

Appendix E

Curricula Vitae

Mark has 14 years of experience designing, coordinating, and implementing small and large scale aquatic habitat and impact assessments, encompassing numerous habitat types including lakes, ponds, large rivers, warmwater and coldwater streams. Mark has also developed and implemented many monitoring, mitigation, compensation and inventory processes. Past employment with Fisheries and Oceans Canada (DFO), Grand River Conservation Authority and St. Clair Region Conservation Authority contributes to Mark's extensive working experience with regulatory and approvals processes related to the *Fisheries Act*, the *Conservation Authorities Act* and the *Drainage Act*. Mark has extensive experience involving permitting and issues resolution related to the federal *Species at Risk Act* and the provincial *Endangered Species Act*. He has also been involved in several coastal projects related to fisheries assessment and habitat compensation.

EDUCATION

Honours B.Sc. (Agriculture), University of Guelph /
Natural Resources Management, Guelph, Ontario, 2000

Fisheries Assessment Specialist and Fisheries Contracts
Specialist, MTO/DFO/OMNR Fisheries Protocol Course,
Downsview, Ontario, 2006

Class 1 Electrofishing Certificate / Ministry of Natural
Resources, Waterloo, Ontario, 2010

Ontario Freshwater Mussel Identification Workshop /
Fisheries and Oceans Canada - Canada Centre for
Inland Waters, Burlington, Ontario, 2007

Royal Ontario Museum / Freshwater Fish Identification
Course, Toronto, Ontario, 2011

PROJECT EXPERIENCE

Environmental Assessments

Pier 27 Dockwall and Dredging, Hamilton Port Authority,
Hamilton, Ontario (Aquatic Biologist)

*Coordinated and conducted aquatic assessments in support of
the installation of a new dockwall and dredging to facilitate
shipping traffic.*

Pier 22 Environmental Assessment, Hamilton Port
Authority, Hamilton, Ontario (Aquatic Biologist)

*Coordinated and conducted aquatic assessments in support of
site improvements. Negotiated compensation measures and
drafted letter of intent in pursuit of Fisheries Act Authorization.*

Bruce to Milton Transmission Line, Various, Ontario
(Fisheries Biologist)

*Planned, coordinated and assisted with execution of large-scale
fisheries field program to assess potential impacts of proposed
hydroelectric corridor reinforcement project and provided
relevant input to the provincial environmental assessment
process as well as the Fisheries Act and Conservation
Authorities Act permitting processes. Managed data entry,
analysis and completed reporting of aquatic resources sections.
Coordination of multi-disciplinary team and regulatory agencies
for acquisition of appropriate permits and approvals.*

Yellow Falls Hydroelectric Project, Smooth Rock Falls,
Ontario (Aquatic Biologist)

*Planned, coordinated and assisted with execution of fisheries
field program to assess potential impacts of proposed
hydroelectric dam project. Facilitated acquisition of permits and
approvals from relevant agencies. Assisted with fish, benthos,
habitat, water and sediment sampling. Authored significant
portions of the technical appendix related to aquatic study
results.*

Environmental Impact Assessments

Georgia Pacific Thorold Cycle 4 EEM, Thorold, Ontario
(Aquatic Ecologist)

*Assisted in field sampling of fish, benthos, water and sediment
for federally regulated pulp and paper environmental effects
monitoring.*

Spruce Falls Cycle 4 EEM, Kapuskasing, Ontario
(Aquatic Ecologist)

*Assisted in field sampling of fish, benthos, water and sediment
for federally regulated pulp and paper environmental effects
monitoring.*

Smooth Rock Falls Cycle 4 EEM, Smooth Rock Falls,
Ontario (Aquatic Ecologist)

*Assisted in field sampling of fish, benthos, water and sediment
for federally regulated pulp and paper environmental effects
monitoring.*

Mark C. Pomeroy B.Sc.

Fisheries Biologist / Project Manager

Highway and Transportation

Chinguacousy Road Widening, Brampton, Ontario
(Fisheries Biologist)

Conducted fish community assessment to determine presence of Redside Dace (a provincially Endangered species). Drafted applications for Fisheries Act approval, Conservation Authorities Act approval, and Endangered Species Act approval. Provided input to engineering design for Redside Dace habitat creation.

Detroit Windsor Truck Ferry Improvements (Design)
(GWP 3071-06-00), Windsor, Ontario (Fisheries
Biologist)

Provided aquatic community and habitat assessment services as well as input regarding project design, construction staging and silt and sediment control planning. Acquired approvals under Fisheries Act and Conservation Authorities Act related to fish habitat.

Highway 24 Intersection Improvements, Cambridge, ON
(Fisheries Biologist)

Provided fish rescue services. Performed environmental inspection duties related to implementation of the Fisheries Act compensation plan and resolution of onsite issues related to construction.

Detroit Windsor Truck Ferry Improvements (Contract
Administration) (WP 3071-06-00), Windsor, Ontario
(Fisheries Biologist)

Construction monitoring services related to Fisheries Act implications (fish removals, species at risk identification training for contract staff, staging and implementation design review), provision of advice regarding alternative staging/construction operations to prevent impacts to aquatic habitat/organisms.

Natural Resource Services

Municipal Drain Classification Program*, Various,
Ontario (Drain Assessment Technician)

Planned and implemented large scale sampling protocol designed by DFO to assess the sensitivity of various municipal drains to disturbance. Sampling program encompassed all drains within the Grand River watershed and consisted of habitat, thermal and fish community characterization based on extensive field sampling. Analyzed substantial quantities of field data, summarized results and produced interim and final reports.

Fish Habitat Study*, Strathroy, Ontario (Biological
Technician)

Planned and implemented field program to sample fish community in reservoirs managed by the St. Clair Region Conservation Authority. Responsible for writing final report concerning existing fish habitat status and providing recommendations based on field data. Participated in water quality and benthic community field sampling programs.

Various Environmental Assessments*, Sarnia, Ontario
(Fish Habitat Biologist)

Assessed project proposals for impacts to fish habitat as defined in the Fisheries Act. Carried out screening level environmental assessments of proposed projects under the Canadian Environmental Assessment Act. Participated in outreach programs and inter-agency work groups regarding Species at Risk recovery.

Renewable Energy

St. Columban Wind Project, Huron County, Ontario
(Fisheries Biologist)

Planned, coordinated and conducted field investigations to assess potential aquatic impacts resulting from proposed wind project consisting of fifteen turbines. Drafted Water Assessment and Water Body Report as mandated under Ontario Reg. 359/09.

Plateau Wind Project, Grey County, Ontario (Fisheries
Biologist)

Planned, coordinated and conducted field investigations to update previous field work to assess potential aquatic impacts resulting from proposed wind project consisting of eighteen turbines. Drafted relevant sections of the Environmental Screening Report (ESR) as mandated under Ontario Reg. 116/01. Provided advice concerning provincial species at risk concerns.

Grand Renewable Energy Park, Haldimand County,
Ontario (Fisheries Biologist)

Planned, coordinated and conducted field investigations to assess potential aquatic impacts resulting from proposed wind and solar project consisting of sixty-seven turbines and 425,000 solar panels. Drafted Water Assessment and Water Body Report as mandated under Ontario Reg. 359/09.

Springwood Wind Project, Belwood, Ontario (Fisheries
Biologist)

Conducted field investigations to assess potential aquatic impacts resulting from proposed wind project consisting of and assisted with draft Water Assessment and Water Body Report under Ontario Reg. 359/09.

* denotes projects completed with other firms

Mark C. Pomeroy B.Sc.

Fisheries Biologist / Project Manager

Whittington Wind Project, Dufferin County, Ontario (Fisheries Biologist)

Planned and coordinated field investigations to assess potential aquatic impacts resulting from proposed wind project consisting of three turbines. Drafted Water Assessment and Water Body Report as mandated under Ontario Reg. 359/09.

Fairview Wind Project, Stayner, Ontario (Fisheries Biologist)

Planned and coordinated field investigations to assess potential aquatic impacts resulting from proposed wind project consisting of eight turbines. Drafted Water Assessment and Water Body Report as mandated under Ontario Reg. 359/09.

White Pines Wind Project, Prince Edward County, Ontario (Fisheries Biologist)

Planned, coordinated and conducted field investigations to assess potential aquatic impacts resulting from proposed wind project consisting of twenty-nine turbines. Drafted Water Assessment and Water Body Report as mandated under Ontario Reg. 359/09 (in progress).

Urban Land

Berczy Dam Removal, Markham, Ontario (Fisheries Biologist)

Provided fish rescue services, including resolution of issues related to Species at Risk.

Medway Sanitary Trunk Sewer Extension, London, Ontario (Fisheries Biologist)

Drafted Fisheries Act application and Endangered Species Act application for pipeline crossing of Medway Creek. Coordinated and completed aquatic habitat assessment and relocation of freshwater mussels.

Fox Hollow Subdivision, London, Ontario (Fisheries Biologist)

Facilitated acquisition of approvals from DFO for the realignment of the Heard Drain/Snake Creek and the installation of a stormwater management pond in relation to construction of the Fox Hollow Subdivision. Performed construction inspection services, resolved onsite implementation issues related to the Fisheries Act.

Fanshawe Park Road Widening, London, Ontario (Fisheries Biologist)

Facilitated acquisition of approvals from DFO for the realignment of Heard Drain/Snake creek during the expansion of Fanshawe Park Road. Performed construction inspection services, resolved onsite implementation issues related to the Fisheries Act.

* denotes projects completed with other firms

Nancy is a Project Manager with extensive experience collecting and analyzing data related to aquatic systems. Project experience includes aquatic impact assessments related to urban development, highway and pipeline construction, and aggregate extraction. Nancy has also managed environmental effects monitoring (EEM) programs for the mining and pulp and paper industries and has been involved in watershed studies, literature searches and analysis of benthic invertebrate and water quality data relative to environmental quality.

EDUCATION

B.Sc. (Honours), Co-op Biology, University of Waterloo, Waterloo, Ontario, 1986

PROJECT EXPERIENCE

Aquatic Ecology

Letter of Intent for DFO Authorization, Tributary of Baden Creek, Baden, Ontario (Task Manager/Biologist)

A stormwater management pond outfall in a new subdivision in the town of Baden resulted in the loss of fish habitat in a small tributary of Baden Creek. Mapping of the location was prepared and a general survey of watercourse conditions was conducted for approximately 1 km downstream. Together with available background data on the main channel of Baden Creek, fish habitat data were summarized and used in the Letter of Intent (LOI) submitted to DFO for authorization of the project. The LOI included mitigation and compensation measures for the loss of fish habitat that resulted from the SWM outfall.

Letter of Intent for DFO Authorization, Strasburg Creek at Strasburg Road Extension, Kitchener, Ontario (Task Manager/Biologist)

The extension of Strasburg Road in the City of Kitchener required a new crossing of Strasburg Creek, which provides coldwater fish habitat. Detailed mapping of the creek was prepared and areas both upstream and downstream of the proposed crossing location were surveyed, documenting any locations that were blockages to fish migration or areas of high quality habitat. Additional data collected were a fish community inventory, summer water temperatures (hourly data by instream loggers) and a fall spawning survey. All fisheries and fish habitat data were summarized and used in the Letter of Intent (LOI) submitted to DFO for authorization of the project. The LOI included mitigation and compensation measures for the loss of fish habitat that resulted from the installation of the 40m long culvert.

Brant Mill Pond Fisheries Impact Assessment, Brant County, Ontario (Task Manager/Biologist)

A bridge replacement was required on a road crossing the outlet of Brand Mill Pond. The mill pond dam was structurally tied to the bridge, therefore a method was needed to reduce water pressure on the dam prior to bridge removal and replacement. Various construction scenarios were considered, including draining or partially draining the mill pond. A bathymetric survey of a mill pond was conducted to provide an indicator of the amount of available fish habitat in the pond (by depth) and the dominant substrate types in the pond. A document summarizing fish habitat conditions in the pond and possible impacts to fish habitat based on the selected construction method was submitted to GRCA for review.

* denotes projects completed with other firms

Benthic Invertebrate Community Survey in the Maitland River at Wingham, Wingham, Ontario (Project Manager)

Since 1998, Nancy has been the Project Manager for an ongoing benthic invertebrate survey in the Maitland River in Wingham, Ontario. The monitoring is an annual program that involves the collection of benthic invertebrate samples from the river as an indicator of the quality of aquatic habitat in the river adjacent to a closed landfill site. Since 1999, Nancy has been responsible for Project Management of the survey, the coordination of data collection, data analysis and reporting.

Fish Community Assessment and Habitat Inventory of Strasburg Creek near Doon Village Road, Kitchener, Ontario (Project Manager)

An aquatic habitat survey was conducted in Strasburg creek, mapping physical features such as substrates, stream morphology, and instream and riparian cover. The data were required as part of the natural environment inventory for the future alignment of Doon Mills Road. Subsequent to the initial survey, fish community data were also collected in the area. During the construction phase, Nancy also participated in the fish transfer of fish from the creek to the temporary diversion channel, prior to creek realignment.

Fish and Fish Habitat Survey of four watercourses crossing Highway 401 near Cambridge, Ontario, Evaluation of Highway 401 and 8 Access and Interchange Improvements, Kitchener and Cambridge, Ontario (Task Manager, Field Crew Leader)

As a part of a Preliminary Design study for interchange improvements along Highway 401 between the Grand River and Speed River, Nancy conducted field surveys and an existing conditions report for these watercourses and two other small watercourses that cross the Highway 401 in the Cambridge area. The final Preferred Plan only had changes proposed for the Highway 8 and 401 interchange, potentially affecting aquatic resources in the Grand River. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data, however the Grand River site was not sampled as part of this project. Reporting included a preliminary assessment of aquatic habitat impacts, and a summary of recommended mitigation measures based on the Preferred Plan for highway widening.

Fish and Fish Habitat Survey of four watercourses near Highway 11 near Allensville, Ontario - Evaluation of Highway 11 Access and Interchange Improvements, Huntsville, Ontario (Task Manager/Fisheries Assessment Specialist)

As a part of a Preliminary Design study for access and interchange improvements along Highway 11 south of Huntsville, Nancy conducted field surveys and prepared an existing conditions report for four watercourses that cross or are adjacent to the Highway 11 Study Area. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data. Reporting included a preliminary assessment of aquatic habitat impacts, and a summary of recommended mitigation measures based on the Preferred Plan for access improvements.

Nancy A. Harttrup B.Sc.
Senior Fisheries Biologist

Fish and Fish Habitat Survey of the Mattawishkwia River; Highway 11 Replacement of the Mattawishkwia River Bridge at Hearst, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Preliminary Design study for the replacement of the Mattawishkwia River bridge, Nancy managed field surveys and prepared an Impact Assessment Report for the project. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data following the 2006 Protocol. Reporting included a preliminary assessment of aquatic habitat impacts based on the Preferred Plan, and mitigation measures to protect fish habitat in the river during construction.

Fish and Fish Habitat Survey of watercourses near Highway 11; Access Review on Highway 11 from Powassan to Callander, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Preliminary Design study for access and interchange improvements along Highway 11 between Powassan and Callander, Nancy conducted field surveys and prepared an existing conditions report for watercourses that cross or are adjacent to the Highway 11 Study Area. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data following the 2006 MTO/DFO/OMNR Fisheries Protocol. Reporting included a preliminary assessment of aquatic habitat impacts, and a summary of recommended mitigation measures based on the Preferred Plan for access improvements.

Fish and Fish Habitat Survey of watercourses near Highway 11; Highway 11 Access Review at High Falls Road/Holiday Park Drive near Bracebridge, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Preliminary Design study for interchange improvements on Highway 11 at Bracebridge, Nancy is conducted field surveys and an existing conditions report for watercourses in the Study Area. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data at locations potentially affected by the Preferred Plan. Data collection and reporting followed the requirements of the 2006 MTO/DFO/OMNR Fisheries Protocol Reporting included a preliminary assessment of aquatic habitat impacts, and a summary of recommended mitigation measures based on the Preferred Plan for highway access and service roads.

Fish and Fish Habitat Surveys along Highway 66 and 624 near Larder Lake; Rehabilitation of Highway 66 and 624, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Detail Design study for the Rehabilitation of Highways 66 and 624 (District of Timiskaming) Nancy managed the field surveys and reporting for this project. Limited background data were available for the study area. Field data collection and reporting followed the 2006 MTO/DFO/OMNR Protocol and reporting included impact assessments for the numerous watercourses in the study area. Impact assessments were based the proposed work required at each culvert (eg. rehabilitation, replacement) which subsequently lead to the completion of appropriate forms and submissions to DFO.

Nancy A. Harttrup B.Sc.
Senior Fisheries Biologist

Fish and Fish Habitat Surveys watercourses along Highway 40 near Chatham, Chatham, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Detail Design study for rehabilitation of Highway 40 south of Chatham, Nancy conducted field surveys and prepared an Impact Assessment Report for watercourses that cross Highway 40 between Highway 401 and the Thames River. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data. Reporting included an assessment of aquatic habitat impacts, and mitigation measures to protect fish habitat in the watercourses during construction.

Fish and Fish Habitat Surveys watercourses near Highway 26 at Camperdown, Camperdown, Ontario (Task Manager, Fisheries Assessment Specialist)

As a part of a Preliminary Design study for intersection improvements along Highway 26 near Camperdown, Nancy conducted field surveys and prepared an existing conditions report for three watercourses that cross Highway 26 in the vicinity of Grey Road 40 and Camperdown Road. The study involved the collection of background data, detailed habitat mapping and the collection of fish community data. Reporting included a preliminary assessment of aquatic habitat impacts, and a summary of recommended mitigation measures based on the Preferred Plan for intersection improvements.

Galt Country Club - Letter of Intent for DFO Authorization, Cambridge, Ontario (Task Manager/Biologist)

The re-design of a golf course fairway at the Galt Country Club resulted in changes to fish habitat in a golf course pond located in the floodplain and connected to the Grand River. Information regarding available data on fish species in the Grand River and detailed plans regarding changes to the pond were prepared as a Letter of Intent (LOI) and submitted to DFO for authorization of the project. The LOI included details of the existing and proposed pond areas and depths, illustrating that the new pond would actually provide more potential fish habitat than before. Additional habitat enhancements were added to the plan to provide underwater structure to fish that utilized the new pond.

Mill Creek Surface Water Monitoring Program, Guelph, Ontario (Project Manager, Fisheries Biologist)

*To assess potential impacts on Mill Creek (a tributary to the Grand River), a long-term Surface Water Monitoring Program (SWMP) was initiated to monitor water quality, brown trout (*Salmo trutta*) populations, water levels and stream temperatures over time. During the 10-years involved in this project, Nancy's duties included project management, the coordination of annual spawning surveys, population surveys as well as water quality sampling. Annual reports included the compilation of annual fisheries data and the integration of fisheries data with groundwater and surface water data into a comprehensive monitoring report.*

Receiver Biomonitoring in Canagagigue Creek, Elmira, Ontario (Project Manager)

Since 1998, Nancy has been the Project Manager for an ongoing Biomonitoring Program in Canagagigue Creek in Elmira, ON. The monitoring is now a biannual program that sees the collection of benthic invertebrate, sediment and fish community data in the creek. The program is a condition of the C of A for discharge of treated groundwater to the creek. Since 1999, Nancy has been responsible for Project Management of the survey, the coordination of data collection, data analysis and reporting.

Wilmot Centre Trout Spawning Surveys, Waterloo (Wilmot Centre), Ontario (Project Manager)

Annual brook trout spawning surveys have been completed in a small coldwater creek in Wilmot Centre in the vicinity of groundwater wells that provide drinking water to the supply Regional Municipality of Waterloo. The program is part of the Wilmot Centre monitoring program and looks at annual brook trout spawning activity in the creek as an indicator of the quantity and quality of suitable habitat. Brook trout depend on areas of groundwater upwelling for spawning purposes therefore the health of the fishery is related to groundwater levels in the area.

Natural Sciences & Heritage Resources

Letter of Intent for DFO Authorization, Galt Country Club, Cambridge, Ontario

Nancy A. Harttrup B.Sc.
Senior Fisheries Biologist

Letter of Intent for DFO, Ninth Line Tributary, TACC
Construction Ltd., Markham, Ontario

Long-term Monitoring and Reporting of Brown Trout
Spawning Activity, Populations and Surface Water
Quality in a Coldwater Stream Adjacent to an Active
Gravel Pit (1993 to 2003) - Dufferin Aggregates (Project
Manager)

Numerous Aquatic Habitat Impact Assessments Related
to Residential Development, Pipeline Construction, Road
Construction and Alterations (Aquatic Biologist)

Wastewater

Cycle 1 Environmental Effects Monitoring: Project
Management, Field Studies and Data Analysis, Domtar
Packaging, Trenton, Ontario (Aquatic Biologist)

Cycle 1 Environmental Effects Monitoring: project
management, field studies and data analysis, Domtar
Packaging, Norampac Inc., Red Rock, Ontario (Aquatic
Biologist / Project Manager)

Cycle 1, 2 and 3 Environmental Effects Monitoring:
Project Management, Field Studies and Data Analysis,
Domtar Fine Papers, Cornwall, Ontario (Aquatic
Biologist)

Cycle 2 and 3 Environmental Effects Monitoring: Project
Management and Data Analysis, Provincial Papers Inc.,
Cascades Fine Papers Group, Thunder Bay, Ontario
(Project Manager)

Katie Easterling is a project biologist in the Ecosystem Restoration Aquatic department of the Markham office and has over three (3) years of field experience. Her fieldwork mainly focuses on performing aquatic construction monitoring, fish habitat assessments, fish community sampling, fish salvages, and baseline aquatic surveys for various pipeline, transportation, renewable energy and municipal projects. Furthermore, she has experience conducting preliminary or baseline terrestrial habitat assessments, pre-construction bat acoustic migration monitoring and post-construction bird and bat mortality monitoring at wind farm developments, nesting bird surveys and Species at Risk surveys. Reporting skills includes fish community and fish habitat reports, baseline aquatic and terrestrial reports, MNR fish collection record reports, avian and bat monitoring protocols, Environmental Screening/Review Reports, Natural Heritage Evaluations (NHE) and Environmental Impact Statements (EIS). Katie also has experience consulting with municipal, provincial and federal government agencies as part of fieldwork or reporting activities.

Ms. Easterling also has previous experience in forest and wetland classification (following ELC protocols), which includes the rapid assessment of 400 m forest plots and 100 m wetland plots. This involved evaluating and classifying areas based on biological features (flora and fauna) and physical features (soil and drainage). She is experienced in classifying soils based on texture, determining soil moisture regime and drainage, and interpretation of colour and infrared air photos to delineate forested and wetland areas.

EDUCATION

Diploma – Fish and Wildlife Technician, Sir Sandford Fleming College, Lindsay, Ontario, 2007

Hon.B.Sc– Major Zoology, Minor Biology, University of Toronto, Toronto, Ontario, 2003

Class Two (II) Electrofishing Crew Leader Certification Course, Sir Sandford Fleming College, Lindsay, Ontario, 2006

Bat Acoustic Analysis Course, Birchdale Ecological, Ltd – Bats R Us Canada Division, Calgary, Alberta, 2008

Ecological Land Classification Certification, Ministry of Natural Resources, Elgin, Ontario, 2006

Wetland Classification Certificate, Ministry of Natural Resources, Elgin, Ontario, 2006

Radio Telemetry Certificate, Sir Sandford Fleming College, Lindsay, Ontario, 2006

Pleasure Craft Operators Course, Sir Sandford Fleming College, Lindsay, Ontario, 2006

REGISTRATIONS

Canadian Environmental Practitioner-In-Training, Canadian Environmental Certification Approvals Board

MEMBERSHIPS

Member, American Fisheries Society

PROJECT EXPERIENCE

Fish Habitat Services

Trout Spawning Surveys, Toronto, Ontario (Biologist)
Conducted multiple trout spawning surveys along two coldwater creeks in the eastern region of the GTA for two municipal road expansion projects. Fieldwork involved surveying the creeks 50 m upstream and 100 m downstream to determine if Rainbow Trout were staging or spawning in the creek and within the vicinity of the bridge.

Fish Sampling,, Durham Region, Ontario (Biologist)

Various stations along Tooley Creek in Durham Region were electrofished to obtain composite samples of whole fish that were identified, weighed, measured and bagged for a metals analysis as part of a human health risk report for the proposed Durham-York Residual Waste Study

* denotes projects completed with other firms

Katie Easterling H.B.Sc., Dip., CEPIT

Biologist

Baseline Aquatic Survey, Ontario (Biologist)

As part of an Environmental Assessment for Cole Engineering Group Limited (Cole Engineering), a baseline terrestrial and aquatic survey was conducted for the Fairy Lake Garden Pond Maintenance Project in the Town of Newmarket. The assessment consisted of a visual assessment of water depth, aquatic vegetation, available cover, substrate and the presence of barriers to fish movement upstream or downstream of Garden Pond; which was used to assess Garden Pond's function as fish habitat both within the pond and the pond's function within the Fairy Lake/East Holland River watershed.

Aquatic Habitat Surveys (Biologist)

The Town of Ajax is committed to improving water quality along its Lake Ontario waterfront and in Duffins Creek and Duffins Marsh. As part of this, preliminary fieldwork was conducted to assess the existing conditions at each of the stormwater outfalls, including terrestrial and aquatic habitat. The assessment consisted of a visual assessment of water depth, aquatic and terrestrial vegetation, available cover, substrate and the presence of barriers to fish movement upstream or downstream.

Baseline Aquatic Habitat Survey (Biologist)

As part of an Environmental Assessment for the proposed Thorold Sales Meter Station to connect the TransCanada Mainline to the Enbridge Gas Distribution pipeline, baseline aquatic conditions were assessed as part of the report.

Detailed Fish Habitat Assessment and Reporting, Ontario (Biologist)

As part of a pipeline expansion project, a detailed fish habitat survey was conducted following MTO protocols at 10 watercourse crossings. Methodology included detailed habitat mapping 50 m upstream and 100 m downstream. Fish habitat conditions were summarized and watercourse sensitivity determined according to the DFO matrix in the Fish and Fish Habitat Assessment Report as part of a CEEA Environmental Assessment.

Fish Habitat Assessment, Ontario (Biologist)

As part of a wind farm Environmental Assessment, a fish habitat assessment was conducted to determine the baseline conditions and watercourse sensitivity according to the DFO matrix at each of the proposed watercourse crossings.

Fish Salvage and Construction Monitoring, Ontario (Biologist)

In-water construction work was monitored and fish salvages were conducted at various watercourses across Ontario as part of a pipeline maintenance or repair project. The fish collected were identified, measured and released downstream of the in-water work area.

Baseline Aquatic Survey, Ontario (Biologist)

As part of the Pipeline to Serve York Energy Centre LP Environmental Assessment, aquatic baseline conditions at all watercourse crossings were summarized as part of the preliminary assessment of reasonable routing opportunities for the proposed pipeline.

Fish Habitat Surveys and Reporting (Biologist)

As part of a CEEA Environmental Screening Report, a fish habitat and aquatic baseline survey was conducted along a proposed rail siding within a wetland. The assessment consisted of a visual assessment of water depth, aquatic vegetation, available cover, substrate and the presence of barriers to fish movement within the area of the proposed siding.

Detailed Fish Community and Habitat Surveys and Reporting (Biologist)

As part of a railway expansion project, detailed fish community and habitat surveys were conducted following MTO protocols at over 20 watercourse crossings. Methodology included detailed habitat mapping 50 m upstream and 100 m downstream, electrofishing to determine fish community present in the stream and water chemistry sampling. Fish community and habitat conditions were summarized and watercourse sensitivity determined according to the DFO matrix in the Fish and Fish Habitat Assessment Report as part of a CEEA Environmental Screening.

Fish Salvage and Construction Monitoring (Biologist)

As part of a railway expansion project, in-water construction work was monitored and multiple fish salvages were performed at various bridge and culvert construction locations.

Fish Salvage, Varney, Ontario (Biologist)

Conducted a fish salvage as part of an MTO highway expansion project located along Hwy 6 near Varney, ON. Fish collected were identified, measured and released downstream of the in-water work area.

Terrestrial Assessments

Forest and Wetland Classification*, Ontario (Ecological Research Assistant)

Performed rapid assessments of 400 m forest plots and 100 m wetland plots to evaluate and classify sites along the Trent-Severn Waterway from Rice Lake to Canal Lake. Classification was based on biological features such as flora and fauna present and physiological features such as soil and drainage. Data collected was used to create a mapping inventory of the Trent-Severn system.

* denotes projects completed with other firms

Katie Easterling H.B.Sc., Dip., CEPIT

Biologist

Soil Sampling Survey, Ontario (Biologist)

Collected soil samples to assess the impact of emissions on the surrounding terrestrial environment as part of the phytotoxicology assessment of the Brampton Brick facility.

Ecological Receptors of Concern Surveys, Ontario (Biologist)

Conducted biological surveys of flora and fauna located on environmentally contaminated sites. Assessed the current site conditions and looked for possible signs of contamination.

Preliminary Aquatic and Terrestrial Assessment, Ontario (Biologist)

Preliminary aquatic and terrestrial assessments of various sites in Southern Ontario were conducted to establish the existing baseline conditions. Surveys involved recording bird species observed, vegetation cover species found on the site and assessing potential impacts on nearby Valued Ecosystem Components (VECs) and any aquatic systems.

Terrestrial Assessment, Ontario (Biologist)

Preliminary aquatic and terrestrial assessments of various dig sites along a pipeline in Southern Ontario were conducted to establish the existing baseline conditions. Surveys involved recording bird species observed, vegetation cover species found at the dig site and assessing any aquatic habitat found on-site.

Wildlife Biology

Nesting Bird Surveys*, Ontario (Biologist)

Nesting bird surveys were performed at various remote locations throughout Northern Ontario, which included finding and identifying any active and inactive nests within and surrounding the proposed work area along a pipeline right-of-way.

Habitat Assessment, Ontario (Biologist)

Multiple sites around the regions were assessed for wildlife usage, fisheries and ideal browse, nesting and cover habitat. Recommendations for a preferred site were given based on a combination of these factors and how the potential loss of habitat through development would affect the local wildlife.

Winter Bird Surveys, Ontario (Biologist)

Performed avian monitoring surveys to characterise the bird community of two sites in Southern Ontario during the overwintering period.

Post-Construction Bird and Bat Mortality Monitoring, Ontario (Biologist)

Conducted post-construction bird and bat mortality monitoring, scavenger impact trials and searcher efficiency trials at the Ripley and Enbridge Ontario Wind Farms near Kincardine, Ontario.

Pre-Construction Bat Monitoring Surveys, Ontario (Biologist)

Installed AnaBat detectors on MET towers and design/constructed/installed multiple ground AnaBat detector units at various wind farms in Southern Ontario. Monitored pre-construction bat activity and identified species using spectrogram analysis to report on the activity level surrounding the proposed wind farms.

Herptile Rescue, Ontario (Biologist)

As part of a large pipeline maintenance project situated within a beaver pond located near the Gananoque River, a herptile rescue was performed to remove any snakes, turtles and frogs from the trench-box once in-filling was started. All species found within or immediately adjacent to the trench-box were removed and relocated within the beaver pond but outside of the work zone.

Species at Risk Survey, Ontario (Biologist)

Species at Risk surveys were conducted at four work areas along a pipeline right-of-way between Belleville and Brockville, Ontario. Surveys included looking for and assessing possible habitat conditions for Butternut, Henslow's Sparrow, Grey Fox, Blanding's Turtle, Eastern Milksnake and Eastern Ratsnake.

* denotes projects completed with other firms

Marc Faiella's experience has included industry and development sector projects. He has conducted field investigations, liaised with representatives of government agencies, regulators and worked with First Nations, synthesized data and produced reports. Marc's specific areas of expertise include Environmental Effects Monitoring (EEM), Environmental Impact Studies (EIS) and Fish Habitat Assessments. He has assessed potential impacts to aquatic habitats at a number of mining and development-related sites, such as metal mines, quarries, pulp and paper mills, subdivisions, city drainage systems and wind energy projects. Marc's technical experience has focused mainly on aquatic habitats. He has conducted fisheries inventories and Species at Risk project surveys based on provincial protocols, trout spawning surveys, collected benthic invertebrate samples, and collected water, sediment and non-lethal and lethal fish tissue samples for mercury. Marc has gained practical experience with all construction phases of DFO applied work sites. In addition, Marc has on-site experience at remote northern sites where access is gained via helicopter, ATV, boat and hiking.

EDUCATION

Tech. Dipl., Sir Sanford Fleming College / Ecosystem Management, Lindsay, Ontario, 2005

Training Certificate, Royal Ontario Museum Fish Identification Workshop, Royal Ontario Museum, Ontario, 2006

Training Certificate, Class 1 Electrofishing Certificate, MNR, Ministry of Natural Resources, Ontario, 2007

Certificate, MTO/DFO/OMNR Protocol, Toronto, Ontario, 2006

Certificate, St. John Ambulance / First Aid and CPR, Guelph, Ontario, 2010

P.A.L. and Firearms, Brampton, Ontario, 2005

Sir Sanford Fleming College / Short Wave Radio, Lindsay, Ontario, 2004

Sir Sanford Fleming College / Chainsaw Operator, Lindsay, Ontario, 2004

Certificate, Pleasure Craft Operator, Toronto, Ontario, 2005

MEMBERSHIPS

Canadian Environmental Practitioner In Training (CEPIT),
Canadian Environmental Certification Approvals Board

PROJECT EXPERIENCE

Environmental Assessments

Communal Irrigation Study, Township of Melancthon, Ontario (Crew Lead)

Obtained appropriate licences to conduct presence / absence and fish utility surveys within the Pine and Noisy River watersheds. Served as crew lead, overseeing fish surveys that were conducted in 2008 and preparations for proposed surveys in the spring / summer of 2009. Responsible for assembling report figures, maps and analysis of collected fisheries data, in tandem with Stantec's in-house GIS / graphics department.

Bruce to Milton Transmission Reinforcement Project, Multiple Sites, Ontario (Crew Lead)

Key member of the study team for the proposed hydro corridor expansion from Bruce Nuclear to a Milton, Ontario. Liaised with several Ministry of Natural Resources offices to coordinate issuance of permits and processing of historical fisheries data requests. Worked directly with the project manager to complete a work plan to safely and efficiently complete spring and summer fisheries surveys along the approximate 180 km corridor. Led a 2-person crew to conduct stream cross section surveys used to determine appropriate sizing of culverts. Coordinated production of detailed mapping and figures upon completion of the surveys, in tandem with Stantec's in-house GIS / graphics department, and was key in production of the independent Class EA report.

Port Alma Wind Power Project, Port Alma, Ontario (Field Crew / Data Analyst)

Exclusively responsible for conducting background topography research. Performed tree measurements for entire survey area, identified and mapped tree species locations using aerial photo base. Constructed tests for future heights (software) and produced reports detailing results. These results had significant bearing on wind turbine selection and placement.

Marc A. Faiella Tech. Dipl., CEPIT

Environmental Technician

Brampton MESP, Phase I, Springdale Environmental Site Assessment, Brampton, Ontario (Habitat Assessor)

Responsible for obtaining background information and conducted field work to assess study area. Compiled field notes and detailed data using an air photo base. Prepared final technical memorandum for submission.

Environmental Site Management

Randall Drain Branch A Restoration, Environment Inspection and Post-construction Monitoring, Waterloo, Ontario (Environmental Inspector)

Responsible for overseeing that approved plans to remediate a damaged watercourse on the City of Waterloo's airport property, as outlined by The Department of Fisheries and Oceans, Grand River Conservation Authority and Stantec Consulting Ltd., were carried out accordingly. Works included properly diverting flow downstream, efficiently dewatering the damaged area and relocating any stranded aquatic species downstream. Worked closely with the construction crew to ensure all remediation phases met Fisheries Act requirements. Prepared final report.

Mining

Vale Technology Development - Hydrology and Aquatic Assessment, Sudbury, Ontario (Aquatic Technician)

Marc was part of a two person crew that conducted a fishery presence/absence survey in a number of lakes associated with mining practices. Fish were identified, measured and tissue samples were collected for laboratory analysis.

Environmental Effects Monitoring (EEM) Program: Periodic Monitoring Phase, Hudson Bay Mining and Smelting, 2007, Flin Flon, Manitoba (Aquatic Technician)

Participated in metal mine EEM Periodic Monitoring phase, involving fisheries and benthic invertebrate surveys. Collected benthic and water samples in the field as well as fish, using various collection techniques. Completed habitat assessments, plume measurements and fish necropsies. Upon completion of field work, performed data analysis and reporting for the EEM report.

Environmental Effects Monitoring (EEM) Program: Focused Monitoring Phase, Hudson Bay Mining and Smelting, 2009, Flin Flon, Manitoba (Aquatic Technician)

Participated in metal mine EEM Focused Monitoring phase, involving fisheries and benthic invertebrate surveys. Collected benthic and water samples in the field as well as fish, using various collection techniques. Completed habitat assessments, plume measurements and fish necropsies. Upon completion of field work, performed data analysis and reporting for the final EEM report.

Environmental Effects Monitoring (EEM) Program: Periodic Monitoring Phase, Hudson Bay Mining and Smelting, 2007, Snow Lake, Manitoba (Aquatic Technician)

One of a 2-person crew stationed in Snow Lake for metal mine EEM Periodic Monitoring phase, involving fisheries and benthic invertebrate surveys. Collected benthic and water samples in the field as well as fish, using various collection techniques. Completed habitat assessments, plume measurements and fish necropsies. Upon completion of field work, performed data analysis and reporting for the EEM report.

Environmental Effects Monitoring (EEM) Program: Focused Monitoring Phase, Hudson Bay Mining and Smelting, 2009, Snow Lake, Manitoba (Aquatic Technician)

One of a 2-person crew stationed in Snow Lake for metal mine EEM Focused Monitoring phase, involving fisheries and benthic invertebrate surveys. Collected benthic and water samples in the field as well as fish, using multiple collection techniques. Completed habitat assessments, plume measurements and fish necropsies. Upon completion of field work, performed data analysis and reporting for the final EEM report.

Natural Sciences & Heritage Resources

Hydro One Series Capacitor Station (Project Manager)

Responsible for a fisheries sampling survey to determine the presence or absence of fish species near a proposed capacitor station. Secured a Fish Collection Licence from OMNR, compiled maps to assist in field investigations, assembled field staff, initiated survey and prepared report for internal and external circulation.

* denotes projects completed with other firms

Marc A. Faiella Tech. Dipl., CEPIT

Environmental Technician

**Melancthon Wind Energy Project Tree Surveys,
Melancthon, Ontario (Aquatic Technician)**

Measured tree heights and the species identified with use of a laser-sighted measuring device. Performed a desktop exercise, whereby heights were projected over a 20 year period. These projections were then synthesized on aerial photos, showing potential hazards to turbines, thus assisting with selection of wind turbine placement and selection of site-appropriate turbine models.

Oil & Gas

**Enbridge Pipeline Crossing, Sarnia, Ontario (Aquatic
Construction Monitor)**

Marc was responsible for monitoring the St. Clair River for "frack-outs" that may occur during the horizontal drilling and pipe line installation under the St. Clair River. Marc was also responsible for collecting water samples for laboratory analysis and recording current river conditions using a YSI water quality meter.

Power

**Biological Monitoring for the Shekak-Nagagami
Generating Station, Hearst, Ontario (Field Crew Lead)**

Responsible for compiling appropriate field gear to complete the Year-13 monitoring study along the Shekak and Nagagami Rivers in the vicinity of a hydroelectric dam. Participated in surveys, which included: fish inventories through electrofishing, fish tissue collection via gillnets, benthic sampling and water quality and sediment quality collection through several collection techniques. Performed data analysis and completion of the report. Worked closely with Brookfield Power, the MNR and Hearst employees to obtain necessary information and data to complete the project.

**Hydro One Series Capacitor Station, Huntsville, Ontario
(Project Management / Crew Leader)**

Undertook a fisheries sampling survey to determine the presence or absence of fish species near a proposed capacitor station. Duties included securing fisheries permits from related agencies, compilation of maps to assist with surveys, assembly of staff, planned and implemented the field program and prepare report for internal and external circulation.

**Yellow Falls Hydroelectric Project, Smooth Rock Falls,
Ontario (Aquatic Technician)**

Crew member responsible for extensive fish, benthic, water and habitat surveys along the Matagami River. Fish surveys included setting and retrieving gillnets, electrofishing, identification of fish species, retrieving age indicators from fish, characteristic measurements and collecting non-lethal samples for mercury analysis. Collected benthic invertebrates using various sampling techniques for later sorting and identification. Collected water samples and substrate samples using various sampling techniques and equipment for lab testing. Worked closely with a First Nations crew member for the duration of the project and, upon completion of the field surveys, performed data analysis and report writing.

Wind Power

**White Pines Wind Energy, Prince Edward County,
Ontario (Field Crew Lead)**

Marc conducted aquatic habitat assessments and a fisheries presence/absence surveys to determine aquatic features under REA (Renewable Energy Act). He also assisted in producing a photo log and figures that assisted in the application process for construction work permits.

**Fairview Wind Energy, Staynor, Ontario (Field Crew
Lead)**

Marc conducted aquatic habitat assessment surveys to assess their designation under the REA (Renewable Energy Act). In addition, Marc conducted electrofishing surveys to assess the presence or absence of fish species and was also part responsible for producing a photo log and figures to assist in the application process for associated construction work permits.

**Port Dover Wind Energy, Port Dover, Ontario (Aquatic
Technician)**

Marc conducted field surveys to assess aquatic features and to determine its designation under the REA (Renewable Energy Act). Marc was also part responsible for producing reports, photo logs and figures to aid in the application process to gain associated construction work permits.

**Amherst Island Wind Energy, Amherst, Ontario (Field
Crew Lead)**

Responsible for collecting fisheries habitat characteristics along the proposed shoreline of Lake Ontario to aid in obtaining associated construction work permits. Marc was also responsible for conducting a presence/absence survey using several capture methods such as, gill nets, boat electrofishing, Fyke nets and minnow traps.

* denotes projects completed with other firms