Studies carried out on the valued environmental components (VECs) associated with the Benjamins Mill Wind Project were conducted by qualified scientists and technical professionals. Table P-1, below, lists the studies conducted for each VEC and the lead technical professional(s) for those studies. The qualifications for each lead technical professional are laid out the CVs that follow this table.

Table P-1: Field Studies for VECs and Lead Personnel

Valued Component	Study Type	Lead Technical Professional
Physical VECs		
Atmospheric Environment	Sound level impact assessment	Jill Byrne
Physical Environment	Desktop studies on the geology, surface water and groundwater within existing environmental	Kelly Regan Kristin Banks
Visual Environment	Visual assessment	Jill Byrne
Biophysical VECs		
Vegetation (including Species at Risk)	Vascular plant surveys (common and rare plants)	Christopher Pepper
	Epiphytic lichen survey	Tom Neily
Terrestrial Wildlife (Excluding Birds and Bats)	Desktop screening of potential wildlife and habitat. Observations of wildlife were documented as part of other biophysical VEC assessments.	Christopher Kennedy
Wetlands	Wetland assessments	Chris Kennedy Julie Ellsworth
Fish and Fish Habitat	Fish habitat assessment	Chris Kennedy
Species at Risk	Desktop screening of potential SAR/SoCC and habitat. Field assessments for SAR were included in other biophysical VEC assessments.	Kelly Regan
Birds and Bird Habitat	• Late-winter breeding bird surveys; • Spring migratory transect-based point counts for migratory birds; • Spring diurnal watch counts; • Breeding nocturnal owl survey; • Summer transect-based point counts for breeding birds; • Summer breeding Common Nighthawk survey; • Fall transect-based point counts for migratory birds; and,	Christopher Kennedy Christopher Pepper

Valued Component	Study Type	Lead Technical Professional
	• Fall diurnal watch counts	
Birds and Bats	• Radar and Acoustic Monitoring	Mike Peckford Julie vanTol Sarah Stewart
Bats and Bat Habitat	Acoustic bat surveys	Daniel Bourassa
Socioeconomic VECs		
Economy Land Use and Value Transportation, Recreation and Tourism Human Health	Desktop studies on the existing socioeconomic environment with respect to economy, land use and value, transportation, recreation and tourism and human health.	Kelly Regan Kristin Banks
Land Use and Value	Radiocommunication System Impact Study	Chiara Ferrero-**Wong** Meg Morris
Heritage and Archaeological Resources	Desktop Archaeological Resource Impact Assessment (ARIA) was conducted by Cultural Resource Management (CRM) Group Limited.	Robert Shears
Review		
Environment Assessment Registration Document		Kristin Banks Meg Morris Megan MacIsaac Amy Pellerin Kelly Regan

Kristin D. Banks, B.Sc.Eng., P.Eng.

PARTNER
kbanks@dillon.ca

PERSONAL PROFILE

Kristin is an environmental engineer with over 15 years of experience in environmental site assessment, contaminated site assessment, groundwater assessments and consultations. Kristin has been the lead environmental assessor for several environmental effects evaluations, environmental impact assessments, and large scale environmental programs including impact assessment, risk management, and remediation.

EDUCATION

B.Sc.Eng. (Geological Engineering), University of New Brunswick, 2005

REGISTRATIONS/LICENCES

Association of Professional Engineers and Geoscientists of New Brunswick (Licensed Member)

Atlantic PIRI Partnership in Risk Based Corrective Action (Site Professional)

RELEVANT EXPERIENCE

ENVIRONMENTAL IMPACT ASSESSOR

Project Manager and Environmental Engineer, Environmental Assessment for Westchester 40 MW Wind Farm, Natural Forces, Westchester, Nova Scotia

Project Manager responsible for the completion of an Environmental Assessment for the 20 MW energy project which involved coordinating all required biophysical assessments, leading public engagement efforts and supporting on consultation. Specific components assessed in the biophysical assessment included; bats, birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, items of cultural significance, land form assessment and species at risk (mainland moose and wood turtle). Responsible for client communication, evaluation of potential interactions between VECs and co-authoring the registration document.

Project Manager and Environmental Engineer, Environmental Assessment for Benjamin Mills 80 MW Wind Farm, Natural Forces, Benjamin Mills, Nova Scotia

Project Manager responsible for the completion of an Environmental Assessment for the wind energy project which involved coordinating required biophysical assessments (utilizing habitat style methodology), leading public engagement efforts and supporting on consultation. Specific components assessed in the biophysical assessment included; bats, birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, items of cultural significance, land form assessment and species at risk (lichen and wood turtle). Responsible for client communication, evaluation of potential interactions between VECs and co-authoring the registration document.

Project Manager and Environmental Engineer, Environmental Assessment for Wocawson 20 MW Wind Farm, Natural Forces and Tobique First Nation, Sussex, New Brunswick

Project Manager responsible for biophysical assessments required for the completion of an Environmental Impact Assessment for the 20 MW energy project. Specific components assessed in the biophysical assessment included; bats, birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, items of cultural significance, and species at risk. Responsible for client communication, evaluation of potential interactions between VECs and co-authoring the registration document.

Project Manager and Technical Specialist, Post Construction Monitoring at the Oinpegitjoig (Richibucto) Energy Project, Natural Forces, Richibucto, New Brunswick

Project Manager for the first year of post construction monitoring at the Oinpegitjoig (Richibucto) Wind Project and technical advisor for the subsequent year. Responsible for coordinating monitoring events and communicating methodology, results and annual findings to regulatory authorities. Despite occurring in 2020, travel implications due to Covid 19 were managed and no comments were received from the regulator.

Environmental Lead, Port Saint John Expansion, Port Saint John, Saint John, NB
Environmental lead for the modernization of the West Side Terminals for Port Saint John. Project includes environmental impact assessment of the extension the current wharf (including a capital dredging programs in several areas of the harbor) and evaluation of disposal options for contaminated sediments. Responsibilities include; leading the team in conducting an environmental effects evaluation of the biophysical and socioeconomic environment (components include: fish and fish habitat assessment, Species at Risk, noise and atmospheric environment, etc.), applying federal guidelines and applying regulations to all aspects of the project.

Environmental Impact Assessor, Environmental Assessments, Kingsclear First Nations, Kingsclear, NB
Project professional responsible for coordinating biophysical assessments for several projects for the Kingsclear First Nation including for a waste water treatment plant, proposed quarry and roadway, new industrial facility, rehabilitation of existing buildings and a proposed commercial development. Work included compilation of data and presentation in a format that met applicable regulatory requirements.

Engagement Lead and Environmental Assessment Lead, Streambank Restoration Project, Oromocto First Nation, NB
Community engagement and environmental assessment lead for a streambank restoration project for Oromocto First Nation. To develop a more complete understanding of the potential impacts for the project, and evaluate western science along with traditional knowledge, a two-phase engagement strategy was used. An initial open-house style workshop was held within the community followed by a second session with community elders. From there all field biophysical (species at risk, aquatic habitat, wetland, vegetation and terrestrial) assessments were conducted alongside community members to facilitate capacity building.

Project Manager and Environmental Engineer, Environmental Assessment for Upgrades to the Plaster Rock Solid Waste Management System, Village of Plaster Rock, Plaster Rock
Project Manager responsible for leading the environmental impact assessment for the proposed project, which involved coordinating required biophysical assessments, leading public engagement efforts and supporting on consultation. Specific components assessed in the biophysical assessment included; birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, archaeology, and species at risk. Responsible for client communication, evaluation of potential interactions between VECs and co-authoring the registration document.

Project Professional, Social Impact Comparative Review, NB Power, New Brunswick
Project professional responsible for presenting the findings of a social impact comparative review for the proposed project at the Mactaquac Generating Station to the public through public consultation events. Ms. Banks attended regular meetings with the client to adjust the scope of the assessment based on information provided by the client as the project evolved.

Engagement Lead and Environmental Assessment Lead, Woodstock Water Supply Project, Town of Woodstock, NB
Led provincial environmental assessment of the project was completed to evaluate the potential environmental effects. Following the identification of a significant pre-contact archaeological site within a project footprint, Kristin led a communication/consultation strategy on behalf of the proponent with the local First Nation which has been referred to as the best example of consultation efforts in the province to-date.

Environmental Impact Assessor, CEAA Environmental Screening, Public Works and Government Service of Canada, Wasauksing First Nation, Parry Island, Ontario
Project manager responsible for conducting an environmental screening for the subsequent remediation of four contaminated sites across the Wasauksing First Nation community lands. Responsibilities included coordinating review of available public information, conducting interviews with knowledgeable community members and elders, arranging preliminary biophysical assessments. Information was compiled and presentation in a format that met applicable regulatory requirements.

Daniel Bourassa, B.Sc

SENIOR ENVIRONMENTAL SCIENTIST
dbourassa@dillon.ca

EDUCATION

B.SC (Honours) Environmental Sciences, Tent University, 2010

Diploma, Environmental Technologist, Sir Sanford Flemming, 2008

Diploma, Environmental Technician, Sir Sanford Flemming, 2007

RELEVANT EXPERIENCE

ENVIRONMENTAL MONITORING AND SURVEYS

Environmental Scientist and Lead Biologist, Grand Renewable Wind - Environmental Effects Monitoring Program, Samsung Renewable Energy Inc., Haldimand County, Ontario.
Undertook mortality monitoring for birds and bats (three years), disturbance effects monitoring to woodland breeding birds, migrating birds and wetland/woodland hydrology including data analysis. 2018 (completed).

Environmental Scientist and Lead Biologist, Talbot Wind Farm, Mortality Monitoring, Enbridge Pipelines Inc., Bruce County, Ontario.
Developed/implemented a multi-year post-construction monitoring plan for bird and bat mortality at a 98.9 MW facility, Ontario. 2017 (completed).

Environmental Scientist, 9 Wing Gander Biophysical Inventory, DND/DCC, Atlantic Provinces
Completed bat data analysis for biophysical inventories and updated natural resource management plans for five 9 Wing Gander properties. 2017(completed).

Environmental Scientist and Lead Biologist, East Lake St. Clair Wind Farm, GDF SUEZ Canada Inc., Chatham-Kent, Ontario, and Greenwich Wind Farm Mortality Monitoring, Enbridge Pipelines Inc., Thunder Bay, Ontario.
Implemented a bird and bat post-construction follow-up plans, including bat data analysis. 2017 (completed).

Environmental Scientist and Lead Biologist, Talbot Bat Activity and Habitat, Enbridge Inc./ Renewable Energy Systems Canada, Kincardine, Ontario.
Implemented bat activity and habitat use research design focusing further research and bat mortality. 2016 (completed).

Environmental Scientist and Lead Biologist, Raleigh Avian Study, Invenergy Wind Canada ULC, Chatham-Kent, Ontario.
Developed and implemented a three-year post-construction monitoring plan to determine bird and bat mortality at a 52 MW facility. Possible displacement effects of turbines on Tundra Swan, shorebirds and breeding Bald Eagles were investigated. 2012 (completed).

Environmental Scientist and Lead Biologist, Greenwich Wind Farm, Enbridge Renewables/Renewable Energy Systems Canada, Dorion, Ontario.
Completed a post-construction follow-up plan (PFCP) for the wind farm consisting of two years of post-construction mortality monitoring to form the general framework of the Bird and Bat Monitoring. 2013 (completed).

DILLON CONSULTING

SPECIES AT RISK ASSESSMENTS AND SURVEYS

Environmental Scientist, Greenwood, Nova Scotia
Providing bat expertise for 14 Wing Greenwood satellite SAR surveys. (On-going).

Environmental Scientist, Species at Risk Assessment, Coptic Orthodox Patriarchate, Mississauga, Ontario.

Completed species at risk (SAR) habitat assessments. SAR included Barn Swallow, Chimney Swift, Little Brown Myotis and Eastern Small-footed Bat. 2015 (completed).

Environmental Scientist and Lead Biologist, Species at Risk Survey, Defence Construction Canada, Canadian Forces Base Shilo, Manitoba.
Completed a survey of 24 possible species at risk in Range Area 9. 2014 (completed).

Julie Ellsworth, EPt

ENVIRONMENTAL SCIENTIST
JEllsworth@dillon.ca

PERSONAL PROFILE

Julie is an environmental scientist with five years of experience in environmental consulting. Her project experience includes conducting field technical work in the areas of natural resource management, water quality, hazardous materials surveys, phased Environmental Site Assessments (ESA), Underground Storage Tank (UST) removals, air quality investigations, and environmental monitoring programs. She has completed various Phase One ESAs at commercial properties, single family and multi-unit residential properties, vacant sites and sites currently under development. Julie is proficient in collecting air, soil, slate, water, asbestos, and paint samples, ensures proper sample collection and preservation protocol, maintains chain-of-custody for sample submission to accredited laboratories, tabulates data in comparison with applicable guidelines and regulations, and drafts reports for senior review. She also is experienced in conducting training for new employees and managing field programs independently.

EDUCATION

B.Sc., Agriculture,
Dalhousie University, 2017

RELEVANT EXPERIENCE

NATURAL RESOURCES MANAGEMENT

Technician, Environmental Assessment for Benjamin Mills 80 MW Wind Farm, Natural Forces Developments LP, Hants County, Nova Scotia

Completed an EA for a wind energy project involving coordination of required biophysical assessments (utilizing habitat style methodology), public engagement efforts and supporting consultation. Specific components assessed in the biophysical assessment included bats, birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, items of cultural significance, land form assessment and species at risk (lichen and wood turtle). Specific works included operation and collection of data from bat meters that were located on the site for an extended period of time, as well as wetland delineations and watercourse assessments (ongoing).

Technician, Environmental Assessment for Westchester 40 MW Wind Farm, Cumberland County, Nova Scotia

Completed an EA for the 40 MW energy project involving coordination of all required biophysical assessments, public engagement efforts and supporting consultation. Specific components assessed in the biophysical assessment included bats, birds, vegetation, wetlands, aquatic habitats, terrestrial wildlife, items of cultural significance, land form assessment and species at risk (mainland moose and wood turtle). Specific works included operation and collection of data from bat meters that were located on the site for an extended period of time, as well as wetland delineations and watercourse assessments (ongoing).

Technician, Proposed Subdivision Development, Private Client, Sydney, Nova Scotia

DILLON CONSULTING

Accompanying a senior biologist, Julie conducted wetland delineation services for a parcel of land that was proposed for development of a subdivision (ongoing).

Technician, Wetland Delineation Program, Nova Scotia Transportation and Infrastructure Renewal, Bridgewater, Nova Scotia
Conducted a field program identifying and delineating wetlands on a parcel of land that was proposed to be an extension of the business park in Bridgewater, as well as a new exit off highway 103. Julie was responsible for assisting senior field staff with describing soil conditions and identifying species within the wetlands, as well as flagging and using a Trimble GPS for mapping purposes. 2019 (completed).

Technician, Wetland Monitoring Program, West Bedford Holdings, Halifax, Nova Scotia
Conducted a monitoring plan to assess wetland that will remain at the site following wetland alterations. The undisturbed areas of the wetland will be monitored to document if construction activities at the site affect the hydrology of the remaining wetland. Specific works included conducting the field work which included delineating wetlands on the subject property, collecting water levels, collecting soil samples, and assessing vegetation. 2019 (completed).

Technician, Wetland Monitoring Program, Clayton Developments, Lantz, Nova Scotia
Conducted a monitoring program to assess wetland that will remain on site following wetland alteration activities as a term and condition of NSE. Specific works included delineation of wetlands on the subject property and assess vegetation and soil types. 2019 (completed).

Technician, Wetland Monitoring Program, Port Wallace Holdings, Port Wallace, Nova Scotia
Conducted a monitoring plan to assess wetland that will remain at the site following wetland alterations. The undisturbed areas of the wetland will be monitored to document if construction activities at the site affect the hydrology of the remaining wetland. Specific works included conducting field work which included delineating wetland on the subject property, collecting water levels, collecting soil samples, and assessing vegetation. 2018 (completed).

EMPLOYMENT HISTORY

DILLON CONSULTING LIMITED

2020 – Present Environmental Scientist

ENGLOBE CORPORATION

2017 – 2020 Environmental Professional

PROFESSIONAL DEVELOPMENT

Wetland Delineation Specialist Training, Fredericton, New Brunswick, 2020

Remote First Aid CPR/AED level C, 2021-2024

Confined Space Awareness Training, 2021

Respirator Fit Test (PAPR), Hazmasters Inc., 2020-2022.

Workplace Hazardous Materials, Information System (WHMIS)

Excavation Safety, Construction Safety, Nova Scotia, 2017.

Pleasure Craft Operators, 2015.

CHRIS KENNEDY, M.SC.
Biologist
Dillon Consulting Limited

Designated Role: Key Personnel: SENIOR ENVIRONMENTAL SCIENTIST

Years of Experience: 11 **Years with Firm:** 5

Education:	M.Sc. (Biogeography), Memorial University, 2011
Professional Accreditations:	NSE Wetland Ecosystem Services Protocol for Atlantic Canada Training (WESPAC), NSE/DFO Erosion Prevention and Sediment Control Certification, Electrofishing Certification, Restricted Operator's Certificate Nova Scotia Wetland Delineation.

Proposed Role and Responsibilities:

Environmental Scientist: Key senior personnel with expertise to assist with completion of natural resources services. Experienced with field acoustic and playback migratory and breeding bird assessment, species at risk plant assessment, acoustic and maternity bat habitat surveys, wetland delineation and functional assessment and fish population and habitat assessment including electrofishing. Senior input for federal Environmental Assessment pursuant to the *Canadian Impact Assessment Act* (IAA); natural resource inventories; Species at Risk (SAR) and Species of Conservation Concern assessments; and associated monitoring/management program development, and digital data management. Mr. Kennedy is an experienced field biologist with and understanding of Defence Construction Canada (DCC) / Department of National Defence (DND) requirements under a Source List (SL) including work at ranges and training areas, airfields and naval bases and marine training areas.

Experience on Comparable Projects

Ongoing, Wind Turbine Facilities Environmental Studies, Natural Forces, Nova Scotia
Environmental Scientist providing senior direction and leading field work for baseline biological studies including breeding and migratory birds, wetland delineation and functional assessment, species at risk (SAR) studies and aquatic habitat and fish studies.

2018- Ongoing, Highway 107 Environmental Approvals, Nova Scotia Department of Transportation and Active Transit
Environmental Scientist that oversaw NS provincial and joint federal *Canadian Environmental Assessment Act* (*CEAA*) EAs for four highway twinning projects and three new highway right-of-ways. Conducted reporting, intergovernmental and public consultations including public open houses and regulatory consultation and stakeholder meetings. Subsequent to EA approval contributed to Environmental Protection Plans and prepared wetland and watercourse permit applications.

2012 – Ongoing, Nova Scotia Highway Bridges and Structures Environmental Assessments and Habitat Studies, Nova Scotia Department of Transportation and Active Transit, NS
Intermediate Environmental Scientist responsible for Environmental Effects Determination reports, site specific habitat surveys, including wetland identification, fish habitat assessment and rare plant and terrestrial habitat assessment, and submission of permit applications.

2021 – Ongoing, Range and Training Area Management Plan Update for a DND Rifle Range and Antenna Facility, NS
Intermediate Environmental Scientist responsible for SAR assessments habitat studies and natural resource inventory, and for development of a SAR management and monitoring program and Range and Training Area Natural Resources Management Plan (RTAMP) update. Three season field surveys utilizing GPS and federal protocols included acoustic bat surveys, breeding and migratory bird surveys, turtle surveys, fish inventory and habitat assessment, vegetation/rare plant inventory, wetland assessments, and assessment of SAR and Species of Concern. Work under DCC SL.

2020 – 2021, SAR Survey and Monitoring, 14 Wing Greenwood Satellite Properties, DCC/DND, NS
Intermediate Environmental Scientist responsible for SAR assessments habitat studies and natural resource inventory, and for development of a SAR management and monitoring program. Four season field survey data collection and mapping utilizing GPS and DND's GIS schema, and federal protocols included acoustic bat surveys, breeding and migratory bird surveys, turtle surveys, fish inventory and fish habitat assessment, vegetation inventory including lichens and mosses, wetland assessments, and assessment of SAR and Species of Conservation Concern. Work under DCC SL.

2020 – 2021, Natural Resource Inventory and Management Plan / SAR Surveys, 12 Wing Shearwater DCC/DND, NS
Intermediate Environmental Scientist responsible for SAR surveys, natural resource inventory and habitat assessment to update Natural Resource Management Plan for an active airfield (with extensive undeveloped forest and natural areas). Three season field surveys utilizing GPS and federal protocols included migratory bird surveys, fish inventory

and fish habitat assessment, rare plant and invasive plant inventory, wetland assessments, and assessment of SAR and Species of Conservation Concern. Evaluations included use of GPS/GIS mapping and completion of a digital database of wetland features and SAR findings and habitat. Work under DCC SL and includes meeting enhanced security requirements.

2020 – 2021, Mill Cove Wetland Assessment and Compensation Development, DCC/DND, NS
Intermediate Environmental Scientist responsible for wetland assessment and compensation development and monitoring plan in relation to a proposed maintenance road. Work under DCC SL.

2019 – 2020, Redd Atlantic Salmon Habitat Surveys, 5th Canadian Division Support Base (5CDSB) Gagetown, DCC/DND, Oromocto, New Brunswick
Intermediate Environmental Scientist, conducting fish inventory and fish habitat assessment, in relation to Atlantic salmon (SAR). Work included statistical analysis of fish population data. Work under DCC SL.

2017-2020, 9 Wing Gander – Wetland Remediation, Evaluation and Restoration Project, Defence Construction Canada, Gander, Newfoundland and Labrador.
Intermediate Environmental Scientist responsible for development of wetland and associated pond restoration at a former waste disposal site at 9 Wing Gander.

2019, Federal Park Coastal Sensitive Area Assessment, PWGSC, NB
Environmental Scientist responsible for wetland assessment, Species at Risk surveys, rare plant and bird field surveys.

2018- 2019, Effluent Treatment Facility Environmental Assessment, Northern Pulp NS
Environmental Scientist for wetland, amphibian and reptile, breeding bird and migratory bird assessments for proposed effluent treatment facility. Designed and conducted field surveys, interpreted results and design mitigation for the project in relation to biological components.

2015, Marine Grounding Facility Vegetation Survey, Maritime Link, NS and NL
Intermediate Environmental Scientist for coastal vegetation surveys for a marine grounding facility. Work included field surveys under federal protocols, data management and reporting including GPS digital data management.

2014, Hartlen Point Radar Facility Assessment, NS
Intermediate Environmental Scientist conducting a year-long bird mortality monitoring study. Work included field surveys under federal protocols, data management and reporting including GPS digital data management.

2013, Wind Farm Environmental Assessments, NS
Intermediate Environmental Scientist conducting spring and fall migratory bird surveys and breeding bird surveys. Work included field surveys, data management and reporting including GPS digital data management.

2012, SAR Assessments/ Natural Resource Management Plans, Multiple MARLANT Properties, NS
Junior Environmental Scientist responsible for conducting biological inventories, forest inventory, SAR assessments, and development of natural resource management plans for Bedford, Sydney and Debert Rifle Ranges and Mill Cove Antenna Facility. Field data collection including wetland delineation and functional assessments and rare plant assessments. Work under DCC SL.

Tom Neily, B.Sc.

BOTANIST

EDUCATION

B.Sc. Agriculture (Botanical Sciences), MacDonald College of McGill University, 1980

PROFESSIONAL DEVELOPMENT

Liverworts and Their Ecology, Humboldt Field Research Institute, Maine. 2010

Sphagnum Identification, Humboldt Field Research Institute, Maine. 2009, 2010

Lichens and Lichen Ecology, Humboldt Field Research Institute, Maine. 2004

RELEVANT EXPERIENCE

ENVIRONMENTAL ASSESSMENTS AND INVENTORIES

Botanist, Highway 107 Environmental Assessment, Transportation and Infrastructure Renewal (NSTIR), Nova Scotia
Flora specialist responsible for botany surveys including plant and lichen species at risk investigations and wetland surveys, required as part of a provincial Environmental Assessment for the construction of a new 100 series divided highway corridor. Contributing to the development of mitigation measures and identification of post-construction monitoring requirements. (ongoing).

Natural Resources Update and Species at Risk Assessment for Shearwater, Maritime Forces Atlantic (MARLANT) Property, Department of National Defence, Nova Scotia
Specific works included field work, analysis and reporting for an inventory and habitat assessment at a DND property in Nova Scotia. Conducted botany and wetland assessments. 2020.

Botanist, Environmental Assessment, Glenholme Pit, Environmental Assessment, Nova Scotia
Floral specialist responsible for botany surveys, including plant and lichen at risk investigations for a provincial environmental assessment for an aggregate pit development. 2016-2017.

Botanist, Biophysical Inventory 9 Wing Gander, Department of National Defence (DND), Newfoundland
Botanist/At Risk Plant Specialist conducting plant and lichen surveys for 9 Wing Gander Biophysical Inventory / Species at Risk Surveys. 2010-2017 (completed).

Botanist, Biophysical Inventory Osborne Head, Department of National Defence (DND), Nova Scotia
Botanist/At Risk Plant Specialist conducting plant and wetland surveys for Osborne Head, Nova Scotia, Biophysical Inventory / Species at Risk Assessment. 2015 (completed).

Botanist, Biophysical Inventory 12 Wing Shearwater, Department of National Defence (DND), Nova Scotia
Botanist/At Risk Plant Specialist responsible for completion of plant and wetland surveys at 12 Wing Shearwater for inclusion in Biophysical Inventory / Species at Risk Assessment. 2015 (completed).

Botanist, MARLANT Tree Inventory, Department of National Defence (DND), Nova Scotia
Botanist responsible for conducting tree and shrub inventory for DND MARLANT properties. 2015, 2016 (completed).

Botanist, Natural Gas Pipeline Environmental Assessments, Heritage Gas, Nova Scotia
Botanist/at risk plant specialist conducting plant (including lichens and mosses) and wetland surveys including At Risk Species and wetland assessments for proposed distribution pipeline project EAs in Pictou County and Amherst and contributing to plant and wetland assessments at a proposed Bedford route. 2011 - 2013 (completed).

Botanist, Highway 101 Phase 5 Environmental Assessment, Transportation and Infrastructure Renewal (NSTIR), Nova Scotia
Floral specialist responsible for botany surveys including species at risk investigations and wetland surveys conducted as part of a Canadian Environmental Assessment Act (CEAA) Environmental Assessment for the construction of a highway twinning project. Role involved provision of advice for mitigation and monitoring planning. 2008-2012 (completed).

Botanist, Environmental Assessment for Mine Project, ScoZinc through CRA, Nova Scotia
Conducted at risk plant surveys for an environmental assessment of proposed zinc mine development in central Nova Scotia. 2011 (completed).

Botanist, Highway 113 Environmental Assessment, Transportation and Infrastructure Renewal (NSTIR), Nova Scotia
Flora specialist responsible for botany surveys including plant and lichen species at risk investigations and wetland surveys, required as part of a provincial Environmental Assessment for the construction of a two-lane divided highway. Provided input to mitigation and post-construction monitoring planning. 2009, 2010 (completed).

Botanist, White Rock Quartz Mine, Black Bull Resources, Nova Scotia
Contributed at risk plant expertise to several mine environmental assessment (EAs) and Environmental Effects Monitoring (EEM) programs, including conducting a detailed investigation of a mine site in Southwestern Nova Scotia to delineate the population and distribution of an at-risk plant species and EEM for wetland assemblages, rare plants, exotic plants, moss and lichens. 2004-2008 (completed).

Botanist, Environmental Assessment for Proposed Quarry Project, Fundy Gypsum, Hants County, Nova Scotia
Conducted at risk plant surveys for an environmental assessment of proposed gypsum quarry expansion. 2005 (completed).

Botanist, Environmental Assessments for Coal Mine, Point Aconi, Cape Breton, Nova Scotia
Conducted at risk plant surveys for an environmental assessment for proposed coal mine project in Cape Breton. 2005, 2006 (completed).

Botanist, Environmental Assessment for Proposed Quarry Project, Lafarge Canada, Nova Scotia
Conducted at risk plant surveys for an environmental assessment of proposed gypsum quarry expansion. 2006, 2007 (completed).

Botanist, Highway 101 Phase 3 Environmental Assessment, Transportation and Infrastructure Renewal (NSTIR), Nova Scotia
Responsible for botany surveys including species at risk investigations and wetland surveys conducted as part of a CEAA Environmental Assessment for the development of a highway twinning project. 2003-2009 (completed).

Botanist, Highway 104 Port Hawkesbury Environmental Assessment, Transportation and Infrastructure Renewal (NSTIR), Nova Scotia
Floral specialist responsible for botany surveys including species at risk investigations and wetland surveys conducted as part of a provincial Environmental Assessment for a construction and operation of a new 100 series two-lane highway. Identification of potential environmental impacts, mitigation, monitoring and follow-up related to at risk plants. 2003-2009 (completed).

PUBLICATIONS

Cameron, R.P., T. Neily and D.H.S. Richardson. 2007. Macrolichen indicators of air quality for Nova Scotia. Northeastern Naturalist 14:1-14.

Cameron, R.P. and T. Neily. 2007. Forest Management Practices for the protection of the endangered boreal felt lichen and other cyanolichens at risk in Nova Scotia. Report for the Environment Canada Habitat Stewardship Program. 14 pp.

Cameron, R.P. and T. Neily. 2008. Heuristic model for identifying the habitats of Erioderma pedicellatum and other rare cyanolichens in Nova Scotia, Canada. The Bryologist 111(4): 2008

Neily, T.H. and F. Anderson. 2010. Leptogium hibernicum Mitch. ex P.M.Jørg. discovered in North America. The Lichenologist 42(5):629-630.

Cameron, R.P. and Tom Neily and Stephen R. Clayden. 2011. Distribution prediction model for Erioderma mollissimum in Atlantic Canada. The Bryologist 114(1), pp. 231-238

Cameron RP, Neily T, Anderson F. 2010b. Observations of mortality in a small population of the endangered lichen Erioderma pedicellatum. Opuscula Philolichenum 8: 67-70 .

Robert P. Cameron, Tom Neily, Harold Clapp. 2013. Forest harvesting impacts on mortality of an endangered lichen at the landscape and stand scales. Canadian Journal of Forest Research, 43(5): 507-511

T. D.Power, R.P.Cameron, T.Neily, B.Toms 2017 Forest Structure and microsite conditions of Boreal Felt Lichen (Erioderma pedicellatum) habitat in Cape Breton, Nova Scotia, Canada. Botany, in publication

Clapp, Harold, Neily, Thomas. (2017) Sphagnum cyclophyllum: a Second Site in Nova Scotia for a Rare Sphagnum Moss. Evansia. 34. 10.1639/0747-9859-34.1.6.

Chris Pepper

BIOLOGICAL FIELD SPECIALIST

cpepper@ymail.com

PERSONAL PROFILE

Chris is an environmental consultant experienced in bird identification, wetland delineation, plant identification, and rare lichen assessments

RELEVANT EXPERIENCE

ENVIRONMENTAL SURVEYS AND ASSESSMENTS

Lichen Surveys, Various, NS

Contracted for lichen surveys by various organizations including Stantec, McCallum Environmental, Strum Environmental, Mersey Tobeatic Research Institute, Northern Pulp, Port Hawkesbury Paper, Osprey Gold, Aureus Minerals inc, Parks Canada, Nature Conservancy of Canada, Nova Scotia Nature Trust, Canadian Museum of Nature and others.

Rare Plant Surveys, Various, NS

Conducted rare plant surveys for various developments.

Avian Assessments, Various, NS, NFLD, NL, AB

Involved in avian assessment surveys in Nova Scotia, Newfoundland, New Brunswick and Alberta. Worked for various companies including Strum Environmental, McCallum Environmental, WSP ltd, Stantec, Englobe, CBCL ltd, Port Hawkesbury Paper, Nature Conservancy of Canada, Nova Scotia Nature Trust, Parks Canada and Canadian Wildlife Service.

Wood Turtle Survey, CWS-Environment Canada, NS

Conducted Wood Turtle surveys on various rivers in Nova Scotia

Tern and Seabird Surveys, CWS-Environment Canada, NS

Conducted Tern and Seabird surveys on offshore islands.

Tern and Seabird Surveys

Conducted Mainland Moose surveys for various developments.

Wetland Assessments

Wetland Assessments, Various, NS

Wetland surveys for various companies including McCallum Environmental, Strum Environmental and others.

VOLUNTEER HISTORY

NOVA SCOTIA NATURE TRUST

Surveyed several offshore islands on the eastern shore for birds, plants and lichens regarding the 100 Wild Islands project.

MERSEY TOBEATIC RESEARCH CENTER

Conducted surveys for the endangered Boreal Felt Lichen and other lichens.

NOVA SCOTIA BIRD SOCIETY

2009 – 2018 Director

VOLUNTEER FOR VARIOUS SURVEY PROJECTS

2009 – Present Volunteer Biologist, Maritime Nocturnal Owl Survey
2008 – Present Volunteer Biologist, Christmas Bird Counts
2010-2016 Provincial Coordinator, Nova Scotia Migration Count
2009 – 2010 Volunteer Biologist, Maritime Breeding Bird Atlas, 2009-2010

PROFESSIONAL DEVELOPMENT

TRAINING AND COURSES

Wetland Plant Adaptation and Identification, Fern Hill Institute, NS, July 2012
Wetland Delineation, Fern Hill Institute, NS, July 2012
St. John Ambulance Emergency First Aid CPR "A" and AED, St, John Ambulance

OTHER

ATV Operator Course, Canada Safety Council
Hold valid Pleasure Craft Operator card

KELLY REGAN M.SC. Biologist Dillon Consulting Limited	**Designated Role:**	**INTERMEDIATE ENVIRONMENTAL SCIENTIST**		
	Years of Experience:	8	**Years with Firm:**	7
Education:	M.Sc., Biology, University of Guelph, 2010 Environmental Engineering Technology-Water Resources, NSCC, 2014 B.Sc., Biology Honours, Mount Allison University, 2008			
Professional Accreditations:	N/A			
Training:	Wetland Delineation Specialist Training, Fredericton, New Brunswick, 2018 Backpack Electrofishing, Canadian Rivers Institute and UNB Extended Learning, 2015 Shoreline Cleanup and Assessment Technique (SCAT), 2015			

Role and Responsibilities:

Intermediate Environmental Scientist: Key personnel to assist with completion of natural resources inventories and management plans, federal and provincial environmental assessments (EA), species at risk assessments and management plans, habitat studies and field survey data collection, permit applications and training program development. Experienced with preparation of reports federal, provincial, and departmental (Department of National Defence – DND) EAs, Environmental Impact Assessments (EIA), and environmental effects determinations.

Relevant Managerial and/or Technical Experience:

2021, Bedford Rifle Range RTAMP 2021, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist responsible for conducting a Range and Training Area Management Plan Update for a DND Rifle Range and Antenna facility, Nova Scotia (NS). Responsible for SAR assessments habitat studies and natural resource inventory, and for development of a SAR management and monitoring program. Three season field surveys utilizing GPS and federal protocols included acoustic bat surveys, breeding and migratory bird surveys, turtle surveys, fish inventory and habitat assessment, vegetation inventory, wetland assessments, and assessment of SAR and Species of Concern.

2021, Masstown Receiver Site SAR Assessment, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the Natural Resource Inventory and Management Plan / SAR Surveys, Masstown Receiver Site, NS. Responsible for SAR surveys and habitat assessment to update Natural Resource Management Plan for an active airfield. Three season field surveys utilizing GPS and federal protocols included migratory bird surveys, fish inventory and fish habitat assessment, vegetation inventory, wetland assessments, and assessment of SAR and Species of Conservation Concern. Work under DCC *AE16SLNR*.

2021, SAR Survey and Monitoring Plan, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for SAR Survey and Monitoring, 14 Wing Greenwood Satellite Properties, DCC/DND, NS. Responsible for SAR assessments habitat studies and natural resource inventory, and for development of a SAR management and monitoring program. Four season field surveys utilizing GPS and federal protocols included acoustic bat surveys, breeding and migratory bird surveys, turtle surveys, fish inventory and fish habitat assessment, vegetation inventory, wetland assessments, and assessment of SAR and Species of Concern. Work under DCC AE16SLNR.

2021, 12 Wing Shearwater SAR Assessment, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the Natural Resource Inventory and Management Plan / SAR Surveys, 12 Wing Shearwater DCC/DND, NS. Responsible for SAR surveys and habitat assessment to update Natural Resource Management Plan for an active airfield. Three season field surveys utilizing GPS and federal protocols included migratory bird surveys, fish inventory and fish habitat assessment, vegetation inventory, wetland assessments, and assessment of SAR and Species of Conservation Concern. Work under DCC AE16SLNR.

2021, Biophysical Surveys and Soil Sampling in Support of Explosive Ordnance Disposal Operation, Chebogue Point, Yarmouth, Nova Scotia, DCC, NS

Biologist that developed a list of species for birds, fish, lichen, plants, and mammals based on a compilation of listed species from available references, such as but not limited to, the Atlantic Canada Conservation Data Centre (ACCDC), topographical maps, google earth, provincial landscape viewer, Species at Risk recovery strategies, management plans and residence descriptions.

2018, Marine EED, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the MARLANT MARLOAs Environmental Effect Determinations in the East Coast of Canada. Responsible for EEDs for MARLOAs East Coast Navy routine activities and a specific multinational exercise. Due diligence Environmental Assessment under IAA. Work under DCC *AE16SLNR*.

2017, 9 Wing Gander Biophysical Inventory, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the Natural Resource Inventory and Management Plan, Five Properties 9 Wing Gander, DCC/DND, Various Towns, Newfoundland. Responsible for habitat studies and natural resource inventory, and for development of a SAR management and monitoring program. Three season field surveys utilizing GPS and federal protocols included acoustic bat surveys, breeding and migratory bird surveys, fish inventory and fish habitat assessment, vegetation inventory, wetland assessments, update of forest inventory, and assessment of SAR and Species of Concern. Work under DCC AE16SLNR.

2018, 14 Wing Greenwood Wildlife Control Study, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the Wildlife Control Study and Recommendations, 14 Wing Greenwood, DCC/DND, Greenwood, NS. Responsible for senior direction and ecological assessment to evaluate mitigation related to aircraft interactions. A yearlong wildlife study is being conducted focusing on breeding and migratory birds. The work includes evaluation of bird species populations present at the property, potential for interaction with aircraft, and, recommendation for control measures/ mitigation. Also includes review of the grass hopper (entomological) management program. Work under DCC SL and includes meeting enhanced security requirements.

2016, 12 Wing Shearwater Natural Resource Inventory, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist for the Natural Resource Inventory at 12 Wing Shearwater and a Naval Test Range, DCC/DND, Halifax Regional Municipality, NS. Responsible for biological inventory update and habitat assessments at an active DND airfield (with extensive undeveloped forest and natural areas) and secure range test site. Conducted and led field surveys using federal protocols over three seasons targeting of freshwater fish and riparian habitat, bats, breeding and migratory birds, wetland delineation and functional assessment and vegetation inventory, as well as evaluating potential SAR and Species of Concern habitat. The vegetation inventory also included assessment of invasive/noxious plant species such as giant hogweed and provided recommendations for managing and monitoring these plants. Freshwater aquatic assessments at the airfield included fish inventory and assessments using electrofishing techniques and federal Fisheries and Oceans protocols for habitat evaluation. Directed bird and SAR assessors. Evaluations included use of GPS/GIS mapping and completion of a digital database of wetland features and SAR findings and habitat. Work under DCC SL and includes meeting enhanced security requirements.

2016, Natural Resources Update and SAR Assessment for Osborne Head, MARLANT, Department of National Defence/Defence Construction Canada, Atlantic Provinces

Biologist that conducted field work, analysis and reporting for an inventory and habitat assessment at an antenna field DND property in Nova Scotia which includes coastal habitat. Assisted with field surveys over three seasons of riparian habitat, watercourses, bats, migratory birds, wetland assessment and vegetation inventory, as well as SAR. Directed specialist bird and SAR assessors. Vegetation inventory was expanded to include lichens and mosses. Evaluations included use of GPS/ GIS mapping and completion of a digital database of wetland features based on provincial NSE delineation methodology and federal functional assessment.

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JILLIAN BYRNE - RESUMÉ

Profession:	Renewable Energy Development Officer
Specialization:	Environmental Compliance and Predictive Modelling
Position in Firm:	Development Officer
Years of Experience:	2
Year Joined Firm:	2020
Languages:	English

PROFESSIONAL QUALIFICATIONS

- Bachelor of Engineering and Applied Sciences, Civil Engineering - 2020, Memorial University of Newfoundland, St. John's, Canada
- Engineer in Training Certification - 2020, Engineers Nova Scotia, Halifax, Canada

KEY EXPERIENCE AND RESPONSIBILITIES

- Currently managing development portfolios for approx. 12 utility scale wind and solar projects across Canada
- Worked as part of the development team in the successful deployment of 13 wind and solar energy projects throughout Nova Scotia, New Brunswick, Saskatchewan and British Columbia
- Expertise in permitting, real property negotiations and contracts, stakeholder and rightsholder consultation, project financing, and financial due diligence

WORK HISTORY

Development Officer 2020-present	Natural Forces Services Inc. (Halifax, Canada)

- Drafting, review and editing of an Environmental Assessment for a wind project in Labrador
- Auditing of commitments to regulators throughout the Environmental Assessment process and tangential permitting for projects in Nova Scotia, New Brunswick, British Columbia, and Saskatchewan
- Coordination with operation and construction teams to uphold commitments made through environmental permitting process
- Identified new large scale wind project locations using GIS software as well as field studies
- Development of matrices for ranking of prospective projects
- Completed noise and shadow flicker impact assessments for a wide range of projects with varying sizes and constraints
- Completed zone of visual influence assessments for wind projects
- Completion of photomontage modelling for projects in Nova Scotia

- Operated GIS software and used wind atlases to assess areas for suitable wind energy development
- Installation of wind data measurement instrumentation, specifically Lidars
- Identified landowners of potential project sites
- Performed high level desktop assessments of potential project sites
- Produced numerous maps and documents required for securing land and permit applications

Co-op Student 2017-2019	SNC Lavalin-Dragados-Pennecon General Partnership (Argentia, Canada)

- Implementation and verification of quality control activities and requirements
- Collection of field data. Including data from monitoring systems, mapping of deficiencies, and verification of construction requirements in field
- Review and preparation of turnover dossiers and associated records as per the client's request
- Materials testing including casting, prepping, and compressive strength testing of concrete and grout specimens, soils testing, and review of testing results

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Chiara Ferrero-Wong - Resumé

Profession:	Renewable Energy Project Developer
Specialization:	GIS, Permitting, Consultation
Position in Firm:	Development Officer
Years of Experience:	6 months
Year Joined Firm:	2021
Languages:	English

Professional Qualifications

- Bachelor of Environmental Science and English - 2021, Dalhousie University, Halifax, Canada

Key Experience and Responsibilities

- Worked as an intern at Natural Forces from April – August 2019 as part of the development team
- Currently contributing towards the development portfolios for utility scale wind and solar projects across Canada as part of the development team with a focus on the Nova Scotia projects
- Gaining experience in permitting, real property negotiations and contracts, stakeholder and rightsholder consultation, and site-finding

Work History

Development Officer — Natural Forces Services Inc.
2021- present — (Halifax, Canada)

- Managed applications for various environmental, municipal, provincial and federal permits
- Assisted in the interconnection applications with utility companies
- Identified new large scale wind project and solar project locations using GIS software
- Assisted with the drafting, review, and editing of Environmental Assessments for large scale wind projects in Nova Scotia
- Completed radiocommunication impact studies for large scale wind projects in Nova Scotia using GIS software following regulator guidance documentation
- Produced numerous maps for various permit applications, securing land, and public consultation
- Assisted in public consultation events including open houses and project launches by answering questions from the community and engaging with them on the project

Development Officer (internship) — Natural Forces Services Inc.
2019 — (Halifax, Canada)

- Operated GIS software and used wind atlases to assess areas for suitable wind energy

development.

- Identified and assisted with approaching landowners of potential project sites
- Performed high level desktop assessments of potential project sites
- Produced numerous maps and documents required for securing land and permit applications
- Wrote newsletters with project updates for landowners as part of the pubic consultation process
- Updated and maintained individual project websites
- Produced the first draft of the technical proposal for a utility scale solar project in Saskatchewan

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Megan MacIsaac - Resumé

Profession:	Renewable Energy Project Developer
Specialisation:	Permitting, Consultation, Environmental Science
Position in Firm:	Development Officer
Years of Experience:	2
Year Joined Firm:	2020
Languages:	English, French

Professional Qualifications

- Bachelor of Science with Honours (Environmental Science) - 2019, Acadia University, Wolfville, Canada

Key Experience and Responsibilities

- Currently coordinating environmental studies and assessments for utility scale energy projects across Canada in various stages of development, construction, and operation
- Worked as part of the development team in the successful deployment of 6 wind and solar energy projects throughout Nova Scotia, New Brunswick, Saskatchewan and British Columbia
- Expertise in permitting, stakeholder and rightsholder consultation, and environmental science

Work History

Development Officer — **Natural Forces Services Inc.**
2020 - present — (Halifax, Canada)

- Assist with the drafting, review and editing of several Environmental Assessments for large scale wind projects in Nova Scotia and New Brunswick
- Assist in drafting, review and editing of a Technical Proposal for a utility scale solar project in Saskatchewan
- Contract and coordinate consultant field work programs in New Brunswick, Nova Scotia, and British Columbia
- Manage applications for various environmental permits
- Assist in consultation for several wind farm projects throughout Nova Scotia and New Brunswick
- Produce numerous maps and documents required for regulators and stakeholders
- Conduct site constraint analysis and micro-sited wind projects, wind turbines and solar projects based on the results of the analysis
- Complete noise and shadow flicker impact assessments for a wide range of projects with varying sizes and constraints

Global Change Research Technician 2019	Saint Mary's University (Halifax, Canada)

- Review literature and extract data in order to analyze effects of invasive species on soil biodiversity
- Assisted with the drafting, review and editing of scientific papers for academic collaborators

Solid Waste Resource Analyst 2019	Nova Scotia Environment and Climate Change (Halifax, Canada)

- Researched novel programs, plans, initiatives and developments in solid waste resource management
- Compiled and analyzed data to inform decision making

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Meg Morris - Resumé

Profession:	Renewable Energy Project Developer
Specialisation:	Permitting, Consultation, Land Use Planning, Wind Resource
Position in Firm:	Development Manager
Years of Experience:	3
Year Joined Firm:	2019
Languages:	English

Professional Qualifications

- Master's of Planning – 2018, Queen's University, Kingston, Ontario
  - Specialization: Environmental Services
- Bachelor of Science, Physics – 2016, Mount Allison University, Sackville, New Brunswick
  - Minors: Environmental Science and Mathematics

Key Experience and Responsibilities

- Managing development, environmental assessment, and permitting activities for new utility scale wind projects in Atlantic Canada
- Coordinating engagement with the relevant Indigenous peoples for renewable energy projects across Canada
- Negotiating and applying for land contracts with private landowners and provincial Crown land regulators

Work History

Development Manager — Natural Forces Services Inc.
2020 - present — (Halifax, Canada)

- Manage development activities for new utility scale wind projects in Atlantic Canada
- Lead the drafting, review, and editing of environmental assessment documentation for wind projects in Nova Scotia
- Manage engagement with the relevant Indigenous peoples for renewable energy projects across Canada
- Assist in identifying and determining feasibility of new large scale wind projects using GIS software and field studies
- Assist in micro-siting new wind project infrastructure based on the information gathered during the feasibility stage
- Manage the completion of wind resource assessments for new wind projects by third party engineering firms
- Negotiated and revised real property contracts with both individual and corporate landowners
- Assist with public and stakeholder consultation by carrying out presentations,

participating in open houses and meetings, answering individual questions and concerns, and preparing the relevant materials
- Complete and manage interconnection applications with utility companies
- Manage and assist with applications for various municipal, provincial, and federal permits and funding sources, including those associated with the use of Crown land
- Work with municipal staff and councils to advise on new land use policies
- Contract and manage consultant field work programs

Development Officer — Natural Forces Services Inc.
2019-2020 — (Halifax, Canada)

- Completed sound level and shadow flicker impact assessments for a wide range of projects with varying sizes and constraints
- Carried out radiocommunication impact studies in alignment with guidance documents from regulators and the Canadian Wind Energy Association
- Assisted with public consultation for several wind and solar projects across Canada
- Completed and managed interconnection applications with utility companies
- Managed and assisted with applications for various municipal, provincial and federal permits, including those associated with the use of Crown land
- Operated GIS software and used wind atlases to assess areas for suitable wind energy development
- Organized the installation and wind data measurement instrumentation such as meteorological towers, and LiDAR and SoDAR devices
- Identified and assisted with approaching landowners of potential project sites and preparing the land contracts
- Performed high level desktop assessments of potential project sites
- Assisted with data logging and instrumentation troubleshooting for meteorological masts throughout Nova Scotia
- Produced numerous maps and documents required for securing land and permit applications

Research Assistant — Queen's University
2017-2019 — (Kingston, Ontario)

- Assisted with the work of the Planning with Indigenous Peoples research group
- Developed and managed an individual research project on the importance of including Indigenous peoples in environmental planning
- Carried out interviews with Indigenous representatives, and municipal and provincial government officials

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Amy Pellerin - Resumé

Profession:	Renewable Energy Project Developer
Specialisation:	Project Management, Permitting, Consultation
Position in Firm:	Director – Canadian Development
Years of Experience:	10
Year Joined Firm:	2012
Languages:	English, French

Professional Qualifications

- Bachelor of Environmental Engineering - 2012, Dalhousie University, Halifax, Canada
- Professional Engineer Certification - 2015, Engineers Nova Scotia, Halifax, Canada

Key Experience and Responsibilities

- Currently managing development portfolios for approx. 12 utility scale wind and solar projects across Canada
- Worked as part of the development team in the successful deployment of 13 wind and solar energy projects throughout Nova Scotia, New Brunswick, Saskatchewan and British Columbia
- Expertise in permitting, real property negotiations and contracts, stakeholder and rightsholder consultation, project financing, and financial due diligence

Work History

Director – Canadian Development — Natural Forces Services Inc.
2021- present — (Halifax, Canada)

- Manages the development portfolio for utility scale energy projects across Canada
- Leads Natural Forces' development team through all development relevant tasks
- Prepares budgets, schedules, and development plans for all projects from coast to coast to coast

Senior Development Manager — Natural Forces Services Inc.
2019 - 2021 — (Halifax, Canada)

- Managed the development portfolio for utility scale energy projects across Canada
- Lead the Canadian development team through all development relevant tasks starting with site finding through to construction and further in construction and operations as environmental manager
- Lead a team of consultants working on the development of several projects from coast to coast to coast
- Trained new team members on all development tasks

Development Engineer — Natural Forces Services Inc.

2012-2019 (Halifax, Canada)

- Assisted with the drafting, review and editing of many Environmental Assessments for large scale wind projects in Nova Scotia and New Brunswick
- Assisting in drafting, review and editing of three Development Plans for large scale wind projects in British Columbia – environmental permitting process in British Columbia for wind projects <50MW
- Identified new large scale wind project and solar project locations using GIS software as well as field studies
- Conducted site constraint analysis and micro-sited wind projects, wind turbines and solar projects based on the results of the analysis
- Negotiated and developed real property contracts with individual landowners as well as contractors
- Completed noise and shadow flicker impact assessments for a wide range of projects with varying sizes and constraints
- Managed public and First Nation consultation for several wind farm projects throughout Nova Scotia, New Brunswick and British Columbia
- Co-managed opposition group consultation using methods such as group discussions and consultation liaison committees
- Contracted and managed consultant field work programs
- Completed and managed interconnection applications with utility companies
- Managed applications for various environmental, municipal, provincial and federal permits

Development Officer (internship) Wind Prospect Inc.
2011-2012 (Halifax, Canada)

- Operated GIS software and used wind atlases to assess areas for suitable wind energy development.
- Organized the installation and wind data measurement instrumentation such as meteorological towers, and SoDAR devices
- Identified and assisted with approaching landowners of potential project sites
- Performed high level desktop assessments of potential project sites
- Assisted with data logging and instrumentation troubleshooting for meteorological masts throughout Nova Scotia
- Produced numerous maps and documents required for securing land and permit applications

Sarah Stewart, BSc.

Environnemental Field Technician

Hemmera
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EDUCATION

BSc. Honours (Environmental Science), Acadia University

ADDITIONAL TRAINING

Animal Care, Acadia University

Marine Emergency Duties A1, Survival Systems Training Ltd.

Pleasure Craft Operators Certification, Canadian Wildlife Services

Green Defensive Driving, Canadian Wildlife Services

Fire Safety, Canadian Wildlife Services

Sarah Stewart is an Environmental Field Technician with experience in environmental monitoring with fish, birds, and invasive plants. In addition to consulting she has worked for both academic and governmental organizations, providing a wide range of environmental services.

RELEVANT EXPERIENCE

Natural Forces Inc. Benjamin Mills Wind Project, Nova Scotia, 2021 – Ongoing: Ms. Stewart is responsible for conducting avian radar and acoustic monitoring for the Project. Additionally, her role in this project involved developing a solar based power system used to operate the radar equipment. Sarah's work on these projects will form a portion of the provincial environmental assessment of each project, assessing risk to migrating birds.

Natural Forces Inc. Westchester Wind Project, Nova Scotia, 2021 – Ongoing: Ms. Stewart is responsible for conducting avian radar and acoustic monitoring for the project. Sarah's work on this project will form a portion of the provincial environmental assessment, assessing risk to migrating birds.

Acadia University / Nova Scotia Department of Energy and Mines, Nova Scotia, 2020 – Ongoing: Through partnership with staff at Acadia University, Ms. Stewart lead the collection of nocturnal flight calls from migratory birds from more than 50 remote acoustic sensors positioned across central Nova Scotia.

Atlantic Gold Corporation Fifteen Mile Stream, Surface Water Sampling, Nova Scotia, 2021: Ms. Stewart completed surface water sampling at the Fifteen Mile Stream mine site in Nova Scotia as part of an ongoing survey conducted by McCallum Environmental Ltd.

Atlantic Gold Corporation Beaver Dam, Surface Water Sampling, Nova Scotia, 2021: Ms. Stewart completed surface water sampling at the Beaver Dam mine site in Nova Scotia as part of an ongoing survey conducted by McCallum Environmental Ltd.

Atlantic Gold Corporation Cochrane Hill, Surface Water Sampling, Nova Scotia, 2021: Ms. Stewart completed surface water sampling at the Cochrane Hill mine site in Nova Scotia as part of an ongoing monitoring conducted by McCallum Environmental Ltd.

BluEarth Renewables Inc., Hand Hills Wind Project, Alberta, 2021: Ms. Stewart's drafted the Conservation and Reclamation Plan and a Decommissioning Plan for the Hand Hills Wind Project.

Yamana Gold Inc. Wasamac Project, Technical Report, Quebec, 2021: Ms. Stewart was responsible for writing, compiling, and translating information for a technical report as a part of a Feasibility Study Update. Sarah's work on this project ensured clients were given current baseline information in both English and French.

Canadian Wildlife Services, Great Blue Heron Nesting Study, Northern New Brunswick, NB, 2017: Ms. Stewart was responsible for providing field support and assist in a transect survey during a multi-day nesting study in Northern New Brunswick as part of an ongoing heron study conducted by the Canadian Wildlife Services.

Canadian Wildlife Services, Passerine Point Count Study, Mary's Point, NB, 2017: Ms. Stewart was responsible for conducting daily passerine point count studies based on sight and sound over the period of one month.

Acadia University Coastal Ecology Lab, Alewife Spawning Run Tagging Project, Aulac, NB, 2018: Ms. Stewart was responsible for providing field support and assistance with an alewife (*A. pseudoharengus*) PIT tag detection project. Ms. Stewart also conducted her own study on alewife feeding at their spawning site at Jolicure Lake, NB. Her main responsibilities were divided between data collection & analysis, fish tagging, antennal array construction, and fish dissection.

Tantramar Wetlands Centre, Purple Loosestrife Biocontrol Study, Sackville, NB, 2013-2015: Ms. Stewart was responsible for conducting invasive plant biocontrol assessments using random sampling of the Tantramar Wetland Area to determine the effectiveness of the *Galerucella* spp. beetle in controlling the invasive purple loosestrife.

PUBLICATIONS

Stewart, S. I., Spares, A. D., Varela, J. L., McLellan, N. R., & Stokesbury, M. J. (2021). Running on empty? Freshwater feeding by spawning anadromous alewife Alosa pseudoharengus. *Journal of Fish Biology*, *99*(4), 1415-1429.

PROFESSIONAL HISTORY

Hemmera, Environmental Field Technician, 2021 – Present

Acadia University – Hillier Lab, Lab Technician, 2019 – 2020

Ucluelet Aquarium, Junior Aquarist, 2019

Acadia University – Research Assistant, 2018

Canadian Wildlife Services – Site Caretaker, 2017

Mike Peckford, M.Sc., P.Biol.

National Director, Power Sector

Hemmera
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EDUCATION

M.Sc., (Biology), Acadia University

B.Sc., (Biology), Acadia University

DESIGNATIONS

Alberta Society of Professional Biologists - Registered Professional Biologist

Mike Peckford is a professional biologist and senior environmental regulatory professional with 23 years of experience specializing in bird and bat ecology, 15 years of which spent nearly exclusively in the renewable energy sector. Mike specializes in environmental assessments, permitting strategy, and application preparation with experience providing consulting services to most of Canada's major renewable energy developers. Mike was the successful manager of the Environment, Health and Safety, and Sustainability operations of Canada's largest renewable energy company (~1.3 GW). Mike has displayed a proven ability to analyze, summarize, and effectively communicate complex technical information, interpret regulatory requirements, and prepare applications to meet the requirements of renewable energy regulators across Canada and the US. He is experienced in client, project, and personnel management with the ability to liaise with a wide audience, lead multi-disciplinary teams, and professionally present findings in public. Involved in numerous renewable energy projects across North America from project assessment and permitting through to project construction, operation, and maintenance.

RELEVANT EXPERIENCE

Wind Energy Experience

Natural Forces Inc. Benjamins Mill Wind Project, Nova Scotia, 2021 – Ongoing: Mike is the Project Manager, currently conducting avian radar and acoustic monitoring for a proposed 150 MW wind energy project. Mike's work on the project will form a portion of the provincial environmental assessment of the project, assessing risk to migrating birds.

Natural Forces Inc. Westchester Wind Project, Nova Scotia, 2021 – Ongoing: Mike is the Project Manager, currently conducting avian radar and acoustic monitoring for a proposed 50 MW wind energy project. Mike's work on the project will form a portion of the provincial environmental assessment of the project, assessing risk to migrating birds.

Acadia University / Nova Scotia Department of Energy and Mines, Nova Scotia, 2020 – Ongoing: Through partnership with staff at Acadia University, Mike is the Project Manager, completing the initial data collection stage of a province wide study of risk to migratory birds from future wind energy development. The initial stage of the project involves acoustic data collection from 50+ remote sensors positioned across central Nova Scotia.

TransAlta Corp., Riplinger Wind Project, AB, 2021 – Ongoing: Mike is providing senior technical and strategy support for this project. Hemmera's scope includes consultation with AEP-FWS and coordination of baseline pre-development environmental surveys and reporting, Environmental Evaluation creation and submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-FWS and AUC.

TransAlta Corp., Willow 1 and Willow 2 Wind Projects, AB, 2021 – Ongoing: Mike is providing senior technical and strategy support for these projects. Hemmera's scope includes consultation with AEP-FWS and coordination of baseline pre-development environmental surveys and reporting, Environmental Evaluation creation and submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-FWS and AUC.

Confidential Client, Various Pumped Hydro Projects, Southern Alberta, 2020 – Ongoing: Mike is the Project Director, providing strategic advice to support a renewable energy company in identifying a suit of candidate sites for wind powered, pumped hydro / storage projects across southern Alberta. Mike is also providing guidance related to future environmental permitting for these sites.

Potentia Renewable Inc., Confidential Wind Project, Northern Alberta, 2020 – Ongoing: Mike is currently providing strategic environmental support and guidance to Potentia related the development of a 400 MW wind project. Mike is also leading initial environmental regulator consultation/negotiations for the Project and the associated Project transmission line.

Pattern Development, Lanfine Wind Project AUC Hearing, Oyen, AB, 2019: Mike served as an expert witness regarding potential environmental impacts from the Project, in particular with respect to migratory bats. The Project received AUC approval on January 27, 2020, with no additional environmental conditions added to the Project approval.

TransAlta Corp., Windrise Wind Project, Fort MacLeod, AB, 2018 – Ongoing: Mike is the Project Director and lead ecologist for the AEP-WM and AUC submissions for this project. This includes strategy related to regulatory submissions related to assessment of potential environmental impacts. Hemmera is also coordinating the archaeology work on this project. Mike and the Hemmera team was successful in obtaining a 'Low Risk' rating from AEP-WM for the Project and helped receive AUC approval within four months of submission.

TransAlta Corp., Garden Plain Wind Project, Hanna, AB, 2016 – Ongoing: Mike is the Project Director and lead ecologist for the AEP-WM submission for this project. This includes consultation with AEP-FWS and coordination of baseline field work and reporting, Environmental Evaluation creation/submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-WM and AUC. Hemmera also completed the archaeology work on this project. Hemmera is continuing to support the project as it moves into construction.

Suncor Energy Inc., Forty Mile Wind Project, Bow Island AB, 2017 – Ongoing: Mike is the Project Director and lead ecologist for the AEP submission for this project. The project includes coordination of baseline field work and reporting, Environmental Evaluation creation/submission and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-WM and AUC. Hemmera is also coordinating the noise assessment, archaeology work on this project.

BowArk Energy / Pattern Development, Lanfine Wind Project, Oyen, AB, 2017 – Ongoing: Mike is the Project Director and lead ecologist for the AEP-WM submission for this project. This includes coordination of baseline field work and reporting, Environmental Evaluation creation/submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-WM and AUC. Hemmera is also coordinating the archaeology work on this project.

Ingka Group, Oldman 2 Wind Project, Pincher Creek, AB, 2017 – Ongoing: Mike led the regulatory engagement with AEP-WM and AUC to achieve an accepted Construction Mitigation Plan and Raptor Mitigation Plan for the Project. Mike also provides senior review and strategic guidance on the Post-Construction Bird and Bat Monitoring Program for the Project.

RWE Renewables, Confidential Project, Southern SK, 2018 – Ongoing: Mike is the Project Director and lead ecologist for the environmental appliaction for this project. This includes consultation with MOE and coordination of baseline field work and reporting, constraints analysis, and regulatory applications (e.g., Technical Project Proposal).

BluEarth Renewables Inc., Hand Hills Wind Project, Hanna, AB, 2017 – Ongoing: Mike is the Project Director and lead ecologist for the AEP-WM submission for this project. This includes consultation with AEP-WM and coordination of baseline field work and reporting, Environmental Evaluation creation/submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-WM and AUC. Mike is also providing responses to environmental Information Requests from the AEP-WM and AUC. Hemmera is also conducting the archaeology assessment for this project.

Confidential Client, Lone Pine Wind Project, Three Hills, AB, 2017 – Ongoing: Mike is the Project Director and lead ecologist for the AEP-WM submission for this project. This includes consultation with AEP-FWS and oversight of baseline field work and reporting and development of the required environmental management plans required by the AEP-FWS.

Acciona Canada, New Dayton Wind Project, New Dayton AB, 2017 – 2018: Mike is Project Director and Lead Ecologist for the project. Hemmera is leading the environmental studies and the submission of concurrent municipal, provincial and federal permitting including to AEP-WM, AUC, municipal development, Transport Canada, Alberta Transportation, NAV Canada and Environment and Climate Change Canada.

TransAlta Corp., Cowley Ridge Wind Repower Project, Cowley, AB, 2016 – 2018: Mike is the Project Director and lead ecologist for the AEP-WM submission for this project. This includes consultation with AEP-WM and coordination of baseline field work and reporting, Environmental Evaluation creation/submission, and development of Post-Construction Monitoring and Mitigation Plans required by the AEP-WM and AUC.

Boralex Inc., Windy Point Wind Project, Pincher Creek, AB, 2017 – 2018: Mike has provided senior regulatory advice regarding the Alberta regulatory process for renewable energy applications with the Alberta Environment and Parks and the Alberta Utilities Commission.

Confidential Client, Saint John Energy Wind Project, Saint John, NB, 2018: Mike served as the Project Director for the project. Hemmera's scope with this project includes a fatal flaw assessment and a permitting and regulatory framework for the Project.

TransAlta Corp., Wolfe Island Wind Power Project, Wolfe Island, ON, 2012 – 2014: Mike was the Senior Environmental Advisor at TransAlta, responsible for the completion of the post-construction bird and bat mortality monitoring program for the 198 MW project. Mike was also responsible for obtaining an Overall Benefit Permit under the *Ontario Endangered Species Act*, and the subsequent development of the required Management Plan for Bobolink.

TransAlta Corp., Melancthon (ON) / Wolfe Island (ON) / Le Nordais (QC) / New Richmond (QC) / Kent Hills (NB) / Kent Breeze (ON) / Lakeswind (MN) / Wyoming Wind (WY), 2013 – 2016: In addition to TransAlta's fleet within Alberta, Mike was the Senior Environmental Advisor at TransAlta, responsible for all environmental aspects of these Wind Power Projects located across North America, in addition to the development of site specific Operations Environmental Management Plans (OEMPs) for each.

Algonquin Power, Red Lily Wind Power Project, Moosimin, SK, 2011 – 2012: Mike was the Project Manager and lead author and regulatory advisor for the post-construction bird and bat mortality monitoring for the 26 WM project.

NaturEner Energy Canada, Wild Rose 2 Wind Power Project, Medicine Hat, AB, 2010 – 2012: Mike was the Project Manager for the project during the preparation of the provincial permitting submissions, and AUC hearing for the 162 MW wind project. The project was granted AUC approval in August 2011.

NaturEner Energy Canada, Wild Rose 1 Wind Power Project, Medicine Hat, AB, 2009 – 2010: Mike was the Wildlife Lead and Project Manager for the project during the preparation of the provincial permitting submissions. The project was granted AUC approval in August 2010.

NextEra Energy Canada, Ghost Pine Wind Energy Centre, Trochu, AB, 2007 – 2011: Mike was Lead Wildlife Ecologist for the baseline wildlife assessment for the 81.6 MW Ghost Pine facility. The project was granted AUC approval in July 2010, and began operation in early 2011. Mike also completed environment construction monitoring for the Project.

TransAlta Corp., Multiple Alberta Wind Facilities, Southern AB, 2008 – 2012: Mike acted as Project Manager and Lead Wildlife Biologist for the multi-year post-construction bird and bat monitoring programs at the Soderglen, Summerview II, Blue Trail, and Ardenville Wind Power Facilities located in southern Alberta.

Suncor Energy Inc., Wintering Hills Wind Farm, Drumheller, AB, 2007 – 2012: Mike was Lead Wildlife Ecologist for the baseline wildlife assessment for the 88 MW Wintering Hills facility. The project was granted AUC approval and began operation in November 2011. Mike also designed the post-construction bird and bat monitoring program for the Project.

Confidential Clients, Various Wind Energy Projects, Southern SK, 2010 – 2012: Mike served as Project Manager and Lead Wildlife Ecologist for seven confidential wind energy projects, bidding into the 2012 SaskPower Renewable Energy competitive process. Projects involved multi-disciplinary investigations ranging from wildlife (bird and bat), vegetation, wetlands, noise, historical resources, as well as visual and social components.

E.ON Climate and Renewables, Grizzly Bear Creek, Vermillion AB, 2010 – 2012: Mike served as the Lead Ecologist for the Project, completed the required environmental assessments and reporting for submission to AEP-WM and the AUC. The 120 MW project obtained AUC approval in May, 2016.

Suncor Energy Inc., Schuler Wind Project, Schuler AB, 2010 – 2011: Mike served as the Lead Ecologist for the Project, completed the required environmental assessments and reporting for submission to AEP-WM.

TransAlta Corp., Confidential Wind Energy Projects, Canada and US, 2012 – 2017: Mike completed environmental due diligence for wind and solar projects across North America. He also completed environmental permitting for greenfield wind project develops in Alberta and Saskatchewan.

Suncor Energy Inc. / Acciona Canada, Chin Chute Wind Project, Taber, AB, 2007 – 2008: Mike acted as Lead Wildlife Biologist and author for the multi-year post-construction bird and bat monitoring program at the project.

ENMAX Corp., Taber Wind Farm, Taber, AB, 2007 – 2008: Mike acted as Lead Wildlife Biologist and author for the multi-year post-construction bird and bat monitoring program at the project.

Solar Energy Experience

Mahone Bay Solar Project, Alternative Resources Energy Alternatives (AREA), NS, 2021: Mike is the Project Manager, completing the assessment of wetlands and wildlife habitat in association with the proposed solar facility interconnection distribution line.

Brooks Solar Expansion, Solar Krafte, Brooks, AB, 2021 – Ongoing: Mike is the Project Director, supporting the environmental permitting of an expansion to the Brooks Solar Project. Mike is providing strategic environmental regulatory advice to aid the proponent in removing the project from AUC abeyance.

Confidential Oil and Gas Company, Two Solar Energy Projects, Southern Alberta, 2021 – Ongoing: Mike is providing advisory services to guide a global oil and gas company's entrance into the renewable energy sector through the development of a renewable energy guidance document and support in evaluating and selecting a renewable energy development partner.

Confidential Oil and Gas Company, Confidential Solar Energy Project, Southern Alberta, 2021 – Ongoing: Mike is the Project Director, supporting the environmental permitting of a 200 MW solar project. Mike's scope includes regulatory consultation and environmental permitting regulated by Alberta Environment and Parks and the Alberta Utilities Commission.

Confidential Client, Bullshead Solar, Medicine Hat, AB, 2020 – Ongoing: Mike is the Project Director for the project, directing regulatory strategy for advancing the project through the Alberta Environment and Parks environmental assessment and AUC regulatory processes. He is also assisting in development of study scopes to meet regulatory requirements, and consultation support with regulators.

Confidential Client, Carseland Solar, Carseland, AB, 2020 – Ongoing: Mike is the Project Director for the project, directing regulatory strategy for advancing the project through the Alberta Environment and Parks environmental assessment and AUC regulatory processes. He is also assisting in development of study scopes to meet regulatory requirements, and consultation support with regulators.

HEP Solar, Alderson Solar, Suffield, AB, 2020 – Ongoing: Mike is the Project Director for the project, directing regulatory strategy for advancing the project through the Alberta Environment and Parks environmental assessment and AUC regulatory processes. He is also assisting in development of study scopes to meet regulatory requirements, and consultation support with regulators.

Samsung Renewable Energy Inc., Kneehill Solar Project, Three Hills, AB, 2020 – Ongoing: Kneehill Solar is a 25 MW project which has received AEP, AUC and municipal approvals. Mike serves as the Project Director overseeing the ongoing AUC and municipal permitting for the Project.

Samsung Renewable Energy Inc., Michichi Solar Project, Drumheller, AB, 2020 – Ongoing: Michichi Solar is a 25 MW project which has received AEP, AUC and municipal approvals. Mike serves as the Project Director overseeing the ongoing AUC and municipal permitting for the Project.

BluEarth Renewables Inc., Burdett Solar Project, Burdett AB, 2017 – Ongoing: Mike serves as the Project Director overseeing regulatory filings and providing senior reviews for technical reports and work plans. Specifically, Mike is overseeing the AEP applications related to Alberta *Water Act* regulations and the Conservation and Reclamation Directive for Renewable Energy Projects. As the Project advances into the construction stage, Mike is provided guidance related to construction environmental monitoring and Post-Construction Environmental Monitoring.

BluEarth Renewables Inc., Yellow Lake Solar Project, Burdett AB, 2017 – Ongoing: Mike serves as the Project Director overseeing regulatory filings and providing senior reviews for technical reports and work plans. Specifically, Mike is overseeing the AEP applications related to Alberta *Water Act* regulations and the Conservation and Reclamation Directive for Renewable Energy Projects. As the Project advances into the construction stage, Mike is provided guidance related to construction environmental monitoring and Post-Construction Environmental Monitoring.

FrontLine Energy Consulting, Frontline Solar Project, Central AB, 2018 – 2019: Mike is the Project Director for the project, directing regulatory strategy for advancing the projects through the provincial environmental assessment and AUC regulatory processes. He is also assisting in development of study scopes to meet regulatory requirements, and consultation support with regulators.

BluEarth Renewables Inc., Riverview Solar Project, Radville, SK, 2017 – 2018: Mike is the Project Director, providing strategic advice and senior review of project deliverables for this 40 MW solar project. Hemmera's support on the Project included a screening level survey and constraints analysis for selection of the site among three other potential locations, including the identification of environmental risks and development constraints, and overseeing rare plant, bird, and amphibian surveys. Upon selection, Hemmera completed the Technical Project Proposal, suitable for submission to SK MOE.

Saturn Power, Highfield Solar Farm, RM of Coulee SK, 2018: Highfield Solar is scheduled to be the first utility-scale solar facility in Saskatchewan. Mike was the Project Director for the proposed 10 MW project, providing senior reviews and guidance on the initial environmental screening for the project site selection.

TransAlta Corp., Confidential Solar Project, AB, 2017 – 2018: Mike was responsible for completing regulatory consultation with AEP and designing the environmental assessment for the Project. Mike also oversaw environmental data collection for the Project.

TransAlta Corp., MASS Solar, Massachusetts, US, 2015 – 2017: Mike was responsible for environmental due diligence for the acquisition of the MASS Solar project. Mike was also responsible for all EHS aspects of the operations of these projects. MASS Solar consists of four ground-mounted projects and four roof-top projects for a total nameplate capacity of 21 MW.

TransAlta Corp., Confidential Solar Energy Projects, Canada and US, 2012 – 2017: Mike completed environmental due diligence assessments for solar projects across North America.

Battery Energy Storage Experience

TransAlta Corp., WindCharger Battery Storage, Pincher Creek, AB, 2016 – 2017: While employed at TransAlta, Mike was responsible for environmental permitting of the Alberta's first utility-scale lithium-ion battery storage facility. The Project has a name plate capacity of 10 MW with total storage capacity of 20 MW and is connected to the Summerview Wind Energy Facility.

Green House Gas / Climate Change Experience

TransAlta Corp., Wind Energy Green House Gas Offsets, AB, 2017: Mike preformed green house gas (GHG) offset credit enumeration reports and prepared applications to the GHG Registry for TransAlta Renewables Inc. wind assets eligible under the Specified Gas Emitters Regulation (SGER) for Q4 2016 and for the Wintering Hills Wind Project for Q1 2017.

TransAlta Corp., EHS & Sustainability Manager, 2016: While employed at TransAlta, Mike completed the GHG enumeration, and prepared the associated offset credit reports which were verified by a GHG accounting specialist (KPMG). The creation of the GHG calculations and reports required the successful integration of renewable energy production with GHG inputs obtained by wind energy facility operators across Alberta. Mike also oversaw the Renewable Energy Credit (REC) accounting for wind energy projects in ON and QC.

Transmission Experience

TransAlta Corp., Windrise Transmission Project, Fort MacLeod, AB, 2020 – 2021: Mike provided senior technical and strategy support for the environmental construction monitoring of this 21 km transmission line project. Hemmera's scope included regulatory liaison and development of wildlife mitigations during project construction, including development of a raptor mitigation strategy approved by AEP-FWS.

ATCO Electric, Garden Plain Transmission Project, Hanna AB, 2021: Mike is the Project Director for this Project, supporting ATCO Electric in completing the environmental filings with the AUC.

ATCO Electric, Buffalo Bird to Lanfine Project, Oyen AB, 2018 – 2021: Mike is the Project Director and lead ecologist for the AUC submission for this project. This includes consultation with AEP-WM and coordination of baseline field work and reporting, and Environmental Evaluation creation/submission for this 14 km transmission line.

City of Medicine Hat, Ferruginous Hawk Nest Monitoring, Medicine Hat AB, 2019: Mike was the Project Director for the project which involved environmental monitoring of a SARA Schedule 1 Ferruginous Hawk nest located on an electrical distribution pole. Project works were successfully completed in compliance with AEP's guidance and without disturbance to the sensitive wildlife feature.

TAMA Transmission, Fort McMurray West 500 kV Transmission Project, Central AB, 2013 – 2014: Mike managed the environmental assessment and permitting program of the Alberta Electric System Operator (AESO) RFP phase of the Fort McMurray West 500 kV Transmission Project. He was responsible for the preparation of environmental aspects of submissions under the project's AESO RFP phase, as well as for all consultation with environmental regulators. In addition, Mike developed the environmental consultation program for future project phases; represented environmental aspects of the Project during consultation efforts with First Nations and the public, and assisted in the development of a preliminary route for the transmission line.

AltaLink, Ferruginous Hawk Nest Monitoring, Milo AB, 2011: Mike completed environmental monitoring of a SARA Schedule 1 Ferruginous Hawk nest within proximity of an AltaLink switching station. Time activity budgets were recorded to provide baseline activity, and potential disturbance response, behavior.

ATCO Electric, Hanna Region Transmission Development Project, Central AB, 2010 – 2012: Mike served as lead wildlife ecologist for the baseline wildlife assessment for the 350 km, multicomponent, 240 kV transmission line and six substation development, located between Drumheller and Oyen, Alberta. The transmission line was granted AUC approval in May 2012.

PUBLICATIONS/PRESENTATIONS

Peckford, M. 2018. The Challenge in Turning Sustainable Commitments into Sustainable Projects. Guest Speaker at Electricity Transformation Canada Inaugural Conference – Session 3.1 Embracing Renewable Energy's Leadership Role in Sustainability. November, 2021.

Peckford, M. 2018. Risk Assessment – Best Practices in Wind Energy Project Siting. Presenter at Wind Energy and Bat Conservation Workshop. CanWEA Annual Conference & Exhibition.

Authored species accounts of seven passerine species. In: Second Atlas of Breeding Birds of the Maritime Provinces. 2015. 528 + 28 pp. www.mba-aom.ca.

Peckford, M. 2015. An overview of the environmental impacts of wind energy: an Ontario perspective. Invited presentation to Ontario Ministry of Natural Resources and Forestry. Wolfe Island, ON

Taylor, A., Kopysh, N. and Peckford, M. 2014. An assessment of direct and indirect impacts to waterfowl in an important bird area from wind turbine operation. National Wind Coordinating Collaborative, 2014 conference.

Peckford, M. 2013. Challenges in predicting bat mortalities based on bat activity levels, and understanding the effectiveness of bat mitigation strategies. Presenter and discussion panel member. CanWEA Annual Conference & Exhibition.

Taylor, P. D., J. Brzustowski, C. Matkovich, M. L. Peckford, and D. Wilson. 2010. radR: an open source platform for acquiring and analyzing data on biological targets observed by surveillance radar. BMC Ecology, 10:22.

Peckford, M. L., and P. D. Taylor. 2007. Comparisons of nocturnal migration counts recorded by radar and diurnal counts at a Canadian Migration Monitoring Station. Journal of Field Ornithology, 79(2): 207-214.

Peckford, M. L. 2006. Wind drift and the use of radar, acoustics, and Canadian Migration Monitoring Network methods for monitoring nocturnal passerine migration. Retrieved from https://scholar.acadiau.ca/islandora/object/theses:120

PROFESSIONAL HISTORY

Hemmera, National Director, Power Sector, 2022 – Present

Hemmera, National Director of Renewable Energy, 2019 – 2021

Hemmera, Business Leader, 2018 – 2021

Hemmera, Renewable Energy and Wildlife Lead, 2017 – 2018

TransAlta Corp., Supervisor, EHS and Sustainability, Wind and Solar Operations, 2016 – 2017

TransAlta Corp., Senior Environmental Specialist, 2012 – 2016

TAMA Transmission (a TransAlta Corp. and MidAmerican Transmission partnership), Environmental Assessment and Permitting Manager, 2013 – 2014

Golder Associates Ltd., Project Manager / Wildlife Ecologist, 2007 – 2012

Acadia University, Research Associate, 2006 – 2007

Julie vanTol, B.Sc., P.Eng.

Senior Project Manager, Atlantic Region

Hemmera
An Ausenco Company

EDUCATION

B.Eng. (Environmental Engineering), Dalhousie University

B.Sc., Mount Saint Vincent University

DESIGNATIONS

Association of Professional Engineers of Nova Scotia
- Professional Engineer

Association of Professional Engineers and Geoscientists of Alberta
- Professional Engineer

Designated Approved Professional

Professional Engineers Ontario
- Professional Engineer

ADDITIONAL TRAINING

First Aid and CPR

BC Level I First Aid

TDG

Ground Disturbance Level II

H_2S Alive

Prime Contractor

Leadership Excellence

CSTS/PST

Bear Awareness

ATV Training

Julie vanTol is a Senior Project Manager and Environmental Engineer for site assessment and remediation with over 14 years of experience conducting project management activities across Canada. She specializes in environmental site assessments (ESAs), managing environmental activities at contaminated sites, managing regulatory approvals for operating and decommissioned facilities, completing due diligence evaluations and providing expert opinion during environmental litigation.

Julie's project management experience includes managing various project teams on sites ranging from small to multi-million-dollar environmental jobs. She is responsible for building the project team, client management, preparing or reviewing cost estimates, writing/reviewing proposals, overseeing budgets, invoicing and provides senior technical review, where applicable. Julie has worked with various clients over the years and has a in depth understanding of project management and stakeholder engagement.

RELEVANT EXPERIENCE

Natural Forces, Wind Development, Nova Scotia, 2021 – Present: Julie is the Senior Project Manager (SPM) for Radar and Acoustic studies at two wind developments in Nova Scotia. She provides regular updates to the client, manages the budget, prepares invoices and manages the project team.

NEXT Developers, Phase II ESA, Truro Nova Scotia, 2021: Julie designed and conducted a Phase II ESA for the client at their residential property. The project was completed efficiently and under budget, allowing the client to proceed with divestment initiatives.

Confidential Client, Energy Transition Guidance Document, Alberta, 2021: Julie is the SPM for a desktop exercise including providing a guidance document to the client, facilitating the transition of a decommissioned Oil & Gas site to a renewable energy site. She is responsible for client management, preparing and managing the budget, managing the schedule and team and ensuring a quality deliverable is completed.

Various Clients, Phase I ESAs, Nova Scotia, 2021 – Present: Julie continues to conduct Phase I ESAs for development client requiring due diligence during the acquisition or divestment process. She successfully completes the Phase I ESAs with quick turns around times to the satisfaction of her clients.

Confidential Client, Former Fertilizer Plant, Alberta, 2013 – Present: Julie is the SPM for a large development project at a contaminated site which has groundwater plumes extending up to 3 km and is located adjacent to a major water body. As senior project manager, Julie manages the project team, providing technical direction while overseeing the project schedule and finances. She is the client liaison and meets regularly with multiple stakeholders.

Julie reviewed three decades worth of environmental reports, to obtain an understanding of the site history. She leads the team which has designed and is implementing large-scale remediation systems across the entire site. The team consists of environmental engineers, fisheries biologists, terrestrial biologists, risk assessors, hydrogeologists, project managers, technologists and contractors. She and the team have regularly been consulting with regulatory agencies to ensure the protection of human health and ecological receptors.

Julie is providing technical direction, monitoring, and support throughout all stages of the remediation project. Project revenue has surpassed $10M and the remediation schedule is anticipated to continue over the next 3 years, with ongoing monitoring and sampling.

Parkland Fuels, Various Service Stations, Western Canada, 2008 – Present: Julie managed the Parkland portfolio until 2018 and has provided various environmental services at multiple Parkland Fuel Corporation (Parkland) service stations throughout Alberta, Saskatchewan and British Columbia which includes portfolio management, project management, pre-acquisition due-diligence reviews, various environmental programs, contractor tender management, and service station decommission and remediation.

Julie continues to provide project management and portfolio management duties including liaising with the client, providing environmental oversite and direction to a portfolio of contaminated sites (>200). Julie helped prioritize sites based on risk factors and regulatory requirements. She also provided technical direction on individual contaminated sites, managing a team of professionals and tracking budgets.

Tricycle Lane (Burnco), Alberta, 2019-Present: Julie is the Senior Project Manager at a Contaminated Site which has been impacted by historical operations with salinity, metals and hydrocarbons. The project team is completing a delineation program for soil, groundwater and soil vapour, as well as providing remedial options for the client in preparation for potential divestment of the property.

Imperial Oil, Various Sites, Alberta, 2018-Present: Julie is the Senior Project Manager and Client Manager for Imperial Oil. She oversees various sites which are currently undergoing investigation and site-specific risk assessment due to salinity impacts. Sites generally, but not always, are located near a waterbody/wetland/bog, where the team identifies the risks associated with the environment and provides direction to remediate with limited impact to the ecosystem where possible.

Tervita, Various Sites across AB/SK/BC, 2016 - 2020: Julie was the project manager for the Tervita account and managed various projects for their portfolio. Projects include Phase I ESAs, Groundwater Monitoring and Sampling Events and Phase II ESAs on various sites such as storage/maintenance yards and landfills. Julie manages the budgets for these projects, coordinates the field work and provides technical review of the reports.

Trimac Transportation, Diesel Release, Little Smokey, Alberta, 2015: Julie was the PM and provided environmental support for the initial spill response and subsequent environmental remediation of released diesel fuel from a motor vehicle accident.

Two transport trucks collided on the highway with one truck with a compromised trailer came to rest on a bridge, while the other rolled into the ditch. Each transport truck released approximately 10,000L of diesel fuel to the ditch which was subsequently contained, a trench was constructed surrounding the spill area to prevent further run-off.

Challenges; working closely with the third party and their consultants/contractors, correspondence with all stakeholders (private residence, AEP, DFO, AT, insurance providers), winter conditions and the sensitivity of working in and around a water body in a remote area.

Julie managed the project from start to finish, working closely with all of the stake holders, directing the field team and contractors during the initial response and remediation, completing a report documenting all of the activities. As a result of the field program, the site was remediated to the applicable standards and restored to its original land use.

Confidential Client, Various Gas Plants, Alberta, 2010 – 2012: Julie worked on a team which was responsible for evaluating the environmental liabilities of assets for an international upstream oil and gas client. She reviewed two decades worth of annual environmental reporting, identifying data gaps, for approximately 20 upstream oil and gas properties in preparation for an arbitration hearing. She prepared site specific reports for each asset summarizing the site history, completed environmental work, estimated areas and volumes of the on-site soil and groundwater plumes and calculated the environmental liabilities. Julie worked closely with lawyers, supporting the expert witnesses to determine remediation strategies and prepare site-specific environmental liability assessment reports. The claim was >$800M and preparation for the arbitration lasted greater than 1.5 years.

CULTURAL RESOURCE MANAGEMENT GROUP Ltd.

ROBERT H. J. SHEARS, MA, RPA

Partner | Archaeologist

Education: Master of Arts - Atlantic Canada Studies, Saint Mary's University, 2013
Bachelor of Arts (Adv.) - History/Anthropology, Saint Mary's University, 2004
Bachelor of Science - Biology, Saint Mary's University, 2000

Affiliations: Member of the Registry of Professional Archaeologists
Nova Scotia Archaeology Society (Director 2003-2016; President 2007-2009)
Canadian Archaeological Association (Member of Organizing Committee 2011 Annual Conference, Halifax)
Council of Northeast Historical Archaeology
Association of Professional Archaeologists of New Brunswick
Gorsebrook Research Institute (Graduate Research Fellow, 2010)

REPRESENTATIVE ARCHAEOLOGICAL EXPERIENCE

2021 Principal Investigator during archaeological assessment of the Plains Road Water Valve Removal Project within the Debert Business Park, for the Municipality of the Colchester County;

Principal Investigator during archaeological assessment of the Debert Low Pressure Sewer within the Debert Business Park, for the Municipality of the Colchester County;

2020-2021 Principal Investigator during archaeological monitoring for the Brigadoon Village Phase II, Expansion in Aylesford, Nova Scotia, for Grey Cardinal;

2020 Principal Investigator during an archaeological screening and reconnaissance for the Welshtown Quarry in Welshtown, Nova Scotia for Municipal Construction;

Principal Investigator during an archaeological screening and reconnaissance for Black Duck Brook 9Phase 7-3A/B in West Bedford, Nova Scotia for Clayton Development;

Principal Investigator during an archaeological screening and reconnaissance for the Fort View Golf Course Expansion in Lequille, Nova Scotia, for 3314197 Nova Scotia Limited;

Principal Investigator during an archaeological screening and reconnaissance for the Panuke Road Quarry Expansion in Windsor, Nova Scotia, for Nova Construction;

Principal Investigator during an archaeological screening and reconnaissance for the Shot Rock Property – Piedmont Land in Pictou County, Nova Scotia, for Northern Shield Resources Inc.;

Principal Investigator during an archaeological screening and reconnaissance for the Sheet Harbour Lands in Sheet Harbour, Nova Scotia, for Halifax Regional Municipality;

2019-2020 Principal Investigator during an archaeological impact assessment for the Canadian Centre for Climate Change and Adaptation in Saint Peters, PEI for UPEI;

2019 Principal Investigator during an archaeological screening and reconnaissance for the Pocologan Sand and Gravel project in Pocologan, New Brunswick for Amkis Resources;

Principal Investigator during preliminary investigation for the Milltown Generating Station Decommissioning Project in Milltown, New Brunswick for NB Power (via Dillon Consulting);

2018-2020 Principal Investigator during archaeological impact assessment of the Town of Woodstock Water Supply project in Woodstock, New Brunswick, for the Town of Woodstock (via Dillon Consulting);

2018-2019 Principal Investigator during archaeological impact assessment of the Upham East Gypsum Quarry project in Upham, New Brunswick, for Hammond River Holdings Ltd. (via Dillon Consulting);

2018 Principal Investigator during archaeological assessment of the Debert Well 1C Connection project within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

Principal Investigator during archaeological assessment of the Kohltech Expansion Property within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

Principal Investigator during archaeological screening and reconnaissance of the Greenwood Subdivision Wastewater Upgrade project in Saint John, New Brunswick, for the City of Saint John (via Dillon Consulting);

Principal Investigator during archaeological screening and reconnaissance of the Morna Heights Subdivision Wastewater Upgrade project in Saint John, New Brunswick, for the City of Saint John (via Dillon Consulting);

2017 Principal Investigator during archaeological screening and reconnaissance, monitoring and mitigation of the Proposed Irving Parking Garage project in Saint John, New Brunswick for Irving (via CBCL);

Principal Investigator during archaeological assessment of two lots within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

Principal Investigator during archaeological shovel testing of the Canada 150 Shannon Park Observation Deck, in Halifax Regional Municipality for Canada Lands Company;

Principal Investigator during additional archaeological reconnaissance of the Truro Salt Marsh Dyke Restoration and Habitat project, for the Department of Transportation and Infrastructure Renewal;

2016 Principal Investigator during archaeological screening and reconnaissance of the Scots Bay Small Craft Harbour in Scots Bay, Kings County, Nova Scotia for GHD;

Principal Investigator during the archaeological assessment of seven lots (7 hectares) within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

Field Director during archaeological mitigation for a dam replacement project amid three Precontact and historic sites at the outlet of Gaspereau Lake, Kings County for Nova Scotia Power Inc;

2015 Principal Investigator during archaeological screening and reconnaissance of the Seabrook Quarry in Digby County, Nova Scotia for Dexter Construction;

Field Director during the archaeological assessment of three commercial lots (15.6 hectares) within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

2014 Principal Investigator during archaeological screening and monitoring of the redevelopment of the Roy Building in Halifax, Nova Scotia, for Starfish Properties;

Principal Investigator during archaeological screening and reconnaissance of the proposed water treatment and wastewater treatment facilities in Oromocto, New Brunswick, for Defence Construction Canada;

Field Director during the archaeological assessment of three lots (7.4 hectares) within the Debert Air Industrial Park, for the Municipality of the County of Colchester;

Principal Investigator during archaeological screening of the Prince Albert Road Option of the Sullivan's Pond Storm Sewer Renewal Project, Dartmouth, Nova Scotia, for CBCL Limited;

2013-2014 Principal Investigator during archaeological monitoring at the Nova Scotia Fisheries Museum of the Atlantic Inshore Fisheries Display Building Renovation and Stabilization Project (BcDb-8) for the Nova Scotia Department of Transportation and Infrastructure Renewal;

2013	Principal Investigator during archaeological screening and reconnaissance of the Hankinson Quarry, Annapolis County, the James River Quarry, Antigonish County, the Irish Cove Quarry, Victoria County and the Porters Lake Quarry, Halifax Regional Municipality, Nova Scotia, for Dexter Construction;
	Principal Investigator during archaeological assessment of the Department of Fisheries - Canadian Coast Guard Base, Dartmouth, Nova Scotia, for Public Works and Government Services Canada;
	Principal Investigator during archaeological reconnaissance and screening of the preferred pipeline alignment in Pictou County, Nova Scotia, for Heritage Gas;
	Principal Investigator during archaeological shovel testing at four sites along the preferred pipeline alignment in Pictou County, Nova Scotia, for Heritage Gas;
2012-2013	Principal Investigator during archaeological monitoring for the Storm Water Easement for South Queens School in Liverpool, for the Nova Scotia Department of Transportation and Infrastructure Renewal;
	Field Director during archaeological mitigation for a dam replacement project amid seven Precontact and historic sites at the outlet of Gaspereau Lake, Kings County for Nova Scotia Power Inc.;
	Researcher for the Archaeological Resource Impact Assessment of Lovett Lake Estates in Beechville, Nova Scotia, for Armco Capital Inc.;
2012	Researcher for the Archaeological Screening and Reconnaissance of the Red Bridge Replacement in Baddeck Bridge, for the Nova Scotia Department of Transportation and Infrastructure Renewal;
2011-2012	Principal Investigator during archaeological monitoring at the Nova Scotia Fisheries Museum of the Atlantic Wharf Repair Project (BcDb-8) for the Nova Scotia Department of Transportation and Infrastructure Renewal;
2011	Archaeological Technician during archaeological assessment and testing within proposed construction corridors for the Maritime Link Project in Cape Ray, Newfoundland and Labrador, for Emera Newfoundland and Labrador;
	Field Archaeologist during archaeological assessment and testing for the Route 2, St. Jacques to Quebec: Heritage Resource Impact Assessment Testing Program, near Edmonston, for the New Brunswick Department of Transportation and Infrastructure;
	Archaeological Technician during site delineation of nine Precontact sites at the outlet of Gaspereau Lake, Kings County, for Nova Scotia Power Inc;
2010-2011	Principal Investigator during archaeological survey and testing at the Lawrencetown Township (BdCu-8) and Green Estate (BdCu-9) Sites in Lawrencetown, Nova Scotia, related to graduate research conducted as part of a Master of Arts degree with the Atlantic Canada Studies program at Saint Mary's University;
2004-2011	Archaeological Site Supervisor at the Grand Pré Archaeological Field School at Grand Pré National Historic Site, for Saint Mary's University;
2010	Field Archaeologist during archaeological testing on the proposed Mi'kmawey Debert Cultural Centre Site, in Debert, Nova Scotia, for the Confederacy of Mainland Mi'kmaq;
	Field Archaeologist during archaeological survey of a proposed 70 kilometre extension of Provincial Highway 11, Pokemouche to Janeville, for the New Brunswick Department of Transportation and Infrastructure;
2009	Principal Investigator during a geophysical survey of residential properties in Grand Desert, Nova Scotia, related to research as part of a Master of Arts degree with the Atlantic Canada Studies program at Saint Mary's University;
2004-2008	Collections Specialist (Assistant to the Archaeology Collections Manager) at the Parks Canada Archaeology Lab in Halifax, for Parks Canada Agency;

EMPLOYMENT HISTORY

Cultural Resource Management Group Limited, Halifax, Nova Scotia

2011-date Archaeological Technician (Casual) to Company Partner & Archaeologist, involved in all aspects of assessment and mitigation, including: research; survey, excavation and recording; supervision of field and lab personnel; and, report writing;

Saint Mary's University, Halifax, Nova Scotia

2004-2011 Archaeological Site Supervisor (Seasonal) at the Grand Pré Archaeological Field School, involved in the instruction of undergraduate students in archaeological field and laboratory techniques.

Parks Canada Agency, Halifax, Nova Scotia

2009-2010 Archaeological Site Assistant and Field Archaeologist (Contract), responsible for archaeological excavation on a mitigation project at Grand Pré NHS; and site assessment, excavation, recording and report writing for a monitoring and mitigation project on George's Island National Historic Site;

Parks Canada Agency, Halifax, Nova Scotia

2004-2008 Collections Specialist (Term), performing a variety of collections management duties including: processing of artifacts from point of excavation to final storage; compilation of electronic databases of archaeological site records, research library and map collection; and, material culture research.

NON-ACADEMIC COURSES

WHMIS 2015 (workplace hazardous materials) training
St. John Ambulance Standard First Aid / CPR Level A, March 2021

DATE AWARDED PROFESSIONAL DESIGNATIONS

Nova Scotia Heritage Research Permits held since 2009
New Brunswick Archaeological Field Research Permits held since 2014
Member of the Registry of Professional Archaeologists since 2014

June 2021