

Appendix D

Curricula Vitae

Nicole Kopysh is a Terrestrial Ecologist and Project Manager who has been involved in projects of varying sizes from multiple sectors including aggregates, renewable energy and development. Nicole has successfully managed or directed the natural terrestrial field programs and reporting requirements for Environmental Impact Assessments, constraints analyses, natural environment technical reports, Environmental Implementation Reports, Natural Heritage Assessments for the Renewable Energy Assessment program and natural heritage monitoring programs. These have included extensive agency and public consultation and Nicole demonstrates effective communication skills in the execution of these projects.

Nicole's experience involves the implementation of the natural heritage policy of the Ontario Provincial Policy Statement, Greenbelt Plan, *Oak Ridges Moraine Act*, *Migratory Birds Convention Act*, *Green Energy Act* and municipal policy documents for municipal draft plan applications throughout southern Ontario. Nicole is also experienced with the interpretation and application of the *Endangered Species Act* (ESA), including the development and completion of permit applications under the ESA. Nicole is a skilled birder and has field experience conducting bird surveys, Species At Risk surveys, general terrestrial monitoring and assessments, wildlife inventories and habitat assessments. She is a member of the steering committee for Environment Canada's and the Canadian Wind Association's Bird Monitoring Database Project.

EDUCATION

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

MEMBERSHIPS

Member, Society of Canadian Ornithologists

Member, Ontario Field Ornithologists

PROJECT EXPERIENCE

Aggregate Services

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

Natural environment field inventories and Level II Natural Environment Technical Report

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

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

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

Natural environment field inventories and Level I Natural Environment Technical Report

Commercial / Retail Development

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

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

Natural Sciences & Heritage Resources

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

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

Forest Bird Research - Smithsonian Institution* (Field Assistant)

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

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

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

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

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

* denotes projects completed with other firms

Nicole Kopysh BES

Ecologist / Project Manager

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

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

Renewable Energy

Post-construction: Renewable Energy Projects, Various Sites, Ontario (Team Lead - Field Program and Technical Reporting)

Post-construction monitoring and reporting for various wind energy projects in Ontario, including:

- Melancthon I Wind Plant
- Wolfe Island Wind Power Project

Pre-construction: Renewable Energy Projects, Various Sites, Ontario (Team Lead - Field Program and Technical Reporting)

Study design, direction of field programs, agency and public consultation, evaluation and assessment of natural features, significant wildlife habitat, presence of Species At Risk, assessment of project impacts and preparation of final reports for the following projects:

- White Pines Wind Project Natural Heritage Assessment, Environmental Impact Study and Endangered Species Act Assessment and Permitting
- Ostrander Point Wind Energy Park Natural Heritage Assessment, Environmental Impact Study and Endangered Species Act Assessment and Permitting
- Springwood Wind Project Natural Heritage Assessment
- Whittington Wind Project Natural Heritage Assessment, Environmental Impact Studies and Endangered Species Act Assessment and Permitting
- Port Dover and Nanticoke Wind Project Natural Heritage Assessment, Environmental Impact Study and Endangered Species Act Assessment and Permitting
- Brooke-Alvinston Wind Project Natural Heritage Assessment

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

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

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

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

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

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

Residential Development

Almas Property, Hamilton, Ontario (Project Manager)

Environmental Impact Statement and Natural Heritage Assessment

Golhar Residence, Hockley Valley, Ontario (Project Manager)

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

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

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

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

Sports, Recreation & Leisure

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

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

* denotes projects completed with other firms

Nicole Kopysh BES

Ecologist / Project Manager

PUBLICATIONS

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

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

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

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

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

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

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

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

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

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

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

EDUCATION

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

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

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

Certificate, Butternut Health Assessment, Burlington, Ontario, 2009

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

PROFESSIONAL ASSOCIATIONS

Member, Botanical Society of America

Member, Field Botanists of Ontario

PROJECT EXPERIENCE

Aggregate Services

Proposed Quarry, Flamborough, Ontario (Ecologist)

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

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

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

Environmental Mitigation and Monitoring

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

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

* denotes projects completed with other firms

Environmental Site Remediation

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

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

Linear Infrastructure

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

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

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

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

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

Oil & Gas

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

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

Power Transmission & Distribution

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

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

Renewable Energy

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

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

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

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

Research / Laboratories

Duntroon License Expansion, Duntroon, Ontario
(Terrestrial Ecologist)

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

James Leslie B.E.S.
Terrestrial Ecologist

Terrestrial Assessments

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

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

Brandon Holden

Environmental Scientist



Stantec

Brandon joined Stantec in 2008. He has been birding extensively in Ontario and Eastern North America since 1997. Having recorded 344 species in Ontario, Brandon has a keen personal interest in finding vagrant bird species; highlighted last year by finding and photographing the first Black-tailed Gull (*Larus crassirostris*) for the province. A recent accomplishment was being voted onto the Ontario Bird Records Committee; the youngest member in its 30 year history. At Stantec, Brandon is responsible for carrying out seasonal bird and wildlife field surveys throughout Ontario, including some lengthy programs at remote sites.

EDUCATION

Lambton College, Sarnia, Ontario, 2007

PROFESSIONAL ASSOCIATIONS

Voting Member, Ontario Bird Record Committee (OBRC)

Member, Bird Studies Canada

Member, Ontario Field Ornithologists

Member, American Birding Association

AWARDS

Finalist, Veolia Wildlife Photographer of the Year, London England, 2009

NatureScapes.net Image of the Week - Multiple Weeks, 2006-2009

Ross Thompson Trophy for Proficiency in Ornithology - 2004

Doug Tarry Young Ornithologist Award - 2002

Hamilton Civic Award - 2002

Ross Thompson Trophy for Proficiency in Ornithology - 2002

PROJECT EXPERIENCE

Research

Port Alma Wind Project, Municipality of Chatham-Kent, Ontario (Environmental Scientist)
Brandon conducted migratory bird surveys.

Sault Ste. Marie Wind Power Project, Algoma District, Ontario (Environmental Scientist)
Brandon conducted migratory bird surveys.

Thunder Bay Wind Power Project, Thunder Bay District, Ontario (Environmental Scientist)
Brandon conducted migratory bird surveys.

Melancthon Wind Project, Dufferin County, Ontario (Environmental Scientist)
Brandon conducted breeding bird surveys.

Ostrander Point Wind Energy Park, Prince Edward County, Ontario (Environmental Scientist)
Brandon conducted surveys on breeding, migratory and wintering birds.

Wolfe Island Wind Project, Wolfe Island, Ontario (Environmental Scientist)
Brandon conducted surveys on breeding, migratory and wintering birds.

* denotes projects completed with other firms

Brandon Holden

Environmental Scientist

Sports, Recreation & Leisure

Volunteer Work, Multiple Locations* (Volunteer)

Annual leader of guided hikes for the Ontario Field Ornithologists, including a featured hike leader for two of the past three annual conventions. Brandon continues to volunteer by donating photographs to various provincial and local organizations. He also volunteers with the Hamilton Naturalists Club assisting with the Fall Bird Counts since 2001, and worked with the Haldimand Bird Observatory with bird banding.

Peregrine Prints, Multiple Locations* (Photographer)

Brandon established and maintains his own website, www.peregrineprints.com, showcasing his natural history photography and information. In 2010 the site has attracted over 23,000 visits and captured 800,000 hits as of June 1, 2010.

Emergency Planning / Response

Emergency Medical Care Training, Multiple Locations*

Brandon has taken extensive medical training; starting with general First Aid many years ago. He has upgraded this to Standard First Aid, First Responder and in 2008 obtained certification as an Emergency Medical Responder - the highest level available below Paramedic. Brandon also holds a (60 hour) Emergency Patient Care certificate from Lambton College.

** denotes projects completed with other firms*

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

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

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

EDUCATION

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

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

AWARDS

2000 University of Guelph, Dean's List

1997 University of Guelph, Dean's List

PROJECT EXPERIENCE

Aggregate Services

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

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

Linear Infrastructure

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

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

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

Multi-Unit / Family Residential

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

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

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

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

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

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

Natural Sciences & Heritage Resources

Fourteen Mile Creek Development, Oakville, Ontario (Ecologist)

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

Activa Waterloo East, Waterloo, Ontario (Ecologist)

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

Power

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

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

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

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

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

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

Andrew Taylor B.Sc.

Ecologist

Proton Wind Program - 50 Turbines, 100 MW, Southgate Township, Ontario (Ecologist)

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

Port Alma Wind Power Project - 44 Turbines, 101.2 MW, Municipality of Chatham-Kent, Ontario (Ecologist)

Coordinating and conducting monitoring of winter raptors, spring migratory shorebirds, breeding birds, fall migrating raptor and avian Species at Risk populations for wind turbine development. Prepared comprehensive technical report appendix to the Environmental Screening Report.

Kingsbridge II Wind Project Environmental Assessment - 69 Turbines, 158.7 MW, Goderich, Ontario (Ecologist)

Coordinating and conducting monitoring of migratory and breeding bird populations for wind turbine development. Prepared comprehensive technical report appendix to the Environmental Screening Report.

Melancthon II Wind Project Environmental Assessment - 88 Turbines, 132 MW, Melancthon & Amaranth Townships, Ontario (Ecologist)

Conducted monitoring of breeding bird populations or wind turbine development.

Research / Laboratories

Rice Lake Plains Joint Initiative, Northumberland County, Ontario* (Ecologist)

Tallgrass prairie research program. Identification and detailed cataloging of remnant tallgrass prairie sites, landowner liaison and education, development of tallgrass prairie management plans, reporting of findings.

Alderville First Nations Black Oak Savannah, Alderville, Ontario* (Ecologist)

Tallgrass prairie and black oak savannah research program. Technical reporting. Vegetation monitoring, tallgrass prairie reconstruction, wildlife monitoring, Species at Risk reintroduction.

Sports, Recreation & Leisure

Sunnidale Park Master Plan, Barrie, Ontario (Ecologist)

Identification and delineation of ecological management units. Design of management plans for ecological units, wetland and forest habitat rehabilitation. Technical reporting.

* denotes projects completed with other firms

Jon joined Stantec in 2007 as an avian ecologist. He obtained his Bachelor of Science Degree (Zoology) from the University of Guelph in 2007 and has since been conducting bird survey programs in Ontario and Alberta. From Ottawa originally, he is a keen birder who enjoys traveling throughout southern Ontario in search of new species to add to his life list. At Stantec, Jon is responsible for carrying out seasonal bird and wildlife field surveys throughout Ontario, including pre and post construction monitoring at wind farms across the province.

EDUCATION

Bachelor of Science, Honors, University of Guelph,
Zoology, Guelph, Ontario, 2007

Bachelor of Education, Pending, Queen's University,
Intermediate-Senior Divisions (Biology/Chemistry)
Consecutive Program, Kingston, Ontario, 2008

University of Alberta, Department of Renewable
Resources, Alberta* (Field Assistant)

Conducted breeding songbird point counts in northern Alberta and studied Swainson's Thrush behavior. The tasks included navigation of rough and remote terrain, utilizing Global Positioning Systems (GPS), compasses and maps.

PROJECT EXPERIENCE

Environmental Sciences

Wildlife Education and Environmental Program,
Department of Zoology, Ontario* (University Peer
Helper)

Attended laboratory sessions for fourth year Mammology course, guided students through anatomical and taxonomically related questions, and led pre-lab talk about fruit eating mammals, including bats.

Wildlife Education and Environmental Program,
Ontario* (Aviary Supervisor)

Oversaw volunteer operations and animal care, trained new bird handlers and education of team members.

Bird Counts, Ontario* (Environmental Scientist)

Performed bird counts in the Region of Ottawa-Gatineau, and the Region of Peel-Halton.

Haveman Brothers Forestry Services, Ontario*
(Tree-Planter)

Navigated rough and remote areas to re-plant logged areas with spruce and pine saplings.

* denotes projects completed with other firms

Shannon D. Catton M.Sc.

Terrestrial Ecologist / Project Manager



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

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

Shannon also is a published author for various publications including articles in the journal Canadian Reclamation and Applied Vegetation Science.

EDUCATION

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

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

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

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

PROJECT EXPERIENCE

Aggregate Services

Terrestrial Surveys for Various Pit and Quarry Implementation and Extension Projects, Ontario (Terrestrial Ecologist)

Terrestrial surveys for the following projects included habitat assessments, floral inventories, tree surveys, American Hart's Tongue Fern surveys (a species at risk), winter wildlife surveys, salamander egg mass surveys and reptile hibernacula surveys.

- Proposed Duntroon Quarry Extension, Duntroon, ON;
- Proposed Hillsburgh Quarry, Hillsburgh, ON;
- Proposed Flamborough Quarry, Hamilton, ON;
- Proposed West Montrose Quarry, West Montrose, ON.

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

Terrestrial surveys included salamander migration surveys, salamander egg mass surveys, salamander tissue sampling (in conjunction with OMNR), and amphibian calling surveys. Coordination of project includes proposed additional fieldwork, technical reporting and species at risk permit applications.

Electrical Power Distribution

Coote's Paradise Transmission Reinforcement Project, Hamilton, Ontario (Terrestrial Lead, Technical Reporting)

Terrestrial surveys included vegetation community assessments, floral inventory and species at risk habitat assessments. Technical reporting and species at risk assessment in conjunction with local Conservation Authority.

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

Terrestrial surveys included vegetation community assessments, floral inventories, winter wildlife and species at risk habitat assessments. Technical reporting and development of a comprehensive terrestrial monitoring and mitigation report.

Natural Sciences & Heritage Resources

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

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

* denotes projects completed with other firms

Shannon D. Catton M.Sc.

Terrestrial Ecologist / Project Manager

Oil & Gas

Proposed Bickford to Dawn Pipeline Project, Chatham, Ontario (Terrestrial Lead, Technical Reporting)

Terrestrial surveys included vegetation community assessments, floral inventory and species at risk habitat assessments. Study design and development in conjunction with local OMNR district for Eastern Foxsnake, including a species at risk 17b permit application.

Highway 21 Rehabilitation, Bayfield to St. Joseph, Ontario (Terrestrial Ecologist, Technical Reporting)

Terrestrial surveys included vegetation community assessments, floral inventory, incidental wildlife and nest searches and structure assessments in compliance with the Migratory Bird Act.

Renewable Energy

Melancthon I Wind Plant Project, Shelburne, Ontario (Terrestrial Ecologist)

Terrestrial surveys included winter raptor surveys (pre- and post-construction) and bird and bat mortality monitoring.

Wolfe Island Wind Power Project - 86 Turbines, 197.6 MW, Wolfe Island, Ontario (Terrestrial Ecologist)

Terrestrial surveys included winter raptor surveys (pre- and post-construction) and bird and bat mortality monitoring.

Research / Laboratories

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

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

Residential Development

Environmental Impact Studies for Various Residential Development Projects, Ontario

Environmental Impact Studies for various residential development projects in the Oak Ridges Moraine (ORM) planning area.

Transportation Planning

Highway 11, Preliminary Design Study, Access Review from Powassan to Callander, Ontario (Technical Reporting)

Highway 3 Rehabilitation, Detail Design, Renton to Jarvis, Ontario (Technical Reporting)

* denotes projects completed with other firms

Shannon D. Catton M.Sc.

Terrestrial Ecologist / Project Manager

PUBLICATIONS

Matthes, U., P.J. Richardson, S. Catton, C.D. Stabler, D.W. Larson. The quarry-to-alvar initiative: Creating new alvar habitat from abandoned limestone quarries. *Canadian Reclamation*, 2010.

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

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

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

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

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

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

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

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

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