



RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

E. Al Shaw, M.Sc., B.Sc.
Senior Aquatic Ecologist / Principal

CAREER AND ACADEMIC HISTORY

2008 – Present	Senior Aquatic Ecologist / Principal, RiverStone Environmental Solutions Inc.
2003 – 2007	Aquatic Biologist / Michalski Nielsen Associates Ltd.
2001 – 2003	Aquatic Ecologist / Project Manager, ESG International Inc., Guelph, ON
2000 – 2001	Aquatic Ecologist, Triton Environmental Consultants Ltd., Vancouver, BC
1999 – 2000	Systems Ecologist, Limnotek Research and Development Inc., Vancouver, BC
1998 – 1999	Research Assistant / Data Analyst, Dept. of Forest Sciences / UBC Fisheries Centre, University of British Columbia, Vancouver, BC
1997 – 1999	M.Sc., University of British Columbia, Department of Forest Sciences, Vancouver, BC
1997 – 1999	Teaching Assistant, Conservation Biology Field Course, Fish Conservation and Management, University of British Columbia, Vancouver, BC
1991 – 1994	B.Sc., University of Guelph, Environmental Biology, Guelph, ON

PROFESSIONAL EXPERIENCE

The following is a partial list of consulting-based project experience for 2008–2010.

Ecological Site Assessments & Environmental Impact Studies/Statements

- Environmental Impact Statement for property in the **Township of Perry**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 2-lot severance
- Environmental Impact Statement for property in the **Township of Perry**; *for private client*; **Key Tasks:** project management, SAR and fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 4-lot severance and rezoning
- Environmental Impact Statement for property on Doe Lake in the **Town of Gravenhurst**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate multi-lot severance and zoning amendment
- Environmental Impact Statement for property in the **Township of King**; *for private client*; **Key Tasks:** project management, SAR and fish habitat assessment, assessment of policy compliance, and impact analysis and development of mitigation plan to facilitate zoning by-law amendment,
- Environmental Impact Statement and Deer Wintering Habitat Assessment for property in the **Township of McKellar**; *for private client*; **Key Tasks:** project management, Species of Conservation interest and fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 4-lot severance

- Environmental Impact Statement for development of Driftwood Island (Lake Muskoka) in the **Town of Gravenhurst**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 6-lot severance
- Environmental Impact Statement for development in the **Town of Gravenhurst**; *for private client*; **Key Tasks:** project management, Species of Conservation interest, fish habitat assessment; impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate multi-lot severance
- Environmental Impact Statement for property in the **Town of Huntsville**; *for private client*; **Key Tasks:** project management, fish habitat assessment, deer winter habitat, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 26-lot plan of subdivision
- Environmental Impact Statement for property in the **Town of Gravenhurst**; *for private client*; **Key Tasks:** project management, SAR and fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 25-lot plan of subdivision
- Environmental Impact Statement for property on the Magnetawan River in the **Township of Ryerson**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 3-lot severance
- Environmental Impact Statement and Deer Wintering Habitat Assessment for property in the **Township of the Archipelago**; *for private client*; **Key Tasks:** project management, assessment of Species of Conservation interest, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate single lot severance and zoning amendment
- Biophysical Report for property in the **Township of Georgian Bay**; *for private client*; **Key Tasks:** project management, fish habitat assessment; impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate road extension project
- Environmental Impact Statement for property in the **Town of Huntsville**; *for Wayne Simpson and Associates*; **Key Tasks:** fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 200-lot severance with commercial facilities requiring Official Plan and zoning amendments
- Biophysical Report for property in the **Town of Bradford West Gwillimbury**; *for private client*; **Key Tasks:** project management, fish habitat assessment; impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate driveway extension through Ansnorveldt PSW
- Natural Environment Level 1 and Level 2 Technical Report in the **Town of Bracebridge**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis; assessment of policy compliance, development of mitigation plan to facilitate licensing of pit under *Aggregate Resources Act* and avoidance of habitat protected under *Endangered Species Act, 2007*, and assessment of policy compliance
- Environmental Impact Statement for property in the **Town of Gravenhurst**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate multi-unit condominium unit
- Environmental Impact Statement for property in the **Town of Huntsville**; *for Wayne Simpson and Associates*; **Key Tasks:** fish habitat assessment, impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 5-lot severance with on Fairy Lake
- Site Evaluation Report for property on Jack's Lake in the **Township of Armour**; *for Hynde Paul Associates*; **Key Tasks:** project management, fish habitat assessment; impact analysis and development of mitigation plan, and assessment of policy compliance to facilitate 3-lot severance
- Environmental Impact Statement, Lake Capacity Assessment on Bells Lake in the **Township of Armour**; *for private client*; **Key Tasks:** project management, fisheries assessment, water quality monitoring, lake capacity modeling to facilitate waterfront lot severance

Environmental Assessments/ DFO/MNR/MOE/CA Permit Applications

- Federal Environmental Assessment in the **Town of Bradford West Gwillimbury**; *for Town of Bradford West Gwillimbury / Township of King*; **Key Tasks**: project management, fish habitat assessment, boat electrofishing, multi-agency negotiations, yearly *Fisheries Act* authorizations, to facilitate reconstruction of Holland Marsh drainage canal system
- Municipal Class Environmental Assessment in the **County of Simcoe**; *for CC Tatham*; **Key Tasks**: project management, aquatic habitat assessment, impact analysis and development of mitigation plan, assessment of federal policy compliance to facilitate road upgrades and re-alignment of County Road 43 and Wilson Drive
- Municipal Class Environmental Assessment in the **Township of Muskoka Lakes**; *for CC Tatham*; **Key Tasks**: project management, aquatic habitat assessment, impact analysis and development of mitigation plan, and assessment of federal policy compliance to facilitate road upgrades and re-alignment of Brackenrig Road
- Class Environmental Assessment in the **Township of Minden Hills**; *for CC Tatham*; **Key Tasks**: project management, site assessment, impact analysis and development of mitigation plan, and assessment of federal and provincial policy compliance to facilitate the installation of a water treatment plant
- Hydroelectric Class Environmental Assessment on the **Trent-Severn Waterway**; *for Canadian Hydro Developers*; **Key Tasks**: agency negotiation and submission of fish habitat compensation plan to facilitate development of two new hydroelectric facilities
- Class Environmental Assessment on several lakes in the **Township of Addington Highlands**; *for the Ministry of Natural Resources*; **Key Tasks**: aquatic habitat assessment for 6 MNR owned dams
- Contribution to Certificate of Approval for water discharge to the Welland River in the **Niagara Region**; *for private client*; **Key Tasks**: agency negotiations, water quality monitoring, assimilative capacity assessment to facilitate large expansion to chemical plant
- Contribution to Certificate of Approval for water discharge to Four Mile Creek in the **Niagara Region**; *for private client*; **Key Tasks**: agency negotiations, water quality monitoring, benthic invertebrate assessment, fisheries collections, assimilative capacity assessment to facilitate installation of treatment system for landfill discharge
- ESA Permit on Redside Dace tributary to Berczy Creek in the **City of Markham**; *for private client*; **Key Tasks**: agency negotiations, fisheries assessment, overall benefit ESA permit
- DFO and MNR letters of advice on Stewart Lake in the **Township of Georgian Bay**; *for private client*; **Key Tasks**: agency negotiations, fisheries assessment, applications to agencies to facilitate the reconstruction of public beach and boat docking facility
- DFO and Transport Canada letters of advice on Lake Muskoka in the **Town of Bracebridge**; *for private client*; **Key Tasks**: agency negotiations, fisheries assessment, applications to agencies to facilitate commercial dock expansion
- MOE Lake Capacity Assessment on Kernick Lake in the **Township of Armour**; *for private client*; **Key Tasks**: project management, aquatic habitat and limnological assessment to facilitate camp expansion

Aquatic and Fish Habitat Assessments

- Literature review of the impacts related to wood preservation chemicals in the aquatic environment; *for The Department of Fisheries and Oceans*; **Key Tasks:** collect and review primary literature, complete review paper and recommendations for DFO Staff reviewing potentially contaminated sites
- Fish/Aquatic Habitat Assessment on Tributary to Black Creek in the **City of Vaughn**; *for private client*; **Key Tasks:** Review of potential impacts of stockpiled concrete product on Redside Dace habitat, obtain permits and MNR Letter of Advice related to reconstruction of access road
- Fish/Aquatic Habitat Assessment on creek in the **City of Oshawa**; *for private client*; **Key Tasks:** project management, fish habitat assessment of headwater stream, to permit zoning bylaw amendment
- Fish Habitat Assessment on Fairy Lake in the **Town of Huntsville**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate development of existing lot of record
- Fish Habitat Assessment on the Joseph River in the **Township of Muskoka Lakes**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate shoreline development
- Fish Habitat Assessment on Mary Lake in the **Town of Huntsville**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate development of boathouse
- Fish Habitat Assessment on Lake Joseph in the **Township of Muskoka Lakes**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate shoreline development
- Fish Habitat Assessment on Lake Rosseau in the **Township of Muskoka Lakes**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate shoreline development
- Fish Habitat Assessment on Peninsula Lake, the **Township of Lake of Bays**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to facilitate shoreline development
- Fish Habitat Assessment on the Muskoka River in the **Township of Lake of Bays**; *for private client*; **Key Tasks:** project management, fish habitat assessment, impact analysis, development of mitigation plan, and assessment of policy compliance to 3-lot severance
- Fish Salvage in the **Town of Bradford West Gwillimbury**; *for the Town of Bradford West Gwillimbury*; **Key Tasks:** project management, fish habitat assessment, fish salvage, to facilitate reconstruction of Holland Marsh drainage canal system
- Aquatic Habitat Monitoring in the **Township of Lake of Bays**; *for private client*; **Key Tasks:** development of environment monitoring requirements and studies to be completed prior to, during, and following construction of the golf course
- Aquatic Habitat Assessment on Deer Lake in the **City of North Bay**; *for K. Smart Associates Ltd.t*; **Key Tasks:** assessment and monitoring of water levels, and development of protocols regarding the creation of dam structure at outlet
- Aquatic Analysis of Water Quality near the **Town of Bradford West Gwillimbury**; *for private client* **Key Tasks:** analysis of water quality, fisheries and benthic invertebrates in relation to residential development and STP expansion

- Walleye spawning survey on Muskoka River in the **Town of Bracebridge**; *for the Ministry of Natural Resources*; **Key Tasks**: Walleye spawning survey and egg/fry outmigration study.
- Lake Capacity Assessment Model for multiple lakes in the **County of Haliburton**; *for private client*; **Key Tasks**: project management, aquatic habitat and limnological assessment, and lake trout dissolved oxygen modeling
- Aquatic Survey on the Mattagami River in the **Sudbury District**; *for OPG*; **Key Tasks**: Six week survey of lake sturgeon populations related to Little Long Reservoir and water quality in the river
- Aquatic Survey in the Trent-Severn Waterway in **Hastings County**; *for private client*; **Key Tasks**: fish habitat assessment design and monitoring of created fish habitat
- Aquatic Survey in Silver Creek in the **Town of Collingwood**; *for private client* **Key Tasks**: fish habitat and aquatic assessment, impact analysis
- Aquatic Survey in Lake Ontario *for private client*; **Key Tasks**: Environmental monitoring program for lake trout spawning on artificial reef in Lake Ontario
- Aquatic Training for Peawanuck First Nations in the **Kenora District**; *for Peawanuck First Nations*; **Key Tasks**: Fisheries biology and limnology training
- Aquatic Study in the **District of Muskoka**; *for District of Muskoka*; **Key Tasks**: design and collection of benthic invertebrates to evaluation impact of sewage treatment facility
- Aquatic Study on the Grand River in the **City of Kitchener**; *for Union Gas*; **Key Tasks**: design and analysis of Grand River benthic invertebrate study in relation to pipeline crossing
- Aquatic Study in the Trent-Severn Waterway in **Peterborough County**; *for SGS Lakefield*; **Key Tasks**: benthic invertebrate and water quality analysis of long-term metal contamination in the Trent Severn Waterway
- Aquatic Study in the Cataraque Creek in **Frontenac County**; *for Ontario Ministry of the Environment*; **Key Tasks**: Design of collection program for dioxins and PCBs in benthic invertebrate

Peer Reviews

- Review of Environment Impact Study for Planning Application in **Parry Sound**; *for Seguin Township*; **Key Tasks**: evaluation of site assessment and impact analysis submitted as part of a rezoning application
- Review of Environment Impact Study for Planning Application in the **City of Orillia**; *for City of Orillia*; **Key Tasks**: evaluation of issues pertaining to adjacent lands and Provincially Significant Wetlands
- Review of Requirements for Port Severn Plan of Subdivision (Oak Bay) in the **Township of Georgian Bay**; *for District Municipality of Muskoka*; **Key Tasks**: assessment of rationale for installation of an eco-passage under Muskoka Rd Five
- Review of Environment Impact Study in the **Township of Lake of Bays**; *for District of Muskoka*; **Key Tasks**: evaluation of issues pertaining to adjacent lands and shoreline of Menominee Lake