completed for each interchange

MTO Retainer Assignment #3006-E-0009 (Senior Reviewer)

Served as senior reviewer of reporting related to fluvial geomorphology, post-construction monitoring, fisheries assessment, terrestrial assessment, impact assessment, site rehabilitation and DFO approvals related to 'No HADD'

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

Aquatic and Terrestrial Biology Retainer Services, Southwestern Ontario (Project Principal)

Under the terms of two 2-year Retainer Agreements (2004-2006, 2007-2009) eleven individual assignments were completed, involving: characterizing existing ecological conditions, assessing site sensitivities and impacts related to proposed bridge/culvert repairs and highway improvements, recommending environmental mitigation measures, and conducting during/post-construction monitoring. Value added components included: fluvial geomorphological services, design and implementation of bio-engineered slope stabilization solutions, Permit to Take Water applications, and site rehabilitation and Planting Plans. Extensive agency liaison was required with staff from numerous Conservation Authority, MNR and DFO offices

DFO Approvals, Compensation and Mitigation Plans for the Construction of a New Road Network and Associated New Culverts in Muskoka Commercial Park, Huntsville, Ontario (Senior Reviewer)

Senior report review of habitat assessments and fisheries inventories on Haynes Creek, the site of a proposed new commercial park. Review of agency correspondence and compensation designs

Chinguacousy Road Widening, Brampton, Ontario (Project Principal)

Provided senior review of technical reports and regulatory approvals applications related to road widening works and natural channel design works affecting Redside Dace, a federally and provincially Endangered species

Train Derailment Wetland Restoration, Parry Sound, Ontario (Director of Ecological Restoration)

A freight train derailment in February 2003 resulted in the release of chemicals and grain into an approximately 2 hectare wetland area situated approximately 500 metres upstream of a lake in rural northern Ontario. David Charlton provided project guidance to Stantec's ecological restoration team of terrestrial and aquatic specialists. The wetland restoration plan involved the use of regionally common plant species, where locally-sourced material was transplanted directly at the site from nearby sources, or propagated at the Royal Botanical Gardens' Burlington Wetland Nursery for transplantation following the winter. The selected wetland restoration technique successfully capitalized on natural succession processes, while avoiding the introduction of invasive species, and has resulted in the transformation of a damaged landscape into a naturalized one

Cement / Aggregates

Walker Aggregates Inc. Duntroon Quarry Expansion, Collingwood, Ontario (Project Director)

Completing Natural Environment Technical Reports and joint authored Adaptive Management Plan for extension of a Category 2 Aggregate License; issues include Niagara Escarpment, ANSI, provincially significant wetlands, rare and SAR species including Butternut and American Hart's-tongue Fern, brook trout habitat, water balance, agricultural impacts and quarry rehabilitation

Proposed Acton Quarry Extension, Dufferin Aggregates, Acton, Ontario (Project Director)

The extension of the existing Acton Quarry is proposed to meet the need for additional close-to-market aggregate resources of high quality Amabel Dolostone. The area of focus encompasses approximately 615 ha, across two Conservation Authority watersheds within the Regional Municipality of Halton Hills. David directed and participated in extensive ecological field work, including terrestrial and aquatic species surveys that included SAR Jefferson's Salamander field surveys and MNR-permitted sampling, and habitat assessments, inventories for potential Species at Risk habitat, and aquatic rehabilitation planning. He co-authored technical reports produced in accordance with the PPS and ARA application requirements, as well as participated in interdisciplinary consultation with agencies and agency-appointed committees

Walker Aggregates Inc. Orillia Quarry License, Orillia, Ontario (Project Manager)

Managed environmental reports in support of Official Plan Amendment and Aggregate License; rare species management plan, water balance to maintain streams and wetlands, heronry impacts and monitoring, wetland policy application, Ontario Municipal Board hearing

Carden Quarry Aggregates License, Brechin, Ontario (Project Director)

Natural Environment Technical Reports and Feasibility Study for a Category 2 Aggregate License; alvar ecology, SAR species including Loggerhead Shrike and Five-lined Skink, significant wildlife habitat issues, water balance, quarry rehabilitation

CBM Olszowka Pit (Senior Ecologist)

Directed project and contributed to design of mitigation and rehabilitation plan to protect coldwater stream

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

CBM Bromberg Pit (Senior Ecologist)

Natural heritage features assessment and senior report review

CBM Neubauer Pit (Senior Ecologist)

Senior project direction and report review

CBM Godfrey Pit (Senior Ecologist)

Provided senior direction concerning site design with reference to critical natural environmental features (i.e., coldwater stream and Butternut specimens)

Capital Paving Proposed Montrose Pit, County of Wellington, Ontario (Senior Ecologist)

Senior project direction and report review

Capital Paving Aikensville Pit (Senior Ecologist)

Directed project and provided senior input to wetland assessment

Fonthill Pit, Fonthill, Ontario (Restoration Advisor)

Assisted in design and implementation of rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils

Craig Pit Expansion, Mono Centre, Ontario (Project Director)

Natural Environment Technical Reports for gravel pit expansion, impacts on adjacent wetlands and fish habitat, cross watershed boundary issues, recreational impacts

Seeley and Arnill Aggregates Drysdale Pit Rehabilitation, Meaford Township, Ontario (Restoration Advisor)

Designed rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils

Staff Seminars, Toronto, Ontario (Restoration Advisor)

Researched and presented staff seminars at the Ontario Ministry of Agriculture regarding rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils

Environmental Assessments

Kingston Master Drainage Plan and Class EAs for stormwater Retrofit, Kingston, Ontario (Project Director, Environmental Sciences)

Part of a multidisciplinary team reviewing stormwater management policies and practices for the City of Kingston; reviewed background information; met with agencies, conducted field work and mapping; set priorities on a Subwatershed basis; identified and evaluated alternative stormwater retrofit locations, recommended policy changes and management protocols, contributed to public participation process

Medway Valley Trunk Sewer Schedule C Class EA, London, Ontario (Project Director, Environmental Sciences)

Coordinated data collection, analysis and mapping for the terrestrial ecology and aquatic ecology components of the study; worked with other team members to integrate ecological issues with servicing and cost concerns; responsible for natural science input to the public participation process; led technical meetings with government agencies and public on environmental issues; developed mitigation and rehabilitation plans, supervised applications for DFO and CA permits, replanting of disturbed areas, and performance monitoring for stream crossings and ecological restoration

Highway 10 Widening and Turning Lane Improvements, Orangeville, Ontario (Project Director)

Supervised ecological data collection and analysis; recommended mitigation measures to protect cold water stream and terrestrial habitat; provided sediment control and site restoration guidelines

Environmental Assessment Training Activities Canadian Forces Base Petawawa (Project Manager)

Managed ecological inventories, GIS, Valued Ecosystem Component identification, impacts and impact mitigation analysis, forest, fish and wildlife and recreational resource management

Environmental Assessment Training Activities Canadian Forces Base Val Cartier (Project Manager)

Managed ecological inventories, Valued Ecosystem Component identification, impacts and impact mitigation analysis, recommended a forest, fish and wildlife and recreational resource management program

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

Environmental Assessment Training Activities Canadian Forces Base Borden (Technical Advisor)

Advised on ecological inventories, application of Valued Ecosystem Components approaches, impacts and impact mitigation, ongoing forest resource management

Municipal

City of Hamilton Professional Consultant Services Roster (C12-06-10), Hamilton, Ontario (Project Principal)

Under the terms of a 2-year Roster Agreement (2011-2012), four individual assignments were completed, including:
- Garner/Rymal Road and Garth Street Environmental Assessment

- Eastern Flowering Dogwood (*Cornus florida*) Survey for a Species at Risk

- Scube Central, Scube East Parcel 'A', and Scube East Parcel 'B' Breeding Bird Surveys for Species at Risk

- Fruitland-Winona Secondary Plan Area Breeding Bird Survey for Species at Risk

Multi-Unit / Family Residential

The Neighbourhoods of Sunningdale, London, Ontario (Project Director)

Coordinated all environmental input for the design and approval of The Neighbourhoods of Sunningdale; project started with a Secondary Plan, progressing through alternative servicing analyses, plans of subdivision and detailed design exercises; was responsible for all environmental components of the project approval included extensive public input, negotiations with Conservation Authorities and an Ontario Municipal Board hearing. Located adjacent to the Medway Valley Environmentally Sensitive Area, The Neighbourhoods of Sunningdale was designed to take advantage of the natural beauty of the valley while protecting and enhancing the significant ecological resources in the ESA. The location and market thrust presented significant design and approval challenges that David helped overcome. His involvement continued into the marketing phase of the project as he contributed to the production of a Community Environmental Guide, which won the London Homebuilder's Association award for Best Brochure in 2002

Jackson's Landing, Sutton, Ontario (Project Director)

Environmental policies, approvals and design - Secondary Plan to Master Site Plan, site design and impact mitigation for high water table and sensitive vegetation, natural corridor functions and forest edges, Ontario Municipal Board

Huron Road Subdivision, Kitchener, Ontario (Project Director)

Environmental approvals and design - Plan of subdivision, forest and wetland buffers, tree preservation, naturalized stormwater management, cold-water stream protection

Aberfoyle Creek Estates: Phases 2 and 3, Puslinch, Ontario (Project Director)

Environmental policies, approvals and design - wetland buffer, site plan control, naturalized stormwater management, protection of trout habitat, groundwater and fisheries interactions

Brentwood Subdivision, Aurora, Ontario (Project Director)

Environmental policies, approvals and design - Secondary Plan and plan of subdivision, recreational and aquatic corridor, forest and ravine buffers, naturalized stormwater management

Natural Sciences & Heritage Resources

Laurel Creek Subwatershed Study, City of Waterloo, Ontario (Project Manager, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, resource management and land use policies and implementation guidelines, integrated modeling of water quality and quantity and fish habitat, GIS mapping and extensive public involvement and consultation

Fletcher's Creek Subwatershed Study, City of Brampton, Ontario (Project Manager, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, resource management and land use policies and implementation guidelines, intermittent headwater tributary and swale management

Torrance Creek Subwatershed Study, City of Guelph, Ontario (Project Director, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, guidelines for recreational trail location and design in provincially significant wetlands, resource management and land use policies and implementation guidelines, invasive species control and fisheries enhancement recommendations

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

Credit Valley Secondary Plan, City of Brampton, Ontario (Project Director, Environmental Sciences)

Planned, implemented and managed the multidisciplinary natural science inputs to a Subwatershed study done in support of this Secondary Plan, completed for the City of Brampton. Coordinated data collection, analysis and mapping for the terrestrial ecology and aquatic ecology components of the study; worked with other team members to integrate ecological issues with water quality and quantity analyses and policy formation; responsible for natural science input to the public participation process and participated in technical meetings with government agencies. The project and the ultimate policy recommendations were controversial, and the scientific basis for recommendations as well as the validity and interpretation of data were challenged by many interests. David's scientific credibility and his firm focus on objective interpretation of data were instrumental in helping arrive at an appropriate balance between competing interests, and provided the City with practical and effective ecological policies

Environmental Impact Studies Guidelines and Training, Province of Ontario (Trainer)

Assisted Ontario Ministry of Natural Resources in designing and delivering training programs on how to prepare environmental impact studies in compliance with Provincial Policies; established minimum standards, developed case studies; designed model mitigation measures; delivered nine, two-day training sessions to more than 400 people

The Effect of Lake Levels on Great Lakes Coastal Wetlands (Project Director)

Detailed historic air photo and GIS analysis of wetland community dynamics in response to lake level fluctuations, input to management responses

Terrestrial Effects of Acid Rain, Province of Ontario (Project Manager)

Managed crews evaluating the impact of acid rain on the tolerant hardwood forests of Ontario, involved visual assessment of trees, tissue sampling and soil sampling, data analysis

Technology Evaluation and Development Subprogram of Soil and Water Environmental Enhancement Program, Province of Ontario (Project Manager)

On behalf of Agriculture Canada, planned and managed \$3.5 million of research into technologies for farm level control of soil erosion and sediment and chemical transport to waters in south western Ontario; coordinated a team responsible for identifying research needs, planning and implementing research program; multi-disciplinary workshops, statements of work, evaluating proposals, quality control and trouble shooting for research projects, control of a large budget and an ambitious communications program

Sports, Recreation & Leisure

York Major Golf Club, Vaughan, Ontario (Project Director)

Environmental design and Approvals - forest buffers, tree preservation, naturalized stormwater management, turf and water management, ESA and ANSI impacts, cold water stream protection, restoration of an aggregate operation

Cardinal Golf Course, King Township, Ontario (Project Director)

Impacts of construction and expansion, wetland and forest preservation and buffers, turf and water management, Oak Ridges Moraine policies, restoration of an aggregate operation

Sandhills Golf and Residential Community, Uxbridge, Ontario (Project Director)

Environmental design and Approvals - Plan of subdivision, forest and wetland buffers, tree preservation, naturalized stormwater management, cold water stream protection, Oak Ridges Moraine policies, Ontario Municipal Board

Maskinonge Waterfront Development, Georgina, Ontario (Project Director)

Environmental feasibility studies for recreational development on Lake Simcoe, wetland, shoreline and fish habitat impact and mitigation studies

Lake Fanshawe Rowing Centre Course Upgrades - London, Ontario (Project Director)

Directed staff in evaluating fish habitat impacts of course improvements, designing mitigation measures and obtaining all necessary work permits

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Services

Emerald Hills Golf Course, Whitchurch-Stouffville, Ontario (Project Director)

Impacts of course changes, wetland and forest buffers, turf and water management, compliance with Oak Ridges Moraine policies

Dallaire Golf Course - Orillia, Ontario (Project Director)

Environmental design and Approvals - forest buffers, tree preservation, significant wildlife habitat, wild turkey management, naturalized stormwater management, turf and water management, cold water stream protection

Aikers Marina - Long Point, Ontario (Project Director)

Environmental impacts and mitigation for marina expansion: waterfowl staging, fish habitat, shoreline stability, World Biosphere Reserve, Ontario Municipal Board

Waste Management

Interim Waste Authority Metro-York and Durham EAs, Province of Ontario (Project Director)

Peer reviewed biological and agricultural components of the IWA process on behalf of Municipalities with identified sites (Vaughan and Pickering); evaluated the study process, data, analysis techniques and final decisions for appropriateness, comprehensiveness, consistency, accuracy, reliability and comprehensibility; worked with legal counsel to prepare interrogatories and witness statements; met with proponent representatives, recommended process improvements and modifications

Various Projects and Clients Across Southern Ontario, Counties of Grey, Wellington, Elgin and Lambton (Agrologist)

Evaluated the site selection criteria and process, evaluated agricultural impacts and mitigation measures, attended open houses and public meetings, made presentations to Municipal councils, and negotiated pre-hearing issues settlement and/or provided expert testimony in front of the Consolidated Hearings Board for landfills on behalf of public and private proponents as well as affected landowners. Focused on positive, proactive solutions to outstanding issues and represented all parties objectively and responsibly

* denotes projects completed with other firms

Matthew Ross is an ecologist whose skills include bird, mammal, reptile and plant identification. He is adept at conducting wildlife and wildlife habitat surveys, including those that relate to environmental assessment, conservation and species at risk. Matthew is familiar with provincial and federal guidelines, including Ontario Wetland Evaluation System (OWES), Ecological Land Classification (ELC) and Renewable Energy Approvals (REA). He has conducted surveys for a variety of development projects, including renewable energy, aggregate extraction and residential, and has work experience in both the public and private sector. In addition, Matthew is familiar with wildlife handling, including bird banding and migration monitoring at Selkirk Provincial Park. He has performed native tree species plantings and been involved in exotic plant control efforts as a volunteer at Florida Panther National Wildlife Refuge.

EDUCATION

B.Sc., University of Northern British Columbia / Natural Resources Management Wildlife and Fisheries, Prince George, British Columbia, 2007

Sir Sandford Fleming College / Fish and Wildlife Technologist, Lindsay, Ontario, 2004

Certificate, Ontario Ministry of Natural Resources / Ecological Land Classification System for Southern Ontario, Kempenfelt, Ontario, 2011

Certificate, Stantec Consulting Ltd. / WHMIS, Guelph, Ontario, 2011

PROJECT EXPERIENCE

Aggregate Services

Proposed Melancthon Quarry, Melancthon, Ontario (Terrestrial Technician)

Conducted habitat assessment and species at risk surveys and performed reporting

Multi-Unit / Family Residential

Clair Creek Meadows, Waterloo, Ontario (Terrestrial Technician)

Matthew conducted an assessment of silt fence integrity

Hammersley, Cambridge, Ontario (Terrestrial Technician)

Conducted snake cover board and amphibian surveys

Buffalo Springs Residential Development, Ontario (Terrestrial Technician)

Matthew conducted habitat assessment and species at risk surveys, and performed project reporting

Natural Sciences & Heritage Resources

Nova 2020 Plant Expansion Project, Corunna, Ontario (Terrestrial Technician)

Conducted snake cover board and amphibian surveys

Woodland Bird Nest Surveys, Ontario Ministry of Natural Resources (MNR), 2006* (Avian Nest Biologist)

Matthew performed surveys that involved finding and monitoring woodland bird nests in southern Ontario, including species at risk, radio tracking and identifying fledgling birds, as well as associated vegetation surveys

Wildlife and Habitat Surveys, 2009* (Biologist)

While working for a private consulting firm, Matthew carried out various wildlife and habitat surveys for several energy related projects, including wind farm mortality monitoring, breeding bird surveys, amphibian, reptile and mammal surveys. He also conducted scientific literature research and data entry, as well as assisted in writing project proposals and presentation to clients

Various Development Projects, 2007, 2008, 2010* (Biologist)

While working for a private consulting firm, Matthew conducted biological field surveys and associated data management and analysis for various developments throughout Ontario and other provinces, including renewable energy. These involved breeding bird surveys, nest searches, amphibian counts, salamander population monitoring for species at risk, wind farm mortality monitoring, bat species and abundance monitoring and wetland evaluation. He also conducted associated research and assisted in reporting

* denotes projects completed with other firms

Matthew Ross B.Sc.

Ecologist

Oil and Gas Pipelines

TransCanada Pipelines Ltd., Eastern Mainline Expansion, Ontario (Terrestrial Technician)

Conducted species at risk breeding bird surveys

Enbridge Integrity Dig Program, Ontario (Terrestrial Technician)

Conducted nesting bird surveys and nest monitoring surveys

Trans-Northern Pipelines Inc., Bronte Creek Risk Assessment, Burlington, Ontario (Terrestrial Technician)

Assisted in conducting an initial site assessment and salamander egg mass survey

Nova Chemicals Genesis Pipeline Extension, Corunna, Ontario (Terrestrial Technician)

Conducted snake cover board and amphibian surveys

St. Clair Pipelines Bluewater River Crossing Replacement, Corunna, Ontario (Terrestrial Technician)

Conducted snake cover board and amphibian surveys

Post-Construction

Victoria Park, Kitchener, Ontario (Terrestrial Technician)

Conducted post-construction migratory waterfowl, botanical inventory and replanting monitoring surveys

Renewable Energy

Solray Renewable Solar Energy Project, Ontario (Terrestrial Technician)

Conducted due diligence site assessment with client to identify project constraints and assisted in reporting

Various Renewable Wind Energy Projects, Ontario (Terrestrial Technician)

Conducted ELC, amphibian, migratory passerine, waterfowl, raptor and crepuscular bird auditory surveys, species at risk habitat assessment and surveys, amphibian surveys, post-construction monitoring, and assisted with technical reporting for various wind energy projects, including Wolfe Island Wind Farm, Amherst Island Wind Farm, White Pines Wind Farm, Niagara Region Wind Centre, Bow Lake Wind Farm, K2 Wind Project, Cedar Point Wind Project, and Dorland Wind Project

Roads and Highways

Detail Design for the Rehabilitation of Highway 6/10 from Chatsworth to Owen Sound, Grey County, Ontario (Terrestrial Technician)

This study included a 15 km stretch of highway through several significant natural habitat features, including the Niagara Escarpment, Life Science ANSI, unevaluated wetlands, and large continuous tracts of mature forest and riparian habitat. Matt's responsibilities on this assignment included Ecological Land Classification, bird surveys and surveys for species at risk, documentation of wildlife species and habitat, and mapping of birds' nests

* denotes projects completed with other firms

Don Graham is a Field Biologist with Stantec's Terrestrial Team providing environmental management consultation services to projects across Ontario. Don has a diverse background, having completed his Master of Science in Zoology at the University of Guelph and continued his education obtaining a Teaching Certificate from the University of Western Ontario, as well as the Ontario Wetland Evaluation System (OWES) course offered by the Ministry of Natural Resources.

Don has extensive experience conducting terrestrial fieldwork and writing terrestrial components of reports which meet provincial and municipal requirements for Class EA for Transportation Facilities, Municipal Class EA, Environmental Impact Studies and Natural Heritage Evaluations. Don's experience includes transportation, servicing, residential, industrial and commercial projects. His projects have involved a broad spectrum of field survey types including assessment of breeding birds, amphibians, vegetation communities, vegetation species, reptiles and Species at Risk in a variety of habitats within southern, central, eastern and northern Ontario, using protocols of the Ontario Breeding Bird Atlas, Marsh Monitoring Program and Ecological Land Classification. He is familiar with pertinent policies such as the Natural Heritage policies of the Provincial Policy Statement, Conservation Authority Regulatory Areas, the *Endangered Species Act* and the *Migratory Bird Convention Act*, and is experienced at effective regulatory agency liaison.

EDUCATION

B.A., University of Guelph / Psychology, Guelph, Ontario, 1983

M.Sc., University of Guelph / Zoology, Guelph, Ontario, 1987

B.Ed., University of Western Ontario / Ontario Teaching Certificate, London, Ontario, 1990

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

Diploma, McMaster University / Spatial Analysis and GIS, Hamilton, Ontario, 2004

MEMBERSHIPS

Member, Field Botanists of Ontario

Member, Ontario Field Ornithologists

Member, Bird Studies Canada

PROJECT EXPERIENCE

Commercial / Retail Development

Various Commercial Development Projects*, Ontario (Biologist)

Conducted terrestrial fieldwork and wrote terrestrial components of Environmental Impact Studies to support Commercial Development projects in Ontario, including:

- Proposed golf course in Kawartha Lakes;
- Existing golf course in Gravenhurst;
- Mall expansion in Cookstown;
- Car dealership in Toronto; and
- Strip mall in Ajax.

Highway and Transportation

Various Highway and Transportation Projects*, Ontario (Biologist)

Conducted terrestrial fieldwork and wrote terrestrial components of Class EA Reports for Transportation Facilities and supporting Technical Reports to support proposed road improvements in Ontario, including:

- New Highway 7 corridor between Kitchener-Waterloo and Guelph;
- Improvements to Highway 7 corridor in Durham Region;
- Improvements to Highway 11 north of Temagami;
- Twinning of Highway 11 in and north of Burk's Falls;
- Twinning of Highway 69 in vicinity of Pointe au Baril;
- Improvements to Highway 11 between Cochrane and Kirkland Lake;
- Bridge improvements and replacements in central Ontario;
- Proposed LRT line in Ottawa;
- Proposed LRT line linking Mississauga and Brampton;

* denotes projects completed with other firms

Don Graham M.Sc., B.Ed., B.A.

Ecologist

- Extension of Peterborough Airport runway;
- Proposed Toronto-Bolton GO rail transit line; and
- Improvements to Toronto-Milton GO rail transit line.

Industrial Development

Various Industrial Development Projects*, Ontario (Biologist)

Conducted terrestrial fieldwork and wrote terrestrial components of Environmental Impact Studies to support Industrial Development projects in Ontario, including projects in Oakville and Toronto, Ontario.

Linear Infrastructure

Various Servicing Projects*, Ontario (Biologist)

Conducted terrestrial fieldwork and wrote terrestrial components of Municipal Class EA Reports and supporting Technical Reports to support proposed linear infrastructure construction in Ontario, including:

- York-Durham Sanitary Sewer development;
- Don River and Waterfront Sewer Improvements, Toronto;
- Horgan Watermain construction in Scarborough;
- Kennedy Road Sewer development in Markham;
- Improvements to sewage lagoon in Neustadt;
- Watermain in Sauble Beach;
- Jet fuel pipeline for Pearson International Fuel Facilities Corp. in Toronto;
- Repair of Trans-Northern Pipelines Inc. in eastern Ontario; and
- Construction of new pipeline for Trans-Northern Pipelines Inc. in eastern Ontario.

Natural Sciences & Heritage Resources

City of Hamilton Professional and Consultant Services Roster 2011-2012 (C12-06-10); Fruitland-Winona Secondary Plan Area Breeding Bird Survey, Hamilton, Ontario (Terrestrial Ecologist)

Conducted breeding bird surveys, including point count surveys, for Species at Risk. Surveys were conducted for Bobolink, Eastern Meadowlark, Barn Swallow, and Chimney Swift, using MNR or Ontario Breeding Bird Atlas protocols, as applicable.

City of Hamilton Professional and Consultant Services Roster 2011-2012 (C12-06-10); Scube Central, Scube East Parcel 'A', and Scube East Parcel 'B' Breeding Bird Surveys, Hamilton, Ontario (Terrestrial Ecologist)

Conducted breeding bird surveys, including point count surveys, for Species at Risk. Surveys were conducted for Bobolink, Eastern Meadowlark, Barn Swallow, and Chimney Swift, using MNR or Ontario Breeding Bird Atlas protocols, as applicable.

Species at Risk in Ontario*, Various Sites (Biologist)

Field experience with many Species at Risk including: Butternut, Blanding's turtle, Snapping Turtle, Eastern Hog-nosed Snake, Chimney Swift, Common Nighthawk, Bobolink, Least Bittern, Hooded Warbler, Acadian Flycatcher, Loggerhead Shrike, Canada Warbler and Golden-winged Warbler.

Ontario Ministry of Natural Resources*, London and Aylmer District, Ontario (Field Biologist / Ornithological Technician)

Scored wetlands within Aylmer District for the Ministry of Natural Resources using the Southern Ontario Wetland Evaluation System (3rd Edition) protocol. Work involved assessment of biological, social, hydrological and special features of wetlands in accordance with OWES, landowner liaison and planning of fieldwork. Created, edited, organized and managed data layers for Ontario wetlands, forests and urbanization using aerial photography, satellite imagery and ArcGIS software. Searched research plots for bird nests, collected field data on forest bird nesting success and plant characteristics using established techniques, managed data and created maps of research sites and nest locations using GIS software.

Bird Studies Canada*, Port Rowan, Ontario (Ornithological Technician)

Conducted bird and amphibian inventories for a wetland study using specified protocols. Reviewed background data and literature and wrote reports on population trends of colonial nesting tern species. Conducted forest bird inventories used in developing forestry management practices. Reported current bird sightings for the Bird Studies Canada web-site.

* denotes projects completed with other firms

Don Graham M.Sc., B.Ed., B.A.

Ecologist

Residential Development

Various Residential Development Projects*, Ontario
(Biologist)

Conducted terrestrial fieldwork and wrote terrestrial components of Environmental Impact Studies to support Residential Development projects in Ontario, including projects located in: Kawartha Lakes, Pickering, Holland Landing East, Holland Landing West, Sharon, Newmarket, Belleville, Peterborough, Aurora and Toronto.

** denotes projects completed with other firms*

Brandon Holden

Terrestrial Ecologist



Brandon Holden is a skilled Terrestrial Ecologist with extensive birding experience in Ontario and Eastern North America since 1997. Having recorded 365 species in Ontario, Brandon has a keen personal interest in finding vagrant bird species. To date, he has found and photographed the first Black-tailed Gull (*Larus crassirostris*) for the province, the first Sooty/Short-tailed Shearwater (*Puffinus* sp.) for the province, and has the second provincial records of both Neotropic Cormorant (*Phalacrocorax brasilianus*) and Black Swift (*Cypseloides niger*). Brandon was voted onto the Ontario Bird Records Committee (OBRC), a significant accomplishment, as this makes him the youngest member in the committee's 30 year history. In 2012 he was elected to the position of Chair with the OBRC. Brandon has personally located and identified specimens of every avian species listed in Ontario as special concern, threatened or endangered by COSSARO and COSEWIC, other than the presumed extinct Eskimo Curlew. Brandon is responsible for conducting seasonal bird and wildlife field surveys throughout Ontario, including programs at remote sites. He is highly familiar with various bird survey protocols, including those for species at risk in Ontario.

EDUCATION

St. Johns Ambulance / First Aid and CPR, Guelph, Ontario, 2012

WHMIS Training, Guelph, Ontario, 2012

Trailer Training, Guelph, Ontario, 2013

ATV Driver Training, Guelph, Ontario, 2013

Bear Awareness Training, Guelph, Ontario, 2012

Defensive Driver Training, Guelph, Ontario, 2013

MEMBERSHIPS

Member, Ontario Field Ornithologists

AWARDS

2009 Category Finalist: Veolia Wildlife Photographer of the Year

2004 Ross Thompson Trophy of Proficiency in Ornithology

2002 Hamilton Civic Award

2002 Ross Thompson Trophy of Proficiency in Ornithology

2002 Doug Tarry Young Ornithologist Award

PROJECT EXPERIENCE

Renewable Energy

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

Conducted surveys for breeding birds, migratory waterfowl, waterfowl movement, wintering raptors, wintering Short-eared Owls and aerial waterfowl monitoring. Conducted behavioral studies on raptors, focused on Red-tailed Hawks. Collaborated on 4 years of during- and post-construction monitoring reports. Conducted scavenger and searcher efficiency trials, as well as specimen identification of mortalities

White Pines Wind Project, Prince Edward County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, including targeted species at risk surveys for breeding Whip-poor-will, and breeding American Woodcock and Wilson's Snipe, migratory passerine stopover usage, migratory raptors, wintering raptors and wintering Short-eared Owls. Conducted Blanding's Turtle observation and habitat assessments

Thunder Bay Wind Power Project, Thunder Bay District, Ontario (Terrestrial Ecologist)

Conducted migratory raptor surveys

Bow Lake Wind Power Project, Algoma District, Sault Ste. Marie, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, migratory passerine stopover usage and migratory raptors. Conducted Moose aquatic feeding area assessments

* denotes projects completed with other firms

Brandon Holden

Terrestrial Ecologist

Mica Bay Wind Power Project, Algoma District, Sault Ste. Marie, Ontario (Terrestrial Ecologist)

Conducted surveys for raptor stopover usage, migratory waterbirds and migratory raptors

Royal Road Wind Project, Prince Edward County, Ontario (Terrestrial Ecologist)

Conducted migratory raptor and migratory passerine stopover usage surveys

Port Ryerse Wind Power Project, Norfolk County, Ontario (Terrestrial Ecologist)

Conducted surveys for migratory passerine stopover usage

Port Dover and Nanticoke Wind Energy Project, Haldimand County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, and shorebird and Tundra Swan stopover usage

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

Conducted surveys for migratory raptors, raptor stopover usage, Tundra Swan stopover usage and shorebird stopover usage. Conducted Eastern Fox Snake hibernacula surveys, as well as searcher efficiency trials and specimen identification of mortalities

PEC Wind Project, Prince Edward County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, migratory passerine stopover usage, and targeted species at risk surveys, including breeding Whip-poor-will, and breeding American Woodcock & Wilson's Snipe. Conducted species at risk Blanding's Turtle observation and habitat assessments

Parkhill Wind Energy Project, Middlesex County, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors, wintering Short-eared Owls and migratory passerine stopover usage

Niagara Region Wind Power Project, Niagara Region, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors, wintering Short-eared Owls and migratory passerine stopover usage. Conducted breeding amphibian call count surveys

Melancthon Wind Project, Dufferin County, Ontario (Terrestrial Ecologist)

Conducted breeding bird surveys and raptor mortality surveys, as well as specimen identification of mortalities

Kingsbridge Wind Power Project, Huron County, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors

Grand Valley Wind Power Project, Dufferin County, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors and wintering Short-eared Owls

Grand Renewable Energy Park, Haldimand County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, wintering raptors, wintering Short-eared Owls and migratory passerine stopover usage

Dorland Wind Power Project, Lennox and Addington, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors, migratory waterfowl, and wintering Short-eared Owls

Cedar Point and Adelaide Wind Power Projects, Lambton County, Ontario (Terrestrial Ecologist)

Conducted targeted species at risk surveys for breeding Bobolink, and coverboard surveys for Butler's Gartersnake

Byran Wind Power Project, Prince Edward County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, as well as targeted species at risk surveys for breeding Short-eared Owl, Loggerhead Shrike, King Rail and Henslow's Sparrow

Ostrander Point Wind Energy Park, Prince Edward County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds and breeding Whip-poor-wills, wintering raptors and migratory raptors. Conducted surveys noting the migration of Common Green Darner and Monarch, in addition to anabat research for migratory bats

* denotes projects completed with other firms

Brandon Holden

Terrestrial Ecologist

Belwood Wind Energy Project, Wellington County, Ontario (Terrestrial Ecologist)

Conducted surveys for wintering raptors, wintering Short-eared Owls and migratory waterfowl, and conducted anabat research for migratory bats

Amherst Island Wind Power Project, Lennox and Addington, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, breeding Short-eared Owl and Eastern Whip-poor-will, fall staging raptors, wintering raptors, wintering Short-eared Owls, summer staging aerial insectivores and migratory waterfowl, in addition to breeding amphibian call count surveys

Natural Sciences & Heritage Resources

Highway 17 Route Planning Study and New Highway 69 Connection, GWP 5031-09-00, Sudbury to Markstay, Ontario (Terrestrial Ecologist)

Conducted habitat assessment surveys for several species at risk, including Purplish Copper, Eastern Milksnake, Snapping Turtle, and Blanding's Turtle

The Highland Companies Proposed Melancthon Quarry, Dufferin County, Ontario (Terrestrial Ecologist)

Conducted surveys for breeding birds, and targeted species at risk surveys for breeding Whip-poor-will, breeding Henslow's Sparrow, as well as wintering raptors and wintering Short-eared Owl. Conducted species at risk habitat assessments and mapping for Barn Swallow and Bobolink, and conducted detailed inventories for butterflies and odonata

Bruce to Milton Transmission Project, Ontario (Terrestrial Ecologist)

Conducted breeding bird nest searches

Walker Aggregates Inc. Duntroon Expansion Quarry, Simcoe County, Ontario (Terrestrial Ecologist)

Assisted with Harts-tongue Fern field management project

Dufferin Aggregates Proposed Acton Quarry Extension, Acton, Ontario (Terrestrial Ecologist)

Conducted breeding amphibian call count surveys

Lake Simcoe Region Conservation Authority, Newmarket, Ontario (Full-time Stewardship Assistant) (2008) *

Interacted with homeowners in Simcoe Region to promote source water protection and provide public information regarding government funding programs available. Prepared and distributed information packages to homeowners.

PUBLICATIONS

Holden, B.R.H. A Painted Bunting in my Office. *OFO News* 31(3):5, 2013.

Holden, B.R.H. Black-tailed Gull: New to Ontario. *Ontario Birds* 31(1):2-9, 2013.

Holden, B.R.H. Bald Eagle Flip. *OFO News* 23(2), 2005

Holden, B.R.H. Jaeger watching at Van Wagner's Beach *OFO News* 22(2), 2004.

Holden, B.R.H. A Young Birder and Photographer. *OFO News* 22(1), 2004.

* denotes projects completed with other firms



Kathryn Walpole is a Terrestrial Ecologist with training in wildlife sampling, capture and management techniques. She is familiar with flora and fauna identification, data collection, background research, and technical reporting. She has surveyed and sampled flora and fauna using a variety of protocols in various terrains across Ontario and beyond. She has worked with Environmental Monitoring Assessment Network (EMAN), Ecological Land Classification (ELC), and Ontario Wetland Evaluation System (OWES), as well as Bird and Bat Guidelines for Wind Power Projects. Kathryn's formal training is supported with relevant work experience for government and private firms in Ontario, as well as volunteer positions in Canada and the United States, where she has provided technical support for a variety of development and natural heritage preservation projects. She has strong wildlife identification skills, is familiar with eastern and central species of trees and shrubs, and wildlife identification by tracks and signs. Kathryn possesses a knowledge of aquatic and terrestrial ecosystems with respect to patterns of fish and wildlife habitat use, and can collect, tabulate, analyze, and interpret ecological information, and identify and classify ecosystem types. She is familiar with legislation concerning natural resource management.

EDUCATION

Sir Sandford Fleming College / Fish and Wildlife Technology Diploma, 2011

First Aid and CPR, Guelph, Ontario, 2010

WHMIS Training, Guelph, Ontario, 2012

ATV Driver Training, Guelph, Ontario, 2010

Bear Awareness Training, Guelph, Ontario, 2009

Defensive Driver Training, Guelph, Ontario, 2010

Fur Bearer Management Certification, Ontario Fur Managers Fed.

AWARDS

William Tosh Hooks Conservation Award, CWDHS

Rick Amsbury Memorial Bursary, Fleming College

PROJECT EXPERIENCE

Natural Sciences & Heritage Resources

Port Ryerse Wind Power Project, Norfolk County, Ontario (Terrestrial Ecologist)

Conducted wildlife surveys

Bow Lake Wind Power Project, Algoma District, Sault Ste. Marie, Ontario (Terrestrial Ecologist)

Conducted wildlife surveys for avian species

Niagara Region Wind Power Project, Niagara Region, Ontario (Terrestrial Ecologist)

Conducted wildlife surveys

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

Conducted wildlife surveys

Cedar Point Wind Power Project, Lambton County, Ontario (Terrestrial Ecologist)

Conducted targeted wildlife surveys for species at risk

2011 Chelan Ridge Raptor Migration Project, Hawkwatch Int. / US Forest Service, Washington (Interpreter/Educator)*

Developed and presented educational programs for visitors focused on local geography, ecology, and raptor research and education. Handled and showed a variety of raptor species to visitors, discussing key identification features, habitat, and diet requirements. Performed net trapping of birds, using safe handling techniques to process raptors after capture, recording key data (e.g. measurements, health and fitness), and fitting bands. Participated in raptor count surveys; tallies included species identification, and determination of sex, and age

* denotes projects completed with other firms

2011 Algonquin Provincial Park, Ontario Ministry of Natural Resources (Silvicultural/Brown Creeper Field Biologist)*

Assessed health and regeneration rate of trees in Permanent Growth Plots (PGPs) in Algonquin Provincial Park that have undergone various harvest strategies (intensive, single cut, and typical). Recorded data (e.g. standard measurements including diameter, height, live crown ratio) and assessed health of trees in mixed hardwood/conifer forests of the Park. Documented health defect trees. Searched for breeding pairs of brown creepers in areas treated with different harvest strategies in the Park, and prepared detailed territory maps. Performed intensive nest searches and monitored nests during reproductive periods

2009 Townsends Big-eared Bat Inventory, US Forest Service, Methow Valley, Washington (Volunteer)*

Located colonies of Townsends Big-eared Bats and estimated abundance at each colony by intensive surveys. Weighed and measured a variety of bat species collected during surveys of bridges in the Methow Valley. Used identification keys to classify bats to species

2010 Private Consultant, Medicine Hat, AB (Environmental Planner)*

Conducted avian point count surveys and wildlife detection surveys to determine species occupancy in areas exposed to oil and gas development in Alberta. Performed intensive searches for species at risk, including amphibians, reptiles, migratory birds, and small mammals to assess threats of development to these species. Conducted audio surveys and nest checks for burrowing owls. Prepared formal reports for government and private agencies summarizing development plan recommendations to mitigate and reduce ecological impact of construction and development. Organized field equipment and conducted logistical planning for various projects in remote locations under tight and sometimes overlapping timelines.

2009 Northern Goshawk Inventory, Rocky Mountain Bird Observatory, South Dakota/Wyoming (Avian Assistant Field Biologist)*

Performed auditory surveys for Northern Goshawks at forested study in Big Horn National Forest and Black Hills National Forest to determine occupancy and distribution in the Western United States. Searched for nests, feathers, and other signs of goshawks to investigate patterns of habitat use and reproductive success. Maintained field records. Surveys were conducted in difficult terrain during sometimes extreme conditions; navigated with rough topographic maps, compass, and GPS

Volunteer Experience

2010 Black-footed Ferret Reintroduction, Parks Canada, Grasslands National Park, Saskatchewan (Volunteer)*

Conducted night surveys for black-footed ferrets using spot lights. Live-trapped ferrets for transportation to a laboratory

** denotes projects completed with other firms*

BIOGRAPHY

Erin Jaggard is a Renewable Energy Analyst for M.K. Ince and Associates. Erin recently completed her Master of Science in Physical Geography at Queen's University. Her research focused on land-use change following the establishment of switchgrass as a bioenergy feedstock in southeastern Ontario. She continues to work on papers for publication specifically on biogeochemistry and alternative valuation techniques to support the emergence of conservation bioenergy crops.

During Erin's studies she was concurrently involved with local energy initiatives in the Kingston area. She worked with Lafarge, Bath Plant on their Cement 2020 alternative energy project to assess renewable energy sources for industrial use. She established field trials for bioenergy crops and evaluated them utilizing geospatial analysis and life cycle assessment protocols. With the FABRECC laboratory she conducted greenhouse gas emission studies in partnership with OMAFRA for bioenergy crops.

Prior to returning to school Erin spent many years working in the forestry sector. Over the years, she has managed field operation amounting to the planting of over five million trees in northern Ontario. She has also provided additional silviculture services to a variety of stakeholders.

Erin's work in numerous terrestrial systems in conjunction with her excellence in project management and dedication towards alternative energy initiatives has given her the skills to provide services in the renewable energy approvals process. Her past experiences make her an asset to MKI in both field and office settings.

When Erin is not working she can be found walking her dog in the great outdoors and taking deep yogi breaths.

EXPERIENCE

- Over five years of experience working in natural resource management, with extensive integration of provincial land-use legislation and ISO 14000 series standards
- Field experience in a variety of terrestrial systems including agricultural and forestry settings
- Experience with the public consultation process and community energy conferences
- Experience with data management and analysis, systems modelling, report writing
- Awards for academic excellence, written reports and presentations

EDUCATION

- Master of Science, Physical Geography, Queen's University, 2012
- Bachelor of Science, Environmental Science, Queen's University, 2006

AFFILIATIONS

- Member of SWITCH – sustainable energy network for eastern Ontario
- Pursuing P. Ag. designation

PROJECT EXPERIENCE

- Bow Lake Wind Farm Species at Risk Reporting
- ZEP Settler's Landing and Snowy Ridge REA Natural Heritage Reporting
- REA Water Bodies Assessment Reporting

PRIOR WORK / VOLUNTEER EXPERIENCE

- Queen's Institute for Energy and Environmental Policy Research Assistant
- Lafarge, Bath Plant, Cement 2020 Alternative Energy Project, Researcher
- FABRECC laboratory, Research Assistant - emphasis on pedology, forestry, and agricultural projects
- A&M Reforestation, Project Manager - silviculture projects for Domtar, Tembec, Buchanan, and Green Forest
- Volunteer Instructor for Kingston Field Naturalist Junior Program

BIOGRAPHY

Dave Jolly is a Senior Biologist/Ecologist with expertise in all aspects of terrestrial and wetland ecology and has been involved with Class 1 to 4 renewable energy projects since 2008. At M.K. Ince and Associates Ltd. (MKI) Dave is presently involved in ELC, wetland assessments, and wildlife habitat surveys as part of pre-construction Environmental Assessment, Natural Heritage reporting and the new REA processes for over a dozen commercial scale wind power projects across Ontario.

Before joining MKI, Dave has worked for all levels of government and non-government agencies as well the education and private sector in Canada, the United States, Panama, Costa Rica, Peru, Mexico, and Nepal. He has experience in training environmental professionals in areas that include but are not limited to methodology and protocols for performing ecological studies, GIS, environmental law, flora and fauna identification including Species at Risk, Ecological Land Classification (ELC), Ontario Wetland Evaluation System, natural heritage assessments, and environmental assessments. Dave has experience as an expedition leader/scientist designing, marketing and operating over 20 international research and conservation expeditions to Central, South America and southeast Asia to study primates, plants, birds and mammals. He is skilled in all aspects of the environmental consulting process (with over 10 years of experience), project development/management and managing client relations. Dave has secured numerous government contracts valued at > \$100 000 each and is fully adept in GIS, ELC, Wetland evaluation, staff management, environmental and site assessments.

In his spare time Dave enjoys hiking in search of various vascular plants including Species at Risk, writing books, photography, assisting non-profit organizations with their natural heritage inventories and spending time with family.

EXPERIENCE

- Facilitated regulatory approvals under the *Migratory Birds Convention Act*, *Fish and Wildlife Act*, *Conservation Authorities Act*, *Provincial Policy Statement*, *provincial and federal Species at Risk Act*, *provincial and federal Endangered Species Act*, *Planning Act*, *Ontario Environmental Assessment Act* and the *Canadian Environmental Assessment Act*
- Provided expertise and senior review to over 100 terrestrial and wetland biophysical assessments including wetland studies and monitoring projects, Ecological Land Classification projects, various Species at Risk projects
- Environmental inspection and compliance monitoring for construction projects in York, Durham, and Niagara Regions
- Trained environmental professionals through teaching and designing over 30 certification courses that are exempt from registration from the Ontario Ministry of Training and Colleges and Universities
- Extensive experience in negotiations and business development with Métis and First Nation groups

EDUCATION

- B.Sc., Ecology and Evolution, University of Western Ontario, 1992

AFFILIATIONS

- Field Botanists of Ontario, member
- Haldimand Bird Observatory, member

TRAINING/CERTIFICATIONS

- Lichen identification, 2012
- Bear Awareness, 2011
- Ice Safety, 2011
- Project management/ leadership, 2004
- Ontario Wetland Evaluation Systems, 2008
- Ecological Land Classification for Southern Ontario, 2004
- Standard First Aid and CPR certified

PROJECT EXPERIENCE

- ZEP Wind Farm Ganaraska, Next Era Wind Farm, Ernesttown Horizon Wind Farm, Port Ryerse Wind Farm, Grey Highlands ZEP Wind Park, Grey Highlands Clean Energy, Clean Breeze Centreton Wind Park, Clean Breeze Grafton Wind Park, Dufferin Wind Farm, Bow Lake Phase 1 —REA Application Process
- Organization and implementation of biological field studies for all projects listed above

PRIOR WORK / VOLUNTEER EXPERIENCE

- Senior Biologist/Ecologist: Dillon, AECOM, EARTHQUEST, Avalon Professional Consultants of Ontario, Fieldlife Environmental Consultants
- Senior Instructor & President: EARTHQUEST Biological Field School.
- Volunteer Botanist for the Grand River Conservation Authority
- Designed, published and marketed five field guide books on flora and fauna of Ontario and the Bruce Trail system
- Designed, marketed and operated over 20 international research/conservation expeditions to Central, South America and southeast Asia

BIOGRAPHY

Rick Ludkin is an avian wildlife specialist with M.K. Ince and Associates.

Rick's avian wildlife experience includes bird censuses, migration monitoring and banding. He has worked on avian surveys and studies across Canada and with research facilities worldwide. As a long time contributor to numerous birding programs Rick has contributed to the establishment of various birding networks and monitoring programs.

His broad and extensive experience in all things avian makes Rick a highly valued member of the MKI team.

EXPERIENCE

- Participated in bird surveys, censuses, expeditions and migration monitoring programs across Canada and remote parts of the world.
- Chairman of the Haldimand Bird Observatory. Initiated the Ruthven Banding Program, part of the Canadian Migration Monitoring Network.
- Established the Ruthven Banding Station, a training facility for university and college students interested in learning avian field methods.
- Extensive participation in the Ontario Forest Birds Monitoring Program. Contributed to Ontario Breeding Bird Atlases 1980-1985 and 2000-2005.
- Led bird surveys for the Norsk Polar Institute, Norway, studying Brunnich's Guillemots. Researcher for a passerines banding project with Lund University, Sweden.
- Completed field studies for Canadian Wildlife Services in the Canadian Arctic on Devon Island and Southampton Island. Trained to perform ship-based seabird counts and helicopter surveys.
- Co-founder of the Canadian Snow Bunting Network, a country wide network that studies the winter behaviour and biology of Snow Buntings.
- Established a banding project to study the decline of the Golden-winged Warblers. Received master banding permit.

EDUCATION

- Ontario College Advanced Diploma, George Brown College, 1972

TRAINING

- Banding and migration monitoring training, Long Point Observatory, Ontario
- Master Banding Permit, 1994

CORE COMPETENCIES

- Avian surveying, monitoring and censuses
- Bird-banding
- Field studies

RELEVANT INDUSTRY EXPERIENCE

- Avian surveys, censuses, expeditions and migration monitoring
- Established numerous birding programs.
- Long time participation in Canadian Monitoring and Banding programs.
- Contributor to Bird Atlases

MEMBERSHIPS AND ASSOCIATIONS

- Chairman of Haldimand Bird Observatory.
- Lead bander at Ruthven Banding Program and Station
- Co-founder of Canadian Snow Bunting Network

BIOGRAPHY

Robert Tymstra is an avian wildlife specialist with M.K. Ince and Associates. He graduated from the University of Waterloo with a Bachelor of Environmental Studies.

Rob's avian wildlife experience includes bird surveys, censuses, expeditions, banding, and migration monitoring. He has worked on avian surveys and studies in Ontario and has birded in over 60 counties worldwide. Since 2004, Rob has specialized in conducting avian surveys for wind turbine projects across Canada. His broad and extensive experience in all things avian makes Rob a highly valued member of the MKI team.

EXPERIENCE

- Participated in bird surveys, censuses, expeditions and migration monitoring programs across Canada and remote parts of the world.
- Regional Co-ordinator for Ontario Herpetological Atlas and Ontario Mammal Atlas. Participated in Ontario Forest Birds Monitoring Program.
- Led bird survey expeditions in Hudson Bay Lowlands for Ontario Breeding Bird Atlas (Opinnagau and Albany Rivers) and completed several sections in Southern Ontario for Breeding Bird Atlas 1981-1985 and 2001-2005.
- Researcher and camp leader for a Habitat Based Wildlife Assessment of Ekwan Point, Longridge Point and Western James Bay coast. Field work involved walking line transects, point counts.
- Worked as Nature Interpreter at Algonquin Provincial Park
- Initiated a long-term distributional study of the birds of the little-known islands and waters of James Bay.
- Participated in Yunnan, China expedition in a successful search for *Sclater's Monal*, a rare pheasant not seen by Westerners since WWII. Also documented other limited distribution bird species.
- Conducted population surveys on endangered *Butler's Garter Snake* in southern Ontario 2008-2010.

EDUCATION

- B.E.S., University of Waterloo, 1991.
- Professional Photography Diploma, New York Institute of Photography

TRAINING

- Wildlife biology, Marine and Fisheries courses: courses, University of Guelph
- Wilderness Survival and Tracking courses: Tom Brown School, New Jersey

CORE COMPETENCIES

- Avian surveying and monitoring
- Wildlife tracking
- Bird-banding
- Recording bird songs
- Birding tourleader

RELEVANT INDUSTRY EXPERIENCE

- Over 5100 bird species observed in over 60 countries
- Avian surveys, censuses, expeditions and migration monitoring
- Preparation of technical reports, journal articles and a book for bird studies
- Publication of several photos in books and journals

MEMBERSHIPS AND ASSOCIATIONS

- Board of Directors: Pelee Island Bird Observatory (banding station)
- Board of Directors: Wilds of Pelee Island
- Ontario Field Ornithologists member
- Explorers Club fellow

Yves Scholten, H.B.Sc.

Terrestrial/Wetland Ecologist



BIOGRAPHY

Yves Scholten is a Biologist with a strong background in Terrestrial Ecology. He joined M.K. Ince and Associates Ltd. (MKI) in the spring of 2011 and is presently involved in ELC, wetland assessments, and wildlife habitat surveys as part of pre-construction Environmental Assessment, Natural Heritage reporting and the new REA processes for over a dozen commercial scale wind power projects in Ontario.

Since joining MKI, Yves has been involved in all aspects of the development and implementation of Natural Heritage Assessments, surveying for wind energy projects across Ontario. Tasks ranged from the development of survey protocols to the coordination of field biologists, participation in public consultations and the logistics of handling multiple projects with large and complex data sets. Most recently he has been involved in the analysis, research and writing of natural heritage reports for numerous projects and the development of new and improved designs for future projects based on the continuously evolving knowledge base being developed for the REA process.

Before joining M.K.I., Yves completed a Bachelor of Science at the University of Toronto, with majors in Biology and Environmental Science, including research papers, which developed his research skills, speaking and technical writing abilities. Following the completion of his degree, he has worked for the Ontario Ministry of Health conducting environmental microbiological assays, the Universities of McMaster and Toronto in a joint seabird population ecology study, and assisted with zooplankton population research in central and southern Ontario lakes for the University of Toronto's Aquatic Ecology lab. These various aspects of Biology together with work on numerous projects in ELC, wetland assessment (OWES), botany, and wildlife surveys have helped Yves hone a broad perspective and deep passion in ecological assessments.

When he has spare time, Yves likes to get out on the water using the wind to power a sailboat on Lake Simcoe, the Great Lakes or the Atlantic.

EXPERIENCE

- Laboratory and field research experience in Ontario ministries and university zoology departments.
- Ornithology, avian ecology and behavioural studies including biometrics, bird banding and radio-telemetry tracking.
- Terrestrial and wetland ecology experience in ELC, EA, wildlife habitat and wetland assessments in 14 central and southern Ontario counties/municipalities.
- Data analysis and writing of pre-construction natural heritage survey reports for fifteen commercial-scale wind energy projects.
- Vascular plant, avian, herpetofaunal, mammal (including bats) and arthropod species identification and survey protocols.
- Participation in Public Consultation meetings.

EDUCATION

- B.Sc.(hons.) in Biology and Environmental Science, University of Toronto, 1994.

PROFESSIONAL CERTIFICATIONS & AFFILIATIONS

- Water Management and Wetland Restoration Certification (WMWRC), OMNR/Univ. of Guelph, 2012
- Ontario Wetland Evaluation System (OWES), 2011
- Principles of Ecological Land Classification (ELC), 2010
- Ontario Field Ornithologists
- Hamilton Naturalists' Club
- Bird Studies Canada
- Head of the Lake Land Trust – Sanctuary Land Steward
- Lone Pine Marsh Sanctuary Land Trust
- Field Botanists of Ontario

PROJECT EXPERIENCE

- Natural Heritage surveys, ELC, Wetland Assessments, wildlife studies, ecological consultation and REA reporting for fifteen Ontario Wind Energy projects.
- Yarmouth ELC Surveyor, Catfish Creek Cons. Auth.
- Terrestrial Ecologist, Byng Island Vegetation Survey, Grand River Conservation Auth.
- Terrestrial Biologist, Earthquest Environmental Consultants. ELC and SAR surveys.
- Seabird Population Ecology, Univ's. of Toronto and McMaster, ecological studies on Herring Gulls and Caspian Terns.

PRIOR WORK / VOLUNTEER EXPERIENCE

- Environmental Microbiology, Ontario Ministry of Health
- Aquatic Ecology Technician, University of Toronto
- Bird Bander (Passerines), Ruthven Bird Observatory, Haldimand ON