

**APPENDIX O: PROJECT TEAM MEMBERS CVS**



## YEARS IN PRACTICE

22

## ACCREDITATIONS

Alberta Society of Professional Biologists (ASPB), 2001; # 875

## CERTIFICATIONS

Watercourse Alteration Certification, Nova Scotia. #10044385

## EDUCATION

Bachelor of Science, Biology / Environmental Studies, University of Victoria, British Columbia (1994)

## ADDITIONAL TRAINING / EDUCATION

- ◆ Project Management Fundamentals (2010)
- ◆ CSTS-09 (2013)
- ◆ Electronic General Safety Orientation – Enform (2015)
- ◆ Petroleum Safety Training 2.0 (2015)
- ◆ ISO 14064-1 Essentials: Greenhouse Gas Inventories
- ◆ ISO 14064-2 Expert – Greenhouse Gas Projects (Carbon Emissions Reduction Expert Course)
- ◆ Standard First Aid AED- CPR A (2016)
- ◆ WHMIS (2017)
- ◆ ASPB Annual Wetland Workshop (2018)
- ◆ GIS Lunch & Learn (2018)
- ◆ Wetland delineation training with Melanie MacDonald, Instructor for Nova Scotia Wetland Delineators course, Fern Hill Institute

## PROFESSIONAL EXPERIENCE

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I have 22 years of project management, environmental assessment, biophysical studies, and regulatory permitting experience in a consulting capacity across Canada.

I am a former Responsible Authority with the federal government under the CEAA. While working for Indian Oil & Gas Canada, which manages oil and gas development on First Nation reserves, my role was to notify other federal agencies for expert information as required, determine the proposed scopes of assessments and factors to be considered, review submissions for adequacy and accuracy, and decide whether adverse environmental effects were likely to be significant given proposed mitigation. This role included application of both federal and provincial environmental regulations.

I also have extensive environmental assessment experience and have completed federal and provincial environmental assessments in British Columbia, Alberta, Saskatchewan, New Brunswick, Nova Scotia and Newfoundland.

I understand project lifecycles and technical and regulatory requirements for oil and gas, renewable energy development, property development, overhead power line development, and industrial facilities.

I also understand technical, business and project management functions associated with mega, large and small project developments and executions. I understand life cycles and all associated critical inputs, outputs and deliverables associated with each project stage. I can adjust project management approaches to meet the requirements of projects with varying scope, complexity, risk, constraints.

## EMPLOYMENT HISTORY

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### **McCallum Environmental Ltd.**

#### **President (2001 – Present)**

Responsibilities include business development, business operations, financial management, administration, project management and environmental assessment services for oil and gas, forestry, land and commercial development, wind power, solar power, transmission lines, and gold mining in Alberta, Saskatchewan, New Brunswick and Nova Scotia.



McCallum Environmental Ltd.

**Robert McCallum, P.Biol**

[robert@mccallumenvironmental.com](mailto:robert@mccallumenvironmental.com)

902-292-0514

## **EMPLOYMENT HISTORY**

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### **Indian Oil & Gas Canada (IOGC), Indigenous & Northern Affairs Canada Environmental Analyst (Responsible Authority under CEAA) (1999-2001)**

Regulated oil and gas development on First Nation reserves in Alberta and Saskatchewan under the *Indian Oil & Gas Act* and regulations. Assisted with development on the environmental assessment requirements for IOGC applications (2000). Completed review of environmental assessment applications, issued terms and conditions, and conducted regulatory compliance audits. Assisted 5 First Nation reserves with the establishment of mirror offices for self-management of oil and gas applications under the IOGC process. Completed reclamation inspections for reclamation applications (known as Memorandum of Surrender).

### **Stantec Consulting Ltd., AB Project Manager (1998-1999)**

Involved with the business development of environmental services for the oil and gas industry in the Calgary office of Stantec. Completed pre-disturbance field assessments for oil and gas applications, detailed site assessments for reclamation applications, supervised equipment during land reclamation activities, completed Phase I and II environmental site assessments, contamination testing at industrial sites within Calgary, and completed environmental assessments for oil and gas projects on First Nation lands in Alberta.

### **Pioneer Land Services Ltd., Calgary, AB Assistant Environmental Coordinator (1997-1999) Environmental Division Coordinator - Grande Prairie, AB**

Involved with the business development of oil and gas environmental services for the Calgary office. Transferred to Grande Prairie to start the environmental services component of the existing land permitting services. Completed pre-disturbance field assessments for oil and gas applications in Alberta and British Columbia, detailed site assessments for reclamation applications, supervised equipment during land reclamation activities, completed Phase I and II environmental site assessments, completed environmental assessments for oil and gas projects on First Nation reserves. Completed hundreds of Environmental Field Reports ('EFR') for oil and gas applications in the green zone in Alberta.

### **Great White North Environmental Services Ltd., AB Senior Environmental Scientist (1996-1997)**

Working with the business owner and assisted with the completion of Phase I and Phase II ESAs in Calgary and Banff. Tasks included field testing, data analysis, and assistance with reporting. Completed waste audits, including an audit at the Grande Cache Institution.



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## EMPLOYMENT HISTORY

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### **Wellsite Environmental Inc. Field Technician (1996)**

Assisted with drilling waste disposal under the new EUB drilling waste disposal guidelines. Assisted with detailed site assessments for reclamation applications for upstream oil and gas developments.

## SELECT PROJECT EXPERIENCE

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### RENEWABLE ENERGY

#### Alberta

- Qualified witness at Stirling Wind Power Project AUC hearing, 2019.
- Environmental assessment coordination, planning, execution and field assessments for the environmental for the 22 MW Coaldale Solar Project.
- Environmental assessment coordination, planning, execution and assistance with the AUC application for the 115 MW Stirling Wind Power Project in Alberta. Completed wetland assessments and delineation for constraints development. Completed micro-siting with construction personnel. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment documentation and submission to AEP-WM and AUC.
- Completed environmental compliance monitoring and interim reclamation management for the first phase of the Kettle Hills Wind Power Project.
- Environmental assessment coordination, planning, execution and field assessments for the 120 MW Jenner Wind Power Project in Alberta. Completed field assessments for snake hibernacula, bird use, wetland assessments and delineation. Completed micro-siting with construction personnel. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment documentation and submission to AEP-WM and AUC.
- Environmental assessment coordination, planning, execution and field assessments for the updates to the environmental assessment for the 30 MW McLaughlin Wind Power Project in Alberta. Additional work included wetland boundary determination, Sharp-tailed grouse surveys, raptor nest surveys and regulatory consultation.
- Environmental assessment coordination, planning, execution and field assessments for the Windy Point Wind Project in Alberta. Due to required environmental assessment updates, additional studies for Sharp-tailed grouse and prairie falcon were required. Consultation with AEP required due to development components within regulatory setbacks.
- Environmental assessment coordination, planning, execution and assistance with the AUC application for the 122 MW Wheatland Wind Power Project in Alberta. Completed wetland assessments and delineation for constraints development. Completed micro-siting with construction personnel. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment documentation and submission to AEP-WM and AUC.



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- Environmental assessment coordination, planning, execution and assistance with the AUC application for the 150 MW Paintearth Wind Power Project in Alberta. Completed wetland assessments and delineation for constraints development. Completed micro-siting with construction personnel. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment documentation and submission to AEP-WM and AUC.
- Environmental assessment coordination, planning, execution and field assessments for the 79 MW Hand Hills Wind Power Project. Completed field assessments for wetlands and delineation for constraints development. Completed micro-siting with construction personnel. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment documentation and submission to AEP-WM and AUC.
- Environmental assessment coordination, planning, execution and AEP and AUC Application for the 100 MW Willowridge Wind Power Project in Alberta.
- Coordination, completion and reporting of mortality monitoring at a three-turbine wind project in Alberta. Due to high mortality, an adaptive management program was agreed to with AEP-WM.
- Environmental assessment coordination, planning, execution and field assessments for the environmental assessment for the 120 MW Claresholm Solar Project.
- Environmental assessment coordination, planning, execution and field assessments for the environmental assessment for the 60MW Sunset Solar Project.
- Environmental assessment coordination, planning, execution and field assessments for the environmental assessment for the 8.5 MW Stavely Solar Project.
- Environmental assessment coordination, planning, execution and field assessments for the environmental assessment for the 24 MW Monarch Solar Project.
- Environmental assessment coordination, planning, execution and field assessments for the environmental assessment for the 25 MW Vulcan Solar Project.
- Environmental monitor for Segments 1 and 3 of the Eastern Alberta Transmission Line (EATL) Project for Graham Brothers Construction. Assisted Graham Brothers during the construction segments to ensure compliance with the Bechtel managed project. Conducted site inspections and provided compliance and construction monitoring for tower site construction.
- Environmental coordinator and monitor for construction of the Pike 170s Substation in AB for Rising Edge Technologies. Completed the Environmental Protection Plan and completed compliance monitoring during construction.

### **Saskatchewan**

- Environmental assessment coordination, planning, execution and field assessments for the 200 MW Golden South Wind Power Project. Completed micro-siting and wetland determinations in the field for Project layout. Assisted with public consultation, including completing presentation materials. Assisted with project field coordination for all environmental assessment components. Responsible for completion of the Technical Proposal for submission to Saskatchewan Environment.
- Completed desktop constraints and regulatory analysis for 2 different wind power projects in Saskatchewan for the 2011/12 RFP.
- Completed constraints and regulatory analysis and fall and winter wildlife surveys for the 80 MW Burstall Wind Power Project for the 2011/12 RFP.



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### **Nova Scotia**

- Completed the Environmental Protection Plan, Erosion & Sedimentation Control Plan, and project permitting of the 62 MW Glen Dhu Wind Power Project. Permitting tasks included DFO applications for installation and construction of watercourse crossings in fish bearing streams, including completion of electrofishing prior to construction. Completed environmental compliance monitoring during installation of all crossings. Guided EPC in surface reclamation activities required during construction. Coordinated post-construction mortality monitoring and reporting.
- Completed the provincial Environmental Assessment for the 80 MW Glen Dhu South Wind Power Project. Environmental assessment coordination, planning, execution and regulatory permitting, micro-siting and wetland determinations in the field for Project layout. Completed assessments for watercourse crossings and vegetation at turbine locations and access roads. Completed moose monitoring assessments. Completed initial road layout design. Assisted with regulatory consultation (and applications as required) with CWS, Nova Scotia Department of Environment, Health Canada, Environment Canada, NAV Canada, and Transport Canada. Assisted with public consultation, including completing presentation materials and organizing all open houses. Assisted with project field coordination for all environmental assessment components.
- Completed the provincial Environmental Assessment for the 50 MW East Bay Wind Power Project. Completed micro-siting and wetland determinations in the field for project layout. Completed assessments for watercourse crossings and vegetation at turbine locations and access roads. Completed Canada Lynx monitoring assessments. Assisted with regulatory consultation (and applications as required) with CWS, Nova Scotia Department of Environment, Health Canada, Environment Canada, NAV Canada, and Transport Canada. Assisted with public consultation, including completing presentation materials and organizing all open houses. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment permit applications.
- Completed the provincial Environmental Assessment for the 25.2 MW Hampton Mountain Wind Power Project. Completed micro-siting and wetland determinations in the field for project layout. Completed assessments for watercourse crossings and vegetation at turbine locations and access roads. Assisted with public consultation, including completing presentation materials and organizing all open houses. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment permit applications.
- Completed Environmental Assessment amendment application for the operating 32 MW Amherst Wind Power Project. The project was previously approved but due to regulatory requirements, an updated environmental assessment was required. Completed the Environmental Protection Plan, and project permitting. Working on behalf of project owner, guided EPC in surface reclamation activities required during construction. Completed post-construction mortality monitoring and reporting.
- Completed the provincial Environmental Assessment for the 80 MW expansion of the Amherst Wind Project. Completed wetland determinations in the field for project layout. Completed assessments for watercourse crossings and vegetation at turbine locations and access roads. Completed moose monitoring assessments. Assisted with regulatory consultation (and applications as required) with CWS, Nova Scotia Department of Environment, Health Canada, Environment Canada, NAV Canada, and Transport Canada. Assisted with public consultation, including completing presentation materials and organizing all open houses. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment permit applications.



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- Environmental assessment coordination, planning, execution and regulatory permitting for the 50 MW Canaan Mountain Wind Power Project. Completed micro-siting and wetland determinations in the field for project layout. Completed assessments for watercourse crossings and vegetation at turbine locations and access roads. Completed moose monitoring assessments. Assisted with public consultation, including completing presentation materials and organizing all open houses. Assisted with project field coordination for all environmental assessment components. Completed environmental assessment permit applications. Responsible for completion of the Environmental Assessment application to Nova Scotia Department of Environment. Project cancelled prior to application.
- Preliminary environmental assessment coordination, including bird and bat assessments, in addition to wetland boundary assessments for road construction for the 102 MW South Canoe Wind Project.

### **New Brunswick**

- Preliminary environmental assessment coordination and environmental assessments for the 20 MW Pokeshaw Wind Project in New Brunswick. Responsible for environmental assessment coordination, assisting with public and regulatory consultation to Canadian Wildlife Service and New Brunswick Department of Environment, and completion of the environmental assessment application document. Project ongoing.
- Preliminary constraints analysis, coordination of public open house, and assistance with regulatory consultation for the 65 MW Mann Siding Wind Power Project.
- Constraints analysis for a 20 MW wind project and 20 MW solar project on DND lands, New Brunswick.

### **SELECT PROJECT EXPERIENCE**

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- Assisted the Nexen Abandonment and Reclamation team to complete the AENV facility amendment application, and the Decommissioning, Remediation and Land Reclamation Plan for the Balzac Gas Plant, Alberta.
- Coordinated and assisted with the 105 MW Balzac Power Station AENV Industrial approval 10-year renewal.
- Environmental assessment coordination, planning, execution and regulatory permitting for a 22 MW Gas Turbine Power Plant, Alberta. Completed a pre-site soils assessment, regulatory consultation, wetland assessment, and project micro-siting. Regulatory applications to AEP WM, AUC and AEP for the Industrial Approval.
- Environmental assessment coordination, planning, execution and regulatory permitting for a 6 MW Power Plant, Alberta. Completed field assessment for vegetation, timber volumes, wetlands, and wildlife components for the AEP WM application. Coordinated and completed the AEP Industrial Approval application.
- Completed the Cumulative Effects Assessment and Environmental Protection Plan for a 107 shallow gas well program on federally regulated PFRA lands in Saskatchewan for submission to the Canadian Wildlife Service and Environment Canada. Project involved site assessment of oil and gas wells for wetlands in proximity, regulatory consultation, and reporting.



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- Completed the Cumulative Effects Assessment under CEAA for 54 oil and gas wells, roads and associated pipelines on the Onion Lake IR#119 in Saskatchewan. Project involved site assessments, first nation consultation, and regulatory consultation. Assisted client with the development of the environmental protection plan for construction. Also assisted with the development of the company Operations & Management Plan for operations on the IR. Assisted client with First Nation consultation.
- Environmental Coordinator for Baytex Energy Ltd. from 2004-2006. Responsible for regulatory approvals and compliance for all business operations in Alberta, Saskatchewan, and British Columbia. Project manager for environmental approvals and compliance for pipeline development in Alberta. Project components included pipeline route selection, First Nation/public consultation, regulatory consultation, environmental assessments, survey supervision, regulatory applications for licenses/permits, construction monitoring, and reclamation of the right-of-ways. Water Act notifications for access road and pipeline crossings. Assisted client with First Nation consultation.
- Completion of CEAA Environmental Assessments for 90 oil and gas developments on First Nation reserves in Alberta and Saskatchewan. Completed vegetation assessments, wildlife surveys, timber volume assessments (where applicable), soils assessments, wetland assessments and functions analysis, and reporting. Also conducted compliance monitoring during construction, completed the 1, 2- and 5-year regulatory compliance audits for ongoing activities, and completed detailed site assessments for reclamation applications. Assisted client with First Nation consultation.
- Completion of hundreds of regulatory compliance audits for oil and gas clients in Alberta.
- Completion of reclamation project management, field construction activities, detailed site assessments, and regulatory applications for numerous oil and gas projects in Alberta and Saskatchewan since 1997.
- Completion of CEAA Environmental Assessments for 4 seismic projects. Completed vegetation assessments, wildlife surveys, timber volume assessments (where applicable), soils assessments, wetland assessments and functions analysis, watercourse crossing applications, and environmental assessment reports for regulatory submission. Assisted client with first nation consultation.
- Completing detailed financial benchmarking of abandonment and reclamation costs for 16 large oil and gas companies for use in Asset Retirement Obligations. Data analysis includes assessment of over 5000 data points. Project ongoing since 2006.
- Completed 68 pre-disturbance environmental assessments in Special Areas 2 & 3. Pre-site assessments included detailed soils and vegetation assessments and wetland boundary determinations for avoidance.
- Designed and implemented an erosion control plan for 5 wellsites and a pipeline watercourse crossing to comply with an AEP directive. Project involved plan design, implementation monitoring, regulatory and landowner consultation, and final reporting.
- At the request of AENV, in response to an inadequate assessment submitted by another environmental company, requested to complete an assessment, siting, and partial reclamation plan for two oil wells in foothills of Alberta.

## SELECT PROJECT EXPERIENCE

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### WETLAND

- Project management, landowner consultation, project design, supervision of engineering and surveying, assistance with water budget analysis, construction supervision and assistance with functional monitoring for an 18-hectare wetland restoration project in Nova Scotia.





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- Completed Accretion Study for Sitting Stone Lake in Alberta. As a requirement of AEP approval for an oil and gas project, a site investigation was required to determine if the natural boundary of the water body had changed since the lake was originally surveyed in 1894. The environmental assessment determined that accretion of Sitting Stone Lake had occurred, and the high-water mark was subsequently changed.
- Assisted with the evaluation of Wetland Restoration Potential (EWRP) within the Sackville Watershed, Nova Scotia, to identify priority wetland restoration sites. The study was the first of its kind in Nova Scotia. The study was approved by NSDOE and allowed for comprehensive results for identification of wetland restoration sites, potential areas for protection to preserve watershed health, and planning tools for better overall watershed health and management.
- Assisting with coordination and completion of the biophysical assessments, Mi'kmaq consultation, regulatory consultation, and final CEAA report submissions for 3 gold mines in Nova Scotia.
- Completion of the field environmental assessment component for the CEAA screening document for the Deer Lake Regional Airport Authority in Newfoundland, runway expansion, access road relocation, and electrical line relocation. Assessment included qualitative analysis of function assessments under the Canadian Wetland Classification System to support Federal Policy on Wetland Conservation, assessment of fish habitat for eventual re-alignment of the existing drainage course and installation of navigation lights in fish bearing stream, vegetation assessment of impacted area.
- Assistance with the erosion and sediment control design, implementation and management for Forest Lakes Golf Course Development in Nova Scotia, including complete wetland boundary determinations from both GIS and field studies. Fisheries habitat assessment for road interchange route to access development. Assistance with determination of baseline flow analysis of lake discharge to support downstream wetland functions.
- Wetland delineation and functions assessments and watercourse and fish habitat assessments for the Paqntkek Highway Interchange in Nova Scotia.
- Wetland assessment for loss of function associated with possible siltation from operating Conrad quarry as per NSDOE Directive in Nova Scotia.
- GIS desktop analysis of potential wetlands and field assessment for 2019 wetland restoration projects, including characterization of wetlands, preliminary functional analysis at a watershed level, and consultation with landowners regarding end land use requirements in Nova Scotia.
- Wetland and watercourse delineation and characterization at the Goff's Quarry, Nova Scotia.
- Wetland and watercourse delineation at the McCabe Lake property development, Nova Scotia.
- Governor's Brook Watercourse Alteration assessment for installation of a pedestrian bridge in Halifax.
- Watercourse alteration for pump installation in Grand Lake, Nova Scotia, including construction monitoring.
- Project design and approval for Department of Environment Directive for removal of infilling from a lake and wetland in Nova Scotia.
- Currently under contract with AEP to complete the methodologies for spring and fall migration studies for inclusion into the 2013 Sensitive Species Inventory Guidelines.
- Environmental and Camp permitting for the Churchill Falls to Muskrat Fall HVAC and HVDC lines (1300 km in length) in Labrador and Newfoundland. Project included regulatory consultation and applications for 5 x 200-person camps. Environmental permitting included water withdraw and use. Assisted with regulatory consultation.

## Years in Practice

**10.5 years**

## Certifications

Nova Scotia Advanced  
Wetlands Delineator and  
Evaluator

## Memberships

Nova Scotia Wetlands  
Delineation, Maritime  
College of Forest  
Technology

## Education

- BSc. (Horticulture),  
Essex University (UK),  
2003-2005

## Training

- Wetland Functional  
Assessment Training  
Workshop, NSE 2013
- Urban Wetland  
Restoration: A  
Watershed Approach,  
2012
- Nova Scotia Advanced  
Wetlands Delineation  
and Evaluation Course,  
2010;
- Water Management and  
Wetland Restoration  
Training Course, 2014;
- Identifying and  
Delineating Wetlands  
for Nova Scotia, 2009
- Watercourse Alteration  
Certification (Nova  
Scotia Environment)  
(2008)
- Saint John Ambulance  
Emergency First Aid,  
AED, CPR(C). 2016

## Summary

Mr. Walter is a trained biologist and wetland specialist, and has extensive experience managing technical biophysical projects within Atlantic Canada. Mr. Walter is knowledgeable in federal, provincial, and municipal environmental regulations and guidelines applicable to Atlantic Canada, and works closely with all necessary regulatory agencies to facilitate project implementation. As senior project manager, Mr. Walter ensures biophysical field programs are tailored to the needs of the client and project, while meeting regulatory standards. Mr. Walter has provided environmental support to the planning process in a wide range of project types including residential development, industrial projects (mining, pit and quarry), transmission line and hydro dam infrastructure and highway construction to name a few. Mr. Walter has managed the environmental processes associated with multiple wind energy developments in Nova Scotia, including compilation of provincial environmental assessment (EA) documents, and implementation of associated EA biophysical field surveys, as well as acquiring pertinent environmental information required for regulatory permitting.

As a trained field biologist, Mr. Walter has completed terrestrial and stream habitat assessments, and flora and fauna surveys, including desktop reviews and characterization of biophysical environments. Mr. Walter also completes numerous fish habitat/watercourse assessments for effects monitoring, watercourse alteration, and HADD authorization projects. Assessments have also included water quality sampling, benthic sampling, and biophysical characterization (channel depth and width, stream velocity, fish habitat assessment) of water bodies.

As a qualified wetland delineator and wetland function evaluator for Atlantic Canada, Andy has completed delineation of hundreds of wetlands. Projects often involve the completion of species at risk assessments, functions assessments, and detailed wetland characterization in support of provincial wetland alteration applications. In addition, Mr. Walter assists in the identification of potential wetland restoration and creation sites for wetland and fish habitat alterations, reviews databases, mapping, and aerial imagery, completes ground truthing and consults with local environmental groups and government to identify potential sites. Following alteration approval, Mr. Walter supervises construction activities for numerous construction projects in wetland habitat ensuring that erosion and sedimentation control measures are implemented prior to construction, and monitors activities during construction to ensure wetland protection measures are effective.

## Project Experience

- Managing a Provincial Environmental Impact Assessment for a proposed 20MW wind Project in New Brunswick.
- Managing a Provincial Environmental Assessment (baseline surveys, effects assessment and mitigation) for a quarry expansion in Pictou County, NS (2018).
- Managing a Provincial Environmental Assessment (baseline surveys, effects assessment and mitigation) for a quarry expansion in Hants County, NS (2018-2019).
- Managing environmental CEAA screening and associated wetland and watercourse alteration permits for the Paqtnkek Interchange Project for NSTIR (2014-2018).

**Andy Walter, BSc. (Hort)**  
[andy@mccallumenvironmental.com](mailto:andy@mccallumenvironmental.com)

**Senior Project Manager**

- Managing an environmental screening and associated wetland and watercourse alteration permits for the NSTIR Highway 102/103 Interchange project (2016-2018).
- Managing, and currently in the process of implementing a new wetland functional assessment tool for use in Nova Scotia. This Project included the collection of baseline wetland information across Nova Scotia by completing 120 wetland functional assessments using the Wetland Ecosystem Services Protocol (WESP). Ongoing collaboration with Nova Scotia Environment to support the rolling out of this method to wetland practitioners.
- Management and implementation of a 18 hectare agricultural wetland restoration project in Middle Stewiacke, NS.
- Management and completion of terrestrial habitat mapping, wetland delineation and vegetation surveys in support of EA and regulatory permitting for the South Canoe Wind Project (80MW wind Project in Nova Scotia) 2011-2014.
- Management of a multi-faceted avian study in support of a provincial EA at Aulds Cove, NS.
- Completion of six provincial environmental assessments and baseline surveys for community wind projects in Nova Scotia in 2012-2014.
- Terrestrial habitat mapping, wetland delineation and vegetation surveys in support of a 65km distribution transmission line in central Nova Scotia.
- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed quarry in Nova Scotia. Subsequent facilitation of wetland alteration permit to alter in excess of 20 hectares of wetland.
- Implemented the passive wetland restoration strategy at a disturbed wetland on NSDNR property. Completed regular monitoring of vegetation, soil, and hydrology conditions and developed project recommendations accordingly (2009-2011).
- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed 22km railway line and shipping container terminal in eastern Nova Scotia (2012-2014).
- Completion of wetland delineation and watercourse identification and associated regulatory permitting at multiple developments in Nova Scotia (2009-2016).

## **Work Experience**

### **Strum Environmental Services Ltd., Nova Scotia 2008-2015**

Environmental Specialist/Project Manager- provided project management expertise for development clients across Atlantic Canada. Projects included environmental assessment, large scale commercial, residential and wind power developments, wetland and watercourse alteration projects, wetland compensation planning and implementation, wetland restoration and creation projects, avian studies, and regulatory consultation.

## Years in Practice

3

## Education

B.Sc. (Geography),  
University of Victoria,  
2005-2009.

M.Sc. (Environmental  
Science), Memorial  
University of  
Newfoundland and  
Labrador, 2010-2013.

## Training

- ◆ Saint John Ambulance  
Standard First Aid,  
AED, CPR(C), 2017
- ◆ Wildlife Awareness  
training – 2015
- ◆ W.H.M.I.S – 2015
- ◆ Geographic Information  
System (GIS) Training,  
ESRI – 2013
- ◆ Facilitation Skills for  
Technical  
Professionals,  
Dalhousie University –  
2017

## Summary

Ms. Posluns has been in the environmental consulting profession since 2015. She has worked on both project related and research related field assessments in Nova Scotia.

Ms. Posluns is responsible for completing biophysical assessments, including flora and fauna surveys, avian surveys, aquatic surveys, wetland monitoring and species at risk evaluations, primarily for clients in the energy sector, mining sector, and commercial development sector. Ms. Posluns has been responsible for the management of field data for multiple, large-scale initiatives in Nova Scotia, including a provincial infrastructure project and a mining development.

## Selected Project Experience

- Conducted migratory bird surveys for a provincial infrastructure project.
- Completed ungulate and other wildlife surveys for a variety of Natural Resource projects.
- Surveyed environmental baseline data for the federal environmental assessment process for a proposed development of a gold mine in eastern Nova Scotia in 2017.
- Delineated wetlands, completed watercourse identification and vegetation assessments for two large-scale developments in Nova Scotia in 2016 and 2017.
- Collaborated with communities, local resource users, and First Nations to implement solutions.
- Coordinated spatial data organization, performed GIS analysis, and created dynamic maps for a variety of projects.

## Experience

### McCallum Environmental Ltd., Halifax, Nova Scotia

#### Environmental Scientist:

June 2017-Present

- Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments and coordinating data management and Geographical Information Systems (GIS). Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications. Preparing Phase 1 Environmental Site Assessments.

**CBCL LTD., Halifax, Nova Scotia**

Environmental Scientist

September 2015 – April 2017.

- Created GIS maps for over 20 projects, including six 100-page map books, effectively visualizing contaminated sites, ecologically sensitive habitats, and urban development.
- Aerially interpreted and delineated wetlands.
- Conducted species at risk background searches and field visits.
- Prepared reports for a variety of assessments, including permit applications and Environmental Management Plans.
- Assisted with marine water quality sampling.

**OceanCanada Partnership, Halifax, Nova Scotia**

Environmental Scientist

September 2015 – April 2017.

- Facilitated community meetings and provided expertise to help a group with local area development planning.
- Conducted interviews and community-wide surveys of a rural fishing village to create a database of local assets.
- Summarized findings of community assets into an accessible written document.
- Lead a marine-monitoring program in an ecologically sensitive bay, coordinating 15 volunteers in fieldwork, identifying and assessing eelgrass health and distribution, sample collection, and data entry.
- Investigated social, ecological, and economic changes within coastal communities to make suggestions on future development.

**Saint Mary's University, Halifax, Nova Scotia**

Professor of Geography

August 2015 – April 2016.

- Explained technical environmental information clearly and concisely to Canadian and International students, ensuring all students had a supportive learning atmosphere.
- Designed new course material that engaged students and enhanced their learning experience.
- Worked with students one-on-one to solve conflicts.

**Regional District of North Okanagan, Vernon, British Columbia**

Water Sustainability Coordinator

2013 – 2014.

- Worked under the BC Water Act, and maintained a comprehensive understanding of provincial and local policy, regulations, and bylaws.
- Compiled and analysed large datasets, assessing trends, and informing local policy.
- Determined drought risk using environmental indicators, and communicated with team members to decide on the necessary restriction required for meeting seasonal water level targets.

## Years in Practice

5

## Education

B.Sc. (Honours, Biology),  
Waterloo University,  
2009-2011.

## Training

- ◆ Saint John Ambulance  
Standard First Aid,  
AED, CPR(C), 2015
- ◆ Wildlife Awareness  
training and ATV  
training – 2015
- ◆ W.H.M.I.S – 2015
- ◆ H2S Alive - 2015

## Summary

Mr. Gallop has been in the environmental consulting profession since 2011. He has worked on both project related and research related field assessments in Nova Scotia, Alberta and Saskatchewan.

Mr. Gallop is responsible for completing biophysical assessments, including flora and fauna surveys, aquatic surveys (wetlands, watercourses and fish surveys), avian surveys, and species at risk evaluations, primarily for clients in the energy sector, mining sector, and commercial development sector. Mr. Gallop has been responsible for the implementation of 5 environmental baseline programs for mining, quarry development and energy sector development projects in Nova Scotia and Saskatchewan in advance of environmental assessment registration.

## Selected Project Experience

- Completion of migratory bird surveys for a large scale renewable energy project.
- Completion of ungulate and other wildlife surveys for a variety of Natural Resource projects.
- Completion of environmental baseline surveys for the federal environmental assessment process for proposed development of two gold mines in eastern Nova Scotia in 2016-2018 across 2500 hectares of landscape in Nova Scotia
  - Wetland delineation and functional assessment
  - Fish habitat surveys and electrofishing
  - Rare plant surveys
  - Wildlife surveys
  - Avian surveys
  - Lichen surveys
- Completion of wetland delineation, watercourse identification and vegetation assessments of two large scale developments in Saskatchewan and Nova Scotia in 2015 and 2016.
- Responsible for collecting baseline data for the calibration of the Wetland Ecosystems Services Protocol (WESP) for the Province of Nova Scotia.

## Experience

### **McCallum Environmental Ltd., Halifax, Nova Scotia**

#### Biologist and Environmental Specialist:

April 2016-Present

- Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments and coordinating migratory bird monitoring. Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications.

### **Basin Environmental LTD., - Edmonton, Alberta.**

#### Environmental Technologist

September 2014 – February 2016..

- Utilized the Alberta Wetland Classification system to assess wetlands and the Wetland Rapid Evaluation Tool to determine compensation required for impacts to classified wetlands.
- Aerially interpreted and delineated wetlands.
- Conducted species at risk background searches and field visits.
- Conducted pre-disturbance assessments for oil and gas activities, road improvements and residential developments, including: watercourses/waterbodies, soil profiling, vegetation, wildlife, eco-sites and timber volumes.
- Prepared reports for a variety of assessments, including: wetlands, pre-disturbance, bio-physicals, fish habitats for access road watercourse crossings, EAP/EFR supplements and applications.
- Monitored the water quality of horizontal directional drilling on fish bearing permanent watercourses.
- Assisted surveyors and construction engineers on-site in the design of oil and gas well leases and facilities, pipelines and access roads to ensure compliance with EAP Standards and Guidelines.



McCallum Environmental Ltd.

## Years in Practice

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### Education

Bachelor Environmental Science 2011, Dalhousie University

### Training

- Saint John Ambulance Emergency First Aid, AED, CPR(A), 2017
- Wetland Delineator's Course – Nova Scotia/New Brunswick, 2014
- Wetland Ecosystem Services Protocols (Freshwater, Tidal) – Nova Scotia / New Brunswick, 2016
- Watercourse Alteration | Certification for Sizers - Nova Scotia, 2016
- Watercourse Alteration Certification for Installers - Nova Scotia, 2016
- Bat Acoustics Training (Techniques and Analysis) – Ontario, 2017

## Summary

Ryan has worked in biology related environmental consulting since 2011. He has worked on both research related field assessments and project related field assessments in Nova Scotia, New Brunswick, Newfoundland, Saskatchewan, Alberta and Honduras.

## Environmental Work Experience

### McCallum Environmental Ltd., Halifax, Nova Scotia

#### Environmental Specialist

June – August 2013; September 2014 - Present

Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments and coordinating wildlife survey monitoring. Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications.

### Projects

- **Valard Construction;** acted as an Environmental Coordinator to ensure permit knowledge and compliance of construction staff as well as coordinating erosion and sediment controls, spill remediation and watercourse alteration on the Muskrat Falls Transmission Line and Keswick to Newcastle Transmission Line in Newfoundland and New Brunswick respectively.
- **Atlantic Mining Nova Scotia;** completing wetland alteration applications and water withdrawal applications. As well as, baseline and post construction wildlife surveys, wetland assessments and water quality monitoring at the Touquoy, Beaver Dam, Fifteen Mile and Cochrane Hill Gold Mines in Nova Scotia.
- **Terra Firma Development Corp.;** conducted baseline wetland delineation and assessments, wildlife and species at risk surveys and managed water quality monitoring programs for the Forest Lakes Country Club development in Nova Scotia.
- **Various Clients;** developed and implemented baseline bat surveys using passive acoustical monitoring equipment and post construction bird and bat mortality surveys for wind power projects (WPP) in Nova Scotia (Terence Bay WPP), New Brunswick (Pokeshaw and Richibucto WPP), Saskatchewan (Golden South WPP) and Alberta (Glenridge WPP).
- **GW Doucette Construction;** developed an erosion and sediment management plan for the replacement of an existing wharf in Pereaux Harbour, Nova Scotia.

### Operation Wallacea (Honduras)

#### Field Biologist

June-August 2011/2012

Conducted wildlife surveys in support of the development of large temporal and spatial datasets used for assessing the effectiveness of conservation management interventions.

Ryan Gardiner BSc.



## Experience

### **\*Aster Group Environmental Services Co-operative & Environmental, 2014 to present.**

#### **Avian Windmill Surveys**

ACCIONA, Dillon Consulting Limited,, Groupe Hémisphères inc., McCallum Environmental, M. K. Ince and Associates Ltd, Rescan Environmental Services Ltd, Tetra Tech |Environment Practice, Pays de Cocagne Sustainable Development Group, WSP.

#### **Other Avian Inventories & Education Contracts**

BDA Landscape Architects, CBCL, Crandall Engineering Ltd., City of Moncton, Daly Point, DTI NB, Crandall Engineering, Dougan & Associates, Fundy Biosphere Reserve, Fundy Parkway, Get Outside NB, Great Minds Think Outside, Fisheries and Oceans, GEMTEC, Greenlaw Hawk Watch Program (Saint John's Naturaslist Club), J.R. Daigle Engineering, Jacques Whitford (Fredericton), Nature Conservancy of Canada, Overdale Environmental Inc, Roy Consultants, Saint-Isidore Asphalt, Silk Stevens Limited, Stantec, Tourbière Ltd., Town of Sackville.

### **\*Manager of Education and Outreach, Cape Jourimain Nature Centre, June 2009 to January 2014.**

### **\*Consultant, & Conservation Biologist, 2001-9 & 2014**

- Conservation Planning Strategy for the Northumberland Strait Natural Area for the Nature Conservancy of Canada, 2008.
  - Nature Trail Creation, Cormier Village with the Centre Sportif Cormier Village Inc., 2008.
  - Biological Habitat Assessment and Zoning of Sensitive Areas of Irishtown Nature Park, Irishtown Nature Park Committee & the City of Moncton; 2006 & 2007.
  - Nature Interpretation Panels, Memramcook Village; 2010.
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**\*Conservation Biologist and Educator, Nature NB, Acadian Peninsula** 1988 - 2003. Piping Plover monitoring and coastal conservation educational school programming.

**\*Nature Interpreter, Parks Canada, Atlantic Canada** 1991 - 1994

### **Education**

- Bachelor of Education, Major in Biology & Environmental Studies Mount Allison University, Sackville, NB, 1991.
- Masters in Environmental Studies, Biological Conservation & Nature Education, York University, Downsview, Ontario, 1988.
- Bachelor of Science, Specialization in Wildlife Biology, Acadia University, Wolfville, NS, 1984.

### **Volunteer Work**

- Past board member of the NB Wildlife Trust Council, 2015 to 2017.
- Chair of the Sustainable Education Alliance of New Brunswick.
- Past president of EOS Eco-Energy ([www.eosecoenergy.com/](http://www.eosecoenergy.com/)).
- Co-President of Nature NB.

### **Selected Publications**

Chiasson, Roland. 2006. Irishtown Nature Park Biological Inventory Background Document. Presented To The Irishtown Nature Park Committee.

Chiasson, Roland. 2010 & 2016. Rapport sur les recensements de herons dans la Péninsule acadienne automne.

L.A. Comeau, R. Chiasson, A. Chiasson, F. Pernet, and T. Landry. 2006. Birds perching on oyster culture gear in eastern New Brunswick, Canada. Can. Tech. Rep. Fish. Aquat. Sci. 2681.

Chiasson, Roland & Dietz, Sabine. 2000. 10 conservation plans for the Important Bird Areas Program.

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