

Stantec

SUNCOR ENERGY ADELAIDE WIND POWER PROJECT
NATURAL HERITAGE ASSESSMENT & ENVIRONMENTAL IMPACT STUDY

Appendix G

Curricula Vitae

Vince Deschamps B.E.S. (Hons.), M.Sc.

Senior Environmental Planner



Vince Deschamps is a senior environmental planner with experience in ecology. He has over 18 years of experience in Canada and abroad, conducting environmental assessments, resource economics, conservation planning and biological inventories. Vince has focused on assessing ecological components of urban and aggregate development proposals for conformity with municipal OPs, the PPS and the Aggregate Resources Act, which includes development and coordination of complex ecological field investigations, including management of expert staff and subconsultants, data analysis, including assessment of impacts to ecological receptors, and reporting. Vince's familiarity with applicable legislation and the regulatory authorities serves our clients well; his experience in the private, public and non-government sectors provide him with a creative and thoughtful approach to project development, delivery and evaluation. Vince once lived and worked in Indonesia for five years, where he specialized in assessing impacts of development activities on biodiversity, specifically regarding the IFC's Performance Standard 6–Biodiversity Conservation and Sustainable Natural Resource Management. This experience imbued Vince with a keen sense and appreciation for cultural and political sensitivities that influence the processes, and ultimately the potential for a project's success. This translates well into his frequent consultation with stakeholders from all levels, including government and NGOs. Vince's strong interpersonal skills, analytical, writing and presentation abilities are supported by a high level of organization, such that projects are completed on time and are of superior quality.

EDUCATION

M.Sc., University of Guelph / Rural Planning and Development, Guelph, Ontario, 2000

B.E.S. (Hons.), University of Waterloo / Environment and Resource Studies, Waterloo, Ontario, 1988

Certificate, Ontario Ministry of Natural Resources / Ecological Land Classification System for Southern Ontario, Kingston, Ontario, 2006

MEMBERSHIPS

Full Member, Canadian Institute of Planners

Full Member, Ontario Professional Planners Institute

Verification Service Provider, "Towards Sustainable Mining" Initiative, Mining Association of Canada

PROJECT EXPERIENCE

Aggregate Services

Township of East Garafraxa Gravel Pit Expansion*, Ontario (Project Manager / Ecologist)

Prepared a Natural Environment Level 1 & 2 Report for the expansion of the Township of East Garafraxa's existing licensed gravel pit operation near Orangeville, Ontario. The report was required to meet the natural environment reporting requirements of the Aggregate Resources Act for a Category 3 – Class A Pit (Above Water Table), and included Ecological Land Classification and a breeding bird survey.

Clinton Pit Level 1 & 2 Natural Environment Technical Report, Jennison Construction Limited*, Huron County, Ontario (Project Manager / Ecologist)

Prepared a Natural Environment Level 1 & 2 Report for a proposed gravel pit operation near Clinton, Ontario. The report was required to meet the natural environment reporting requirements of the Aggregate Resources Act for a Category 3 – Class A Pit (Above Water Table) and the EIS requirements of the Huron County and Ashfield-Colborne-Wawanosh Township Official Plans. Natural heritage evaluations included Ecological Land Classification, vegetation inventories, breeding bird surveys and the preparation of a Woodlot Restoration and Rehabilitation Plan. The Level 1 & 2 Report was prepared in accordance with the 2010 Natural Heritage Reference Manual (MNR).

* denotes projects completed with other firms

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Senior Environmental Planner

Conservation & Reclamation Planning

Javan Tiger Survey in Meru Betiri National Park, World Wide Fund for Nature (WWF)/Indonesia Programme, PHPA (Indonesian Department of Forest Protection and Nature Conservation) (1993)* (Project Manager)

*Coordinated a field survey to determine the existence/status of the Javan tiger (*Panthera tigris sondaicus*) in Meru Betiri National Park and the surrounding area in East Java, using a combination of remote automated cameras and extensive field patrols to gather evidence of tiger and other large mammals.*

Information Officer and Buffer Zone Initiatives in Ujung Kulon National Park, World Wide Fund for Nature (WWF)/Indonesia Programme, PHPA (Indonesian Department of Forest Protection and Nature Conservation) (1991-1993)* (Project Manager)

*Developed and implemented a Park interpretation/awareness strategy for Park visitors and community extension programs in this World Heritage Site. Assisted with biological studies on the Javan rhinoceros (*Rhinoceros sondaicus*), and other large mammals. Developed alternative income sources for people living around the Park boundaries, including a traditional craft and tourist facilities cooperative. Related "buffer zone" activities included the formation of Village Environmental Advisory Boards and land/forest rehabilitation programs.*

Development of a Model Reserve Management Strategy in the Danau Sentarum Wildlife Reserve, Asian Wetland Bureau/Indonesia Programme, Overseas Development Administration, PHPA (Indonesian Department of Forest Protection and Nature Conservation) (1993-1994)* (Project Manager)

Established a model reserve management strategy at the Danau Sentarum Wildlife Reserve, a remote floodplain reserve and RAMSAR site in West Kalimantan (Indonesian Borneo), via a process of combining ecological research with sustainable resource utilization by local people.

Evaluation of Community Forests as a Buffer Zone Initiative, Indonesia, Leuser Management Unit and CIDA Awards for Canadians (2000)* (Masters Thesis)

Developed and field-tested a model to evaluate the relationship between biodiversity and social benefits through community-based forest management in the Leuser Ecosystem. A secondary study was conducted among residents of the city of Medan to measure levels of awareness and concern of regional environmental issues, and their perceptions of the Leuser Management Unit.

Economic Analysis & Feasibility Studies

Value of Water Resources in Lore Lindu National Park, Indonesia, The Nature Conservancy (2001) (Project Manager)

This study investigated the economic contributions of waters arising from Lore Lindu National Park in Central Sulawesi. As part of this study, the framework for water and other resource valuations was developed using a combination of literature review, key informant interviews, field visits and data analysis. One of the key components was the development and application of the Agricultural Producer and Water User Survey that gathered primary data at the household level from a statistically-representative sample of rural households in the Study Area. In concert with other research techniques, the survey was used to estimate the value of agricultural production, livestock inventories and other sources of protein, and household and industrial water consumption. The study also estimated the total number of people who are dependent on water from LLNP for drinking, washing, bathing, and other day-to-day activities, as well as the total area of land irrigated by waters arising from the Park.

Value of Water Resources in Berau Regency, East Kalimantan, Indonesia, The Nature Conservancy (2002) (Project Manager)

This study estimated the economic contributions of water from the Kelay and Segah rivers in Berau Regency. The results present a conservative, but reliable estimate of the value of these contributions to the local economy using the framework developed in the LLNP Water Value Study. The study estimated the value of agricultural production, livestock inventories and other sources of protein, and household consumption of waters from these two rivers, the total number of people who are dependent on them for drinking, washing, bathing, and the total area of land irrigated by the two rivers. This study may also serve as a model to guide future conservation initiatives in Berau, and on the larger Mahakam River in East Kalimantan.

Carbon/Mangrove Rehabilitation Feasibility Study, East Kalimantan, The Nature Conservancy (2004)* (Project Manager / Lead Researcher)

Vince carried out a feasibility study for restoring mangrove forest using carbon-funding mechanisms. The feasibility study covered the technical and financing sustainability aspects, including a thorough literature review of previous efforts. Technical feasibility focused on South East Asia with emphasis on Indonesia and the financial aspects worldwide. The outcome documented how the Clean Development Mechanism (CDM) might be used to set aside forest concessions in ecologically sensitive areas in Indonesia.

* denotes projects completed with other firms

Vince Deschamps B.E.S. (Hons.), M.Sc.

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Comprehensive Review & Overhaul of Barbados Groundwater Protection Zoning Policy & System, Barbados Water Authority (2008)* (Planning Specialist)

Vince served as a Planning Specialist to assess the social, financial and economic impact of land use restrictions in Groundwater Protection Zones 1 through 5. Assessment involved engaging a representative cross section of stakeholders and consisted of reviewing current and historic Government of Barbados' population and economic statistics, conducting two Public Information Centres and Key Informant Interviews to identify common land use practices affecting groundwater resources, conducting community mapping to assess the impacts of land use practices on groundwater resources and conducting water-user and land use surveys to determine social, financial and economic conditions in the five Zones.

Economic Impacts of Agriculture Studies*, Ontario (Researcher)

Played a significant role in studies to assess the economic impacts of agriculture in nine counties across Ontario. The studies include reviews of relevant literature, analyses of secondary data, surveys of agriculture-related businesses, focus groups with primary producers and mapping components

Northwest Brampton Urban Boundary Review, Shale Resources Review, City of Brampton, Ontario (Researcher)

Conducted an economic assessment of the Greater Toronto Area market area for shale production and brick manufacturing, as well as determining the long-term demand trends and quantities for heavy clay products, most notably clay bricks.

Environmental Impact Assessments

Biodiversity Management Rosia Montana Project, Rosia Montana Gold Corporation S.A., Romania (2003-2004) (Biodiversity Specialist)

Vince was a member of the Stantec consulting team that conducted an Environmental Impact Assessment of the Rosia Montana Gold Corporation S.A. proposed Rosia Montana Project in Romania. Among other project-related tasks, he was responsible for producing the Biodiversity Conservation Plan, drafting several sections of the EIA report, coordinating biological field surveys in Romania, and acquiring and analyzing data from other project consultants.

Martabe Project Biodiversity Management and Impact Assessment, Newmont Mining, Indonesia (2004-2005)* (Biodiversity Specialist)

Vince was part of the MWH Global team conducting preliminary feasibility studies for Newmont Mining Corporation for development of the Martabe gold mine project in North Sumatra, Indonesia. Vince was responsible for reviewing ecological baseline studies conducted in the Martabe Project Area (MPA) on behalf of Newmont, identifying key ecological issues, potential impacts and developing management options for the proposed project. Key to the development of the biodiversity component of the feasibility study was the presence of globally threatened species in and adjacent to the MPA, and accelerating forest cover loss as a result of unsustainable land conversion by local communities.

External Environmental Audit, PT Freeport, Indonesia (2005)* (Biodiversity Specialist)

As a sub-consultant to MWH Global, Vince participated in the 2005 External Environmental Audit of the PT Freeport Indonesia (PTFI) mining operation in Papua, Indonesia. The audit is required on a periodic basis by the current Contract of Work established between the Government of Indonesia and PTFI, and is focused on evaluation of: compliance with specific COW requirements and applicable regulations; the effectiveness of PTFI's environmental management system, practices, and procedures in actual practice; and, the level to which PTFI's operations employs internationally recognized best management practices for the management and mitigation of its environmental impacts. In his role as an Audit Team member, Vince was responsible for the evaluation of biodiversity and ecological impacts, particularly in relation to the restoration, rehabilitation and monitoring of the Ajkwa Deposition Area and excavated/waste rock stockpile areas in the highlands. Given his fluency in Bahasa Indonesia, Vince was also called upon to assist in the evaluation of regulatory compliance issues and provide translation assistance to other audit team members as circumstances required.

Biodiversity Evaluation, PT Holcim Indonesia, Tuban, East Java (2008)* (Biodiversity Specialist)

Served as the Lead Consultant for a biodiversity evaluation of Holcim's proposed PT. Semen Dwima Agung Cement Operation near Tuban, East Java. The International Finance Corporation (IFC) requested Holcim to conduct an independent expert evaluation of the biodiversity analysis conducted for the Project ESIA (ANDAL) within the context of the IFC Performance Standard 6 – Conservation of Biodiversity and Sustainable Resource Management (PS6). In addition to the evaluation of the content of the ANDAL, the evaluation also provided a series of recommendations to further understand conditions at the project site and bolster PT Holcim Indonesia's effort to minimize impacts on terrestrial flora and fauna in the project area.

* denotes projects completed with other firms

Vince Deschamps B.E.S. (Hons.), M.Sc.

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Eramet/Weda Bay Nickel BFS ESHIA, Halmahera, Indonesia (2009-2011)* (Terrestrial Biodiversity Team Leader)

Currently engaged as the Team Leader for Technical Memorandum 01 (TM01, Terrestrial Biodiversity) for Weda Bay Nickel's "Bankable Feasibility Study-Environmental, Social and Health Impact Assessment" (BFS ESHIA). Working with the BFS ESHIA Project Manager and Technical Director to ensure timely delivery of all outputs related to Terrestrial Biodiversity. This includes providing oversight and guidance to experts from the Indonesian Institute of Sciences Research Centre for Biology (LIPI) to design and conduct field investigations, analyzing the results of these investigations, assessing potential impacts to terrestrial biodiversity as a result of mine development, and recommending mitigations to minimize these impacts. Responsible for the preparation of the Terrestrial Biodiversity Baseline Report, Terrestrial Biodiversity Action Plan and integrating these documents into the overall BFS ESHIA Report. Fieldwork and reporting will be in compliance with the Equator Principles, IFC Performance Standards, and any other guidelines to be designated by Weda Bay Nickel.

Peer Reviews of Other Consultants' Ecological Reports for Various Land Development Proposals and Projects on Behalf of Various Municipalities*, Ontario (Lead Reviewer)

Conducted ecological peer reviews on behalf of various municipalities. Projects included:

- Island Lake Golf and Country Club Community Environmental Impact Study and Proposed French Drive Road Extension, Town of Mono, ON
- Environmental Impact Assessment, Part of North Half of Lot 16 and Part Lot 17, Concession 4, Township of Adjala-Tosorontio, ON
- Hamount and Valleygrove Lands - Dufferin County Road #16 Township of Amaranth Environmental Impact Statement, Township of Amaranth, ON
- Country Meadows Estates Subdivision Environmental Impact Assessment (Part Lot 30, Concession 1) Township of Amaranth, Dufferin County, ON
- Melancthon II Wind Project Environmental Screening Report / Environmental Impact Statement, Township of Amaranth, ON

Environmental Impact Assessments for Various Land Development Proposals and Projects*, Ontario (Ecologist / Environmental Planner)

Projects involved assessment of development impact on the natural environment and recommending monitoring strategies in conformity with legislative requirements, including municipal Official Plans, the Provincial Policy Statement, the Aggregate Resources Act, the Oak Ridges Moraine Conservation Plan and conducting Municipal Class Environmental Assessments under the Ontario Environmental Assessment Act. Projects include:

- Rehabilitation of The Gore Road from King Street to Patterson Sideroad Municipal Class EA (Schedule B), Region of Peel, ON
- Kincardine Avenue Municipal Service Extension Municipal Class EA (Schedule B), Township of Kincardine, ON
- Municipal Class EA (Schedule C) for the East Luther Grand Valley Water Pollution Control Plant, Grand Valley, ON
- ORMCP Conformity Report for the Colgan Water Supply Municipal Class EA (Schedule B), Township of Adjala-Tosorontio, ON
- Bonaire Highlands Scoped EIS, Fergus, ON
- Veterans Way Lands EIS, Orangeville, ON
- Aberfoyle Creek Estates Phase III EIS, Aberfoyle, ON
- Giant's Tomb Subdivision EIS Review, Tiny Township, ON
- Pickering-Kingston Road Environmental Report, Pickering, ON
- Gamble Road Lot 5 EIS, Richmond Hill, ON
- Hilltop Community EIS, Ayr, ON
- Churchville Planning & Heritage Study, Natural Heritage Component, Brampton, ON

Goreway Direct Access Natural Gas Pipeline Environmental and Social Impact Assessment, Sithe Canadian Pipelines, Ontario (Project Manager)

Managed and prepared a Draft ESIA to construct and operate a 610 mm (NPS 24) natural gas pipeline to provide fuel for the 800 MW Goreway Station combined cycle gas fuelled power station proposed to be located on Goreway Drive in the City of Brampton, Ontario. The Draft ESIA was based on the Ontario Energy Board's "Environmental Guidelines for Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario", and documented the information analysis and decision-making that resulted in the recommendation of a Preferred Pipeline Route, and the impact assessment, mitigation and monitoring measures associated with construction and operation of the pipeline.

Compatibility Assessment, Iron Ore Company of Canada*, Labrador (Project Manager)

Conducted an environmental, socioeconomic, and land use compatibility assessment for a proposed hospital and community college in the Town of Labrador City on IOCC's long-range mine plan. The assignment consisted of a quick assessment of the Town's proposed facilities, a technical assessment of the potential impacts of IOCC's mine plan on them, and input to the provincial and municipal EA processes required to develop these facilities.

* denotes projects completed with other firms

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Technical EA Reviews of the Detour Gold Project, Coral Rapids Power Limited Partnership & Taykwa Tagamou Nation*, Ontario (Project Manager / Lead Reviewer)

Served as project manager overseeing multi-disciplinary technical reviews, on behalf of Coral Rapids Power Limited Partnership and the Taykwa Tagamou Nation (TTN), of Environmental Assessment reports prepared for the Detour Lake gold mine project in northern Ontario. The reviews focused on the interests of the TTN, in particular how the proposed mine facilities, electrical transmission corridor and roads may affect them and how potential effects might be accommodated.

- Editing and input to TNC's Interim Report: "A Comparative Study on the Impacts of Inappropriate Land-Use and the Development of Participatory Watershed Plans". Prepared for the Japan Bank for International Cooperation, April 2005

Renewable Energy

Environmental Permitting for Bluewater, Goshen and Jericho Wind Energy Centres, NextEra Energy Canada*, Huron and Lambton Counties, Ontario (Project Manager)

Served as project manager for the environmental permitting for the Bluewater, Goshen and Jericho Wind Farms proposed by NextEra Energy Canada in Huron and Lambton Counties in Ontario. These wind centres have a maximum generating capacity of 480 MW. Environmental permitting for the wind energy centres was undertaken in accordance with the recent Renewable Energy Approval (REA) process, as required under the 2009 Green Energy Act. Provided overall management responsibilities for the assignment, including project administration and the timely provision of deliverables, as well as serving as the primary point of contact for NextEra Energy Canada for the assignment.

Technical Writing

Various Writing and Editing Assignments in Indonesia (2005-2006)* (Project Manager)

In Indonesia, Vince has assisted CARE International and The Nature Conservancy with a variety of field assignments, project reports and professional papers. These include:

- Editing and technical input to CARE Indonesia's "Protection of Tropical Forests Through Environmental Conservation of Marginal Lands (PTF-EMCL) Phase II Final Report". Prepared for the Norwegian Development Agency (NORAD), January 2006*
- Preparation of CARE Indonesia's proposal: "CDM-Based Reforestation in Rawa Aopa Watumohai National Park, Indonesia". Prepared for Canada's Clean Development Mechanism and Joint Implementation Office, November 2005*
- Co-authored the TNC paper: "Trends in Forest Ownership, Forest Resources Tenure and Institutional Arrangement: Are they Contributing to Better Forest Management and Poverty Education? Case Studies from Indonesia". Prepared for the FAO Regional Workshop in Bangkok, Thailand, October 2005*

* denotes projects completed with other firms

Melissa Straus completed her undergraduate degree with honours in Environmental Sciences at the University of Guelph and her Masters degree in Biology at Trent University. Her M.Sc. focused on the effects of silvicultural practices on reproductive success of cavity-nesting birds in southwestern Ontario.

Melissa is a Terrestrial Ecologist with experience in various sectors, including aggregate services, electrical power distribution, oil and gas, renewable energy, residential development and transportation planning. Her experience involves implementation of the *Migratory Birds Convention Act* and *Species at Risk Act*. Melissa is a skilled birder and has field experience conducting avian, reptile, amphibian, Ecological Land Classification (ELC), and botany surveys, as well as conducting post-construction monitoring at wind farms.

EDUCATION

B.Sc. in Environmental Sciences, Co-op Program,
University of Guelph, Guelph, Ontario, 2003

M.Sc. in Biology, Trent University, Peterborough,
Ontario, 2009

Certified in the Ecological Land Classification System for
Southern Ontario, Ontario Ministry of Natural Resources,
Kemptville, Ontario, 2010

PROJECT EXPERIENCE

Aggregate Services

Proposed Melancthon Quarry, The Highland Companies,
Melancthon Township, Ontario (Terrestrial Ecologist)
Conducted habitat assessment and species at risk surveys.

Proposed Acton Quarry Extension, Dufferin Aggregates,
Acton, Ontario (Terrestrial Ecologist)
*Conducted evening amphibian surveys in accord with MNR
protocols.*

Electrical Power Distribution

Hydro One Bruce X Milton Transmission Reinforcement,
Bruce County, Ontario (Ecologist)
*Located and protected active bird nests during land clearing to
ensure client compliance with the Migratory Birds Convention
Act.*

Multi-Unit / Family Residential

Natural Heritage Evaluations for Various Residential
Development Projects, Southern Ontario (Terrestrial
Ecologist)
*Terrestrial surveys included breeding bird, species at risk,
habitat assessment, and ELC for various residential development
projects.*

Natural Sciences & Heritage Resources

Conservation Planning*, Mississauga, Ontario
(Conservation Planning Assistant)

*Created conservation plans for private landowners in the Credit
Valley Watershed and inventoried vegetation using Ecological
Land Classification for Southern Ontario protocol.*

Forestry Impacts on Regeneration Rates and Bird
Communities Research*, East Lansing, Michigan (Field
Assistant)

*Performed avian point counts in the upper peninsula of
Michigan, estimated White-tailed Deer densities, and completed
specialized vegetation surveys to assess forest regeneration
rates.*

Forest Bird Research*, London, Ontario (Project
Biologist)

*Prepared a manuscript on the nesting success of cavity-nesting
birds in woodlots subjected to silviculture, conducted a meta-
analysis of edge effects on nesting success of songbirds, and
created fact sheets for a landowner stewardship guide.
Conducted salamander mark and recapture surveys, nest
searching and monitoring, completed numerous vegetation
surveys, located and reported avian and vegetative species at
risk, collected and identified invertebrates to Order.*

Oil and Gas Pipelines

Enbridge Project Nexus Interconnect Pipeline,
Mooretown, Ontario (Terrestrial Ecologist)

*Species at risk surveys for various vegetation species and
coverboard surveys for Butler's Gartersnake.*

Renewable Energy

Melancthon Ecopower Centre, Melancthon Township,
Ontario (Terrestrial Ecologist)

*Participated in environmental monitoring of post-construction
wind turbine impacts on bird and bat mortalities.*

* denotes projects completed with other firms

Melissa A. Straus M.Sc.

Terrestrial Ecologist

White Pines, Picton, Ontario (Terrestrial Ecologist)

Conducted ELC, amphibian, and crepuscular bird auditory surveys.

Grand Renewable Energy Park, Cayuga, Ontario (Terrestrial Ecologist / Technical Reporting)

Conducted ELC and wildlife habitat assessment; coordinated and conducted winter raptor and Short-eared Owl surveys; assisted with NHA, EIS, and APRD reporting for proposed wind and solar project.

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

Conducted winter raptor and raptor disturbance surveys as well as assisting with permitting reports and post-construction mortality monitoring trials.

Kruger Energy Port Alma, Port Alma, Ontario (Terrestrial Ecologist / Coordinator)

Coordinated on site subcontractors conducting mortality monitoring and scavenger trials, some permit reporting.

Transportation Planning

MTO Highway 40, Chatham, Ontario (Terrestrial Ecologist)

Conducted reptile and species at risk surveys and habitat assessment.

MTO Highway 24, Cambridge, Ontario (Terrestrial Ecologist)

Conducted reptile and avian species at risk surveys and habitat assessment.

Melissa A. Straus M.Sc.

Terrestrial Ecologist

PUBLICATIONS

Straus, M.A., K. Bavrlic, E. Nol, D.M. Burke, K.A. Elliott. Reproductive success of cavity-nesting birds in partially harvested woodlots. *Canadian Journal of Forest Research*, 41: 1004-1017, 2011.

Burke, D., K. Elliott, K. Falk, and T. Pirano. (M. Straus, contributing author). A land manager's guide to conserving habitat for forest birds in southern Ontario. *Ministry of Natural Resources and Trent University*, 2011.

Straus, M. Reproductive success of cavity-nesting birds in partially harvested woodlots in southwestern Ontario. *M.Sc. Thesis, Department of Biology, Trent University, Ontario, Canada*, 2009.

Straus, M. The effects of partial harvesting on cavity-nesting bird communities in southwestern Ontario. *Society of Canadian Ornithologists (SCO-SOC) Conference Poster*, 2007.

Peterborough Field Naturalists Guest Speaker. *Impacts of partial harvesting on cavity-nesting birds in southwestern Ontario*, 2006.

Straus, M. Carolinian forests of southern Ontario: Species at risk and cavity-nesters. *Guelph Field Naturalists Guided Hike*, 2006.

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

* denotes projects completed with other firms

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

Ecologist

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

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.

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

Andrea McCreery has 3 years of experience in land use and environmental resources planning and management. Andrea is responsible for planning and coordinating environmental impact assessments, natural environment field programs and biological inventories in support of development, transportation and watershed restoration projects. Andrea has been involved in the implementation of the natural heritage and natural hazards policies of the Provincial Policy Statement, Conservation Authorities Regulations and Municipal planning documents. Andrea has developed a thorough understanding of the complex and evolving policy framework in the Province and a comprehensive understanding of the interconnections between the physical and the natural environment, and maintains a good working relationship with the review and approval agencies.

Formerly with the St. Clair Region Conservation Authority, she developed an extensive working knowledge of watershed management, environmental assessment and natural resources planning through input into the development of SCRCA policies, public consultation and coordinating the review and approval of development applications, permits and Environmental Assessments.

EDUCATION

Bachelor of Environmental Studies, University of Waterloo, Waterloo, Ontario, 2008

Master of Science, Rural Planning and Development, University of Guelph, Guelph, Ontario, 2011

School of Environmental Design and Rural Development Program Evaluation Certificate, University of Guelph, Guelph, Ontario, 2011

PROJECT EXPERIENCE

Environmental Planning

Dorchester South Stormwater Drainage Area Class Environmental Assessment, Dorchester, Ontario (Environmental Planner)

Environmental Planner responsible for updating the Natural Environment Report (NER) by performing an environmental constraints analysis for the subject lands, using published resources and field investigations provided by technical staff to identify constraints to development. A Class EA in progress will consider the proposed alternatives of development, the potential environmental impacts and discuss mitigation measures for each potential impact. Preparation of this report required the coordination of technical staff and active involvement with other study team members.

Upper Little River Stormwater and Master Drainage Plan, Ontario (Environmental Planner)

Responsible for the completion of a Natural Heritage Study to recommend measures to protect the natural features and functions in the area. The Natural Heritage Study considers the proposed plan of development, the potential environmental impacts and discussed mitigation measures for each potential impact. Preparation of this report required the coordination of technical staff and active involvement with other study team members.

Niagara Region Wind Project, Ontario (Environmental Planner)

Performed a preliminary environmental constraints analysis for the subject lands, using published resources and consultation with government agencies to identify constraints to development. Preparation of this report required the active involvement with other study team members.

Sunningdale Court Scoped Environmental Impact Study, London, Ontario (Environmental Planner)

Responsible for the completion of an Environmental Impact Study to recommend measures to protect the natural features and functions in the area. Currently in progress, this EIS will consider the proposed plan of development, the potential environmental impacts and discussed mitigation measures for each potential impact. Preparation of this report required the coordination of technical staff and active involvement with other study team members.

Andrea E. McCreery B.E.S., M.Sc.

Environmental Planner

Beachville Trail Component of the Thames Valley Trail System, Environmental Assessment, County of Oxford (Environmental Planner)

Performed a preliminary environmental constraints analysis for the subject lands, using published resources to identify constraints to development. Preparation of this report required the active involvement with other study team members.

Pine Street Subdivision Environmental Impact Study, Ingersoll, Ontario (Environmental Planner)

Responsible for the completion of an Environmental Impact Study to recommend measures to protect the natural features and functions in the area. An EIS currently in progress will consider the proposed plan of development, the potential environmental impacts and discussed mitigation measures for each potential impact. Preparation of this report required the coordination of technical staff and active involvement with other study team members.

Hamilton Road Natural Environment Report, London, Ontario (Environmental Planner)

Environmental Planner responsible for updating to the report by performing an environmental constraints analysis for the subject lands, using published resources and field investigations provided by technical staff to identify constraints to development.

Policy Planning

County Aggregate Resource Strategy, Huron County Planning Department* (Junior Planner)

In response to Provincial direction, the planning department initiated a process to develop a strategy to manage mineral aggregate resources in Huron County. Andrea was responsible for the completion of a strategy report to recommend policy measures that balance ecologic objectives, extraction, and long-term protection of aggregate resources. This strategy report required the coordination of a steering committee, collaboration with external stakeholders and active involvement with other planners.

Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourse Regulation, Ontario Regulation 171/06, St. Clair Region Conservation Authority* (Regulations & GIS Technician)

Acting as Regulations & GIS Technician, Andrea organized a set of draft policies based on existing provincial and regional legislation. The purpose of the document was to provide the public with a user-friendly guide to SCRCA policies. This document required the active involvement with other study team members.

Provincial Policy Statement Five Year Review, Middlesex County Planning Department* (Policy Planner)

The Province conducted a review of the PPS requesting input from a variety of agencies and departments in Ontario. Andrea was responsible for participating in agency consultation, identifying inconsistencies, and providing an evaluation of the document's ability to adequately address emerging land issues. Upon approval from County Council, the completed evaluation was submitted to the Province for review.

Middlesex County Industrial, Commercial and Residential Vacant Lands Inventory* (Planner)

Andrea conducted an inventory of all vacant industrial, commercial and residential lands within Middlesex County to provide recommendations for the County five year review. Recommendations were based on the vacant land findings and potential future development scenarios. The completed report required a GIS catalog of vacant lands, accurate estimation of projected lots and lot sizes (based on existing designs, zoning bylaws and natural heritage features and hazards), and estimated population growth. In addition to the report, Andrea presented the study findings with policy recommendations to support development growth.

Reporting

Middlesex County Municipal Water and Wastewater Infrastructure Report* (Planner)

Elgin County Local Food Study, University of Guelph* (Project Assistant)

Managing Water Resources in Ontario: A comparative study of Ontario and Australian Water Policies*

Greenhouse Gas Emissions Reduction Strategy*, University of Guelph, Guelph (Project Developer)

* denotes projects completed with other firms

Natalie Leava is a Terrestrial Ecologist with practical skills that include the identification of grasses, flowering plants, trees, lichens, and bryophytes. She completed the Ecological Land Classification (ELC) course in 2011 and has been involved in ELC mapping at various development sites. Natalie is familiar with habitat identification and classification, ecological surveying and conservation assessment. She is familiar with the identification of bats, aquatic invertebrates and *Carabidae*, and has participated in amphibian surveys. Natalie possesses laboratory and technical skills that include surveying techniques, soil sampling, isotopic analysis, water sampling, sediment coring and geochemistry lab analysis. Natalie is familiar with GIS and Remote Sensing techniques for mapping ecological features using ArcVIEW and ER Mapper software. Her undergraduate degree included a minor in psychology, and her experiences through work, education and volunteering have equipped Natalie with an ability to communicate effectively with regulatory authorities and the general public.

EDUCATION

M.Sc., Applied, Ecological Assessment, University College Cork, Cork, Republic of Ireland, 2010

B.Sc., Honours, Earth and Environmental Sciences, Geochemistry Specialization, McMaster University, Hamilton, Ontario, 2009

Ecological Land Classification Training Course, Ministry of Natural Resources, Lindsay, Ontario, 2011

WHMIS Training Course, Guelph, Ontario, 2011

Boating License & Pleasure Craft Operator, Rosseau, Ontario, 2008

PROJECT EXPERIENCE

Renewable Energy

Niagara Region Wind Project, Niagara, Ontario (Terrestrial Ecologist) (2012)

Field technician and field work coordination assistance. ELC and vegetation field work, winter raptor surveys and general habitat assessments. Prepared field packages and assisted with delineation of areas requiring field work.

Adelaide Wind Power Project, Melancthon, Ontario (Terrestrial Ecologist) (2012)

Field ecologist and field work coordination assistance. Compilation of field work records completed for project from 2004 onward.

Sydenham Wind Energy Centre, Lambton County and Municipality of Chatham-Kent, Ontario (Terrestrial Ecologist) (2012)

Contributed to composition of tables and figures for NHA report.

Cedar Point Wind Project, Municipality of Lambton Shores (Forrest), Ontario (Terrestrial Ecologist) (2012)

Field ecologist and assisted with preparation of technical NHA report. Performed ELC, vegetation surveys and mapping. Field work coordination assistance provided to Terrestrial Lead.

KEPA Wind Energy Project Post-construction Monitoring, Kruger Energy Chatham LP, Port Alma, Ontario (Terrestrial Ecologist) (2011)

Responsible for conducting monthly searcher efficiency trials. Weekly mortality results entered and identified.

Dorland Wind Energy Project, Gilead Power Corp., Dorland, Ontario (Terrestrial Ecologist) (2011)

Written report components including background data collection and records review. Data entry and data results.

Natural Sciences & Heritage Resources

Proposed Melancthon Quarry, Melancthon, Ontario (Terrestrial Ecologist) (2012)

Field ecologist and field work coordination assistance. Compilation of field work records filed since project initiation.

Activa Waterloo East Lands, Kitchener, Ontario (Terrestrial Ecologist) (2012)

Responsible for annual photomonitoring, preparation of photolog and reporting. Prepared ecological update on overall health of study area based on monitoring 'during construction'.

Natalie Leava M.Sc.

Environmental Scientist

Various Species At Risk Habitat Surveys for Transportation Projects, Ministry of Transportation, Sudbury, Simcoe, Cambridge and Chatham, Ontario (Terrestrial Ecologist) (2011)

Performed habitat surveys for Queen Snake, Bobolink, Blanding's Turtle.

Environmental Consulting Firm in Ontario, Canada (Full-time Junior Botanist) (2010-2011)*

Assisted and trained under senior biologist. Completed data entry for vegetative species list and ELC mapping. Participated in species at risk surveys and compensation programs.

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.

Education

University College Cork, Environmental & Civil Engineering Department Hydromet Lab, Cork, Republic of Ireland (Part-time Research Assistant) (2009-2010)*

Research included forest inventory, destructive tree sampling, biomass pools, fine root analysis, chemical analysis, and soil analysis, to compare net ecosystem balances of an improved grassland with a newly afforested grassland. Proposed research projects to supplement and complement existing eddy covariance data. Executed all associated field and lab work.

McMaster University Graduate Student Assistance, Hamilton, Ontario (Volunteer Assistant) (2008-2009)*

Assisted Masters student in construction of wood stands for eavestroughs to be used in a forested ecosystem to induce drought. Involved Hydro-Meteorological Lab work at McMaster University, and fieldwork at Turkey Point, Ontario.

Research / Papers

Peichl, M., N. Leava and G. Kiely. 2010. "Above and below ground ecosystem biomass, carbon and nitrogen allocation in recently afforested grassland and adjacent intensively managed grassland". Plant and Soil.

Leava, N.A. 2010. M.Sc. Thesis: "A Baseline Ecological Assessment for Castlefreke, Co. Cork"
University College Cork, Cork, Republic of Ireland

Leava, N.A. 2009. B.Sc. Term Paper: "Bioremediation of Heavy Metal Leachate in Contaminated Oligotrophic Aquifers"
McMaster University, Hamilton, Ontario

Leava, N.A. 2008. B.Sc. Term Paper and Presentation: "Fractionation of Sulfur Isotopes within Microbial Processes"
McMaster University, Hamilton, Ontario

Leava, N. 2008. B.Sc. Thesis Paper and Presentation: "PAH Contamination of Soils and Remedial Process Available within North America"
McMaster University, Hamilton, Ontario

* denotes projects completed with other firms