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## *Employment*

**GIS Analyst, Software Developer, President**, Feaver's Lane Enterprises Inc., 2010-; Independent, 1993-1998 (<http://feaverslane.com/>)

**Tracking Data Analyst**, Fisheries and Oceans Canada, Victoria, BC, 2019-

**GIS and Cartography Consultant**, Sustainable Forestry Initiative, Ottawa, ON, 2018-

**Facilitator**, World Wildlife Fund Canada, St. John's, NL, 2017-

**GIS Consultant**, Municipalities Newfoundland and Labrador, St. John's, NL, 2017-

**GIS Consultant**, Canadian Parks and Wilderness Society (CPAWS), Halifax, NS, 2017-

**GIS Consultant**, International Model Forest Network, Ottawa, ON, 2016

**Information Systems Consultant**, Nunatsiavut Government, Nain, NL, 2015-

**GIS Developer**, Conservation Biology Institute, Corvallis, OR, 2015-2017

**GIS Contractor**, Canadian Boreal Forest Agreement (CBFA), Corner Brook, NL, 2013-2017

**GIS Contractor and Developer**, Nature Conservancy of Canada (NCC), St. John's, NL, Ottawa, ON and Fredericton, NB, 2013-

**GIS Consultant**, Northeast Avalon Atlantic Coastal Action Plan, St. John's, NL, 2013-

**Cartographer**, Pippy Park Commission, St. John's, NL, 2011-2014

**GIS Developer**, Islands Trust, Victoria, BC, 2010-

**Cartographer**, East Coast Trail Association, St. John's, NL, 2010-2011

**Business Planning Consultant**, Tickle View Farms, St. John's, NL, 1998

**Systems Analyst, Database Developer**, InfoNav/SoftChart, St. John's, NL, 1995

**Business and Technology Consultant**, How Does Your Garden Grow?, St. John's, NL, 1994-1998

**Business Software Consultant**, Archer Industrial, Mount Pearl, NL, 1994

**Business Software Consultant**, C&W Industrial, Bay Bulls, NL, 1993-1998

**Senior Information Systems Analyst**, Too Big To Ignore project, Memorial University of Newfoundland, St. John's, NL, 2013-2015 (part time) (<http://www.toobigtoignore.net/>)

**Geography Lecturer (Cartography)**, Memorial University of Newfoundland, St. John's, NL, 2011- (part time)

**GIS and Conservation Planning Analyst**, Nature Conservancy of Canada (NCC), St. John's, NL, 2010-2013 (<http://www.natureconservancy.ca/>)

**MSc Intern**, Natural Resources Canada (Canadian Forest Service), Corner Brook, NL, 2009

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**Software Engineering Team Leader**, International Communications and Navigation Ltd. (ICAN, now CNS Systems), Mount Pearl, NL, 2005-2008

**Systems Engineering Manager, Information Systems Manager, Technical Services Manager**, International Communications and Navigation Ltd. (ICAN, now CNS Systems), St. John's, NL, 1998-2004

**Systems Analyst, Programmer/Analyst**, Newtel Information Solutions Limited (previously Newfoundland and Labrador Computer Services; subsequently xwave; now Bell), St. John's, NL, 1991-1998

**Commerce Work Term**, Newfoundland and Labrador Computer Services, St. John's, NL, 1990

**Commerce Work Term**, Department of Fisheries and Oceans, St. John's, NL, 1989

**Commerce Work Term**, Allied Irish Bank, Dublin, Ireland, 1989

**Activity Coordinator and Monitor**, English Language Summer School, Memorial University of Newfoundland, St. John's, NL, 1988

**Delivery Driver**, F.J. Wadden Limited, St. John's, NL, 1987

**Painter**, Brush-up Limited, St. John's, NL, 1986

**Dish Washer**, Beaver Foods Limited, Memorial University of Newfoundland, St. John's, NL, 1984-1985

**Researcher/Writer**, CameraMUN, Memorial University of Newfoundland, St. John's, NL, 1983

## *Education*

**Master of Science (Geography)**, Memorial University of Newfoundland, St. John's, NL, 2008-2010

**Geography and Math undergraduate courses**, Memorial University of Newfoundland, St. John's, NL, 2004-2005 (part time)

**Bachelor of Commerce (Co-operative) Honours**, Memorial University of Newfoundland, St. John's, NL, 1985-1991

**French Language Summer School**, College Saint Charles-Garnier, Quebec City, QC, 1985

(University transcript available upon request)

**Brother Rice High School**, St. John's, NL, 1982-1985

**St. Bonaventure's School**, St. John's, NL, 1972-1982

## *Professional Projects*

**Marbled Murrelet Tracking** – processing Fisheries and Oceans Canada Marbled Murrelet tracking data in support of scientific publication. Activities include satellite transmitter tag raw data processing and error correction, kernel density estimation, generalized seasonal movement mapping, and migration distance measurement and mapping.

**Forestry Certification Mapping** – contract cartographer with Sustainable Forestry Initiative (<http://www.sfiprogram.org/>), producing maps of certified forest tenure for deployment on the organization's web site.

**NCC Freshwater Connectivity Tools** – ArcGIS Python developer for geoprocessing tools to calculate various metrics for barriers to aquatic connectivity, then combine those metrics in a weighted sum to help prioritize conservation actions such as dam decommissioning and culvert improvements.

**Coastal Restoration Fund** – contract facilitator with World Wildlife Fund Canada (<http://www.wwf.ca/>) using GIS-based multi-criteria decision analysis to help prioritize potential sites for coastal restoration and enhancement in Newfoundland and Labrador. The process incorporates data from a broad group of partners and stakeholders as well as traditional, local and other expert knowledge on priority aquatic species (Capelin, Atlantic salmon, Arctic char), other biotic features (birds, vegetation, invasive species, etc.), existing degradation (pollution, inappropriate use, etc.), threats (erosion, transportation, urbanization, oil spills, sea-level rise, etc.) and other factors.

**NCC Arctic Marine Protected Area Planning** – conservation planning and GIS contractor for rapid biodiversity and threat assessments of the Tallurutiup Imanga (Lancaster Sound) and Beaufort Sea areas. The work is setting the stage for working with communities and negotiating relinquishment of oil and gas rights, all in support of establishment of federal marine protected areas.

**Building Asset Management in Newfoundland and Labrador (BAM!NL)** – GIS consultant providing spatial data management advice to this Municipalities Newfoundland and Labrador initiative that is working to increase capacity for effective full life cycle asset management in the province.

**CPAWS Island of Newfoundland Large Intact Landscapes Assessment** – GIS consultant with this national environmental non-profit (<http://cpaws.org/>) for an analysis of the provincial government's Large Intact Landscapes component of its Sustainable Forest Management Strategy, with a focus on overlaps with other types of protection and various features of conservation interest. Project outputs include illustrative maps and descriptive statistics.

**NCC Eeyou Istchee (Cree Territory) Conservation Planning** – GIS consultant for the preparation of spatial data and the development, running and communication of models to inform conservation planning and prioritization for NCC and the Cree Nation government in the James Bay region of Quebec. This includes finding, interviewing, hiring and mentoring a conservation GIS analyst, as well as designing, developing, documenting and testing a custom geoprocessing tool to flexibly calculate human footprint from vector and raster inputs representing anthropogenic disturbance.

**Linkage Mapper Connectivity Tools v2** – ArcGIS Python tool developer enhancing the Linkage Mapper tools (<http://www.circuitscape.org/linkagemapper>) for use by the Conservation Biology Institute (<http://consbio.org/>). Managers in locations including the Sierra Nevada, Mojave and Sacramento Valley regions of California are using the tools to help identify and prioritize corridors connecting existing nature reserves. The results will inform conservation action as well as siting of wind and solar energy infrastructure. Tool enhancements incorporate differences in climate change predictions between existing reserves, as well as custom inputs and expert opinion for reserve and corridor priorities.

**NCC Boreal Plains Conservation Atlas** – GIS consultant for the preparation of spatial data and the development, running and communication of models to inform conservation planning and prioritization for NCC and partner organizations in the Boreal Plains ecozone of western Canada. Analyses include landform elements, human footprint, species distribution and climate change, as well as overall coarse-filter and fine-

filter prioritization using developed and acquired datasets in Marxan. Several custom geoprocessing tools were built to support the process.

**International Model Forest Network (IMFN) Data Publishing Tools** – GIS contractor for the design, development and testing of tools built in Python, gdal and arcpy to facilitate publishing of multi-scale, high-resolution forest cover and other data for rapid display in a KML-based online map viewer.

**Tsate Hydroelectric Project Socioeconomic Assessments** – cartographer and aerial photo analyst in support of socioeconomic impact assessment for the proposed hydroelectric reservoir and generation infrastructure in rural Mozambique.

**NatureTour App** – business startup investigator for a mobile trail mapping and citizen science platform. Activities included potential customer identification and validation, technology research and prototype development. The idea was to aggregate existing observations and photographs of nature for outdoor enthusiasts and professionals to use in tour planning, touring and field work, as well as facilitate capture of new observations for social network sharing and optional submission for citizen science or environmental monitoring. Potential customers included tourism destinations (with tourists and community members as the end users) and environmental non-profits (with volunteers, donors and field staff as the end users).

**Nunatsiavut Government (NG) Information Systems Scoping** – information systems consultant for an enterprise systems scoping report for NG's (<http://www.nunatsiavut.com/>) Lands and Natural Resources Department, including an inventory of existing and needed business functions, data and applications, and an evaluation of technical architecture options for an integrated information system. The architecture incorporated existing studies and future opportunities for traditional, local and other expert knowledge.

**Linkage Mapper Connectivity Tools** – ArcGIS Python tool developer enhancing the Linkage Mapper tools (<http://www.circuitscape.org/linkagemapper>) for use by the Conservation Biology Institute (<http://consbio.org/>) and their client Sonoma County Agricultural Preservation and Open Space District. Model outputs helped identify preferred locations for conservation action, such as easements on private lands, to facilitate movement of biodiversity between existing nature reserves.

**CBFA Newfoundland Regional Working Group (NRWG) Protected Areas Planning** – GIS contractor for the implementation on the Island of Newfoundland of this historic nation-wide agreement between forest companies and environmental organizations (<http://cbfa-efbc.ca/>). The role involved using input from the NRWG, as well local, traditional and other expert knowledge, to design, develop and run a series of multi-scale GIS-based models using BEACONS and other tools for conservation prioritization. Model outputs helped identify opportunities for Corner Brook Pulp and Paper Limited to contribute to conservation from forests under their control, and resulted in long-term protection from forest harvesting in numerous areas of high ecological value.

**Too Big To Ignore** – Senior Information Systems Analyst for this international research network and knowledge mobilization partnership to promote and revitalize small-scale fisheries. The role involved design, development and staff/contractor management for the web-based Information System on Small-scale Fisheries (<http://issf.toobigtoignore.net>), which features crowdsourced data collection, interactive mapping and querying/reporting tools.

**NAACAP Regional Watershed Management and Drinking Water Quality** – GIS and remote sensing consultant for this Northeast Avalon Atlantic Coastal Action Plan (<http://www.naacap.ca/>) project to assist municipalities integrate best practices related to drinking water. The work covered the entire 1000 km<sup>2</sup> region and included supervision of a remote sensing analyst. Analyses included generating watershed boundaries at

multiple scales, assessing landscape intactness, and delineating land cover. Mapping also included hydrology, protected water supplies areas, municipal boundaries, elevation and high-resolution aerial photography.

**NCC Labrador Conservation Blueprint** – GIS analyst for the development of a Labrador-wide high-level conservation plan and the publication of the Labrador Nature Atlas ([Volume 1](#), [Volume 2](#)). Subcomponents included ecological land units (enduring features) classification, human-footprint analysis and land-cover data consolidation. Data integration and scenario analysis were performed at multiple scales and included identification and prioritization of large potential protected areas using R-based BEACONS tools (<http://www.beaconsproject.ca/>), gap analysis for representation of key ecological attributes to drive identification and prioritization of mid-sized potential protected areas, and identification of smaller sites containing rare communities or other special features.

**Newfoundland and Labrador Nature Atlas** – GIS analyst for the creation of web-based GIS tools for sharing the work of NCC’s Labrador Conservation Blueprint. This involved coordinating a Request for Proposals to select a web-based GIS development partner (resulting in the selection of Integrated Informatics), exploring opportunities for system hosting (resulting in a partnership with the Environmental Policy Institute of Memorial University’s Grenfell Campus), and drafting, uploading and styling GIS data and textual content for the site.

**Islands Trust Regional Conservation Plan** – GIS analyst and software developer for the development of a long-term conservation plan for Islands Trust (<http://islandstrust.bc.ca>). Approach based on the Landscape Decision Support Tools (<http://landscapecollaborative.org/>) with ArcGIS geoprocessing customized using ModelBuilder and Python scripting.

**NCC/CPAWS Intact Landscapes and Woodland Caribou Habitat Study** – GIS analyst and report co-author for a study to derive intactness from Newfoundland forest and landscape classification data, characterize it across various natural and administrative regions, compare it with other available intactness datasets, and compare it with Woodland Caribou occupancy data.

**NCC Central Newfoundland Natural Area Conservation Plan** – GIS analyst for the development of a 5-year regional plan to identify biodiversity targets and threats, and prioritize NCC’s property acquisition and stewardship actions.

**NCC Property Mapping** – cartographer supporting all aspects of property acquisition and management, including prospect investigation, boundary identification (surveyed and estimated), fund raising, stewardship and field work.

**Pippy Park Wall Maps and Guide Book Maps** – cartographer for the development and production of various maps for large-format wall printing and for inclusion in a new park guide (<http://www.pippypark.com/>).

**NCC Grassy Place Expedition** – team member, photographer and cartographer for a 2-week wilderness expedition to undertake biological inventorying of a remote, newly-acquired ~4000-acre NCC property in Southwest Newfoundland.

**NCC Land Securement in *The Gully*, Torbay** – conservation representative for the development and execution of a land-owner contact program leading to acquisition of ecologically-sensitive property in this municipal wetland.

**“Biscan Cove Path”, “The Cobbler Path” and “Middle Cove Path” Hiking Trail Maps** – map technician for production of 1:25,000 maps of these upgraded sections of the East Coast Trail (<http://eastcoasttrail.ca>). The

maps were professionally printed on a waterproof material, and included historical and cultural site names and descriptions, and elevation profiles.

**ICAN Report Server** – project manager and lead software engineer for an integrated product that provides formatted reports of data collected and stored by ICAN's other products (<http://www.icanmarine.com>). It consists of a Windows application used by ICAN staff or expert end-users to create report templates, and a Web application for end-users to select a report, specify search criteria, and view/save/print the output. Tools included C# and DevExpress XtraReports.

**ICAN DLP** – project manager and lead software engineer for Data Logging and Playback within ICAN's next generation suite of products. DLP is a central component of Automatic Identification System (AIS) infrastructure, providing recording, search and replay of recorded surveillance data. It also facilitates reports and statistics on the state of the AIS network and marine traffic. Activities included requirements analysis, database design (with initial deployment on SQL Server and architecture to support other databases including Oracle and MySQL), and C# programming.

**ICAN Chart Server** – project manager and lead software engineer for a server-based product that accepts XML requests for navigation charts over TCP, and returns the charts as images with corresponding metadata.

**ICAN Demonstration Plotter** – C# developer for a demonstration 2D and 3D chart/plotter product using ICAN's next generation technology. Responsible for a variety of components, including multi-scale raster chart display engine (initially implemented with NASA's blue marble dataset), points of interest, place names, communications management, settings management and user interface.

**ICAN Foundation Classes** – ongoing research and foundation class development in support of ICAN's next generation software. This was a significant milestone for ICAN as it was the base for development using new tools (Visual Studio .NET) and a new language (C#).

**ICAN Georeferencing Utility** – designed and developed a utility for customers to georeference and transform any digital image into a raster map that can be used with ICAN's electronic charting systems. Tools included C# and the gdal library.

**S-57 Encoding Guide** – analysis, design and development of a database to assist electronic chart production teams in the US and Europe communicate and implement encoding standards. Tools included Microsoft Access, Visual Studio .NET and Crystal Reports.

**ICAN Regulus and Aldebaran Electronic Charting Systems** – senior member of the team responsible for requirements and design for ICAN's marine navigation software products. They are used as a bridge display system for general navigation including route planning/monitoring, situation awareness and collision avoidance. They also provide operational support for surveillance, fishing, buoy tending, surveying and many other marine duties. Projects include customer-specific enhancements and general product improvements.

**ICAN AIS Router** – project manager for the design and development of this cross-platform networking software, which is typically used to move navigation and safety information from AIS shore stations to vessel traffic centres, port authorities, remote owners/managers, and monitoring agencies. Originally developed as a customer-specific solution, this technology formed the base of ICAN's DataSwitch product.

**ICAN Relocation** – coordinator for ICAN's premises move with responsibility for real estate search, landlord negotiations, architectural specifications, legal agreements, and vendor coordination for renovations, furniture, communication systems and moving.



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**ICAN Investor Business Plan** – major contributor and document editor/coordinator for ICAN's business plan, which resulted in a seven-figure capital infusion.

**ICAN GAPP** – project manager for enhancements to GAPP, a software product used by Canadian Coast Guard for statistical recording and analysis of the position information generated by Canada's Differential Global Positioning System (DGPS) infrastructure.

**ICAN Nav Aids Module** – process analyst and project manager for the investigation and design of this product add-on that facilitates management and accurate placement of marine aids to navigation, replacing paper-based recordkeeping systems.

**ICAN Accounting Systems** – business process analyst for the selection, rollout and training for a multi-user accounting system using QuickBooks Pro.

**Canadian Coast Guard Y2K Readiness** – systems analyst and

**ICAN Integrated Information Systems** – manager of the team responsible for design, development and administration of ICAN's business information systems and computer network. Supported business functions included Timekeeping, Inventory Management, Product Management, Bug Tracking, Customer Support, Product Development, Software Package Production and Human Resource Management, among others. Keys tools include SQL Server, Exchange, Visual Basic, Access and Outlook.

**Tickle View Farms Business Plan** – consultant and financial model developer for a business plan to farm, process and market peppermint tea.

**Equipment Maintenance System** – senior technical analyst responsible for design, development and enhancement of a Visual Basic 5 three-tier object-oriented framework for database applications. The framework aided code standardization, re-use and ease of maintenance.

**Highway Maintenance Management System** – systems analyst responsible for design, development and implementation of the system to standardize, plan and monitor maintenance of Newfoundland's highways. Tools included Citrix Winframe, Visual Basic, Access, Crystal Reports and EasyER.

**Street Guide** – Visual Basic programmer for an application to manage the location of telephone numbers, customers and telecommunications infrastructure.

**Tourism Destination Management System** – senior programmer on this call centre and reservations application. Also served as Systems Analyst for maintenance and enhancements after implementation. Tools included Oracle, SQLWindows, Visual Basic, Crystal Reports, Internet Information Server and Active Server Pages.

**Out of Province Claims System** – database designer and SQLWindows programmer for the financial system that controls accounts receivable and accounts payable for healthcare services that are provided outside the patient's home province.

**SoftChart Production Management** – Access database designer and developer for an application to help manage workflow, staff and data in the production of electronic marine navigation charts.

**Healthcare Financial Collection and Editing** – application developer for a system that collects, checks, aggregates and reports monthly financial details for all healthcare facilities in the province. Complex batch edit checks were programmed using a combination of procedural code and SQL.



**Communicable Disease Control Application** – SQLWindows programmer and Building Blocks class library expert for system to register, cross-reference and report on all known cases of communicable diseases. Included substantial security and confidentiality requirements.

**How Does Your Garden Grow? Accounting Systems** – systems analyst for the selection, rollout and training for an integrated accounting system using QuickBooks Pro.

**C&W Industrial Quotation and Invoicing Application** – analyst and developer for a Lotus Approach database application to augment existing accounting and financial information system.

**Personal Care Homes System** – dBase IV programmer responsible for enhancements to a data collection and reporting application used in the management of subsidized seniors' homes.

**Facility Profile Application** – SQLWindows programmer and SQLBase database administrator for a client/server application that provides basic information and summary statistics about all healthcare facilities in the province.

**Mineral Rights System** – Clipper programmer for a major enhancement of an application that registers claims and monitors expenditure requirements for mineral exploration claim blocks.

**Education Facilities Planning** – SAS developer for a financial analysis model for school capital improvements and/or replacement.

### *Academic Projects*

**Addressing Accessibility Challenges of GIS-based Multiple Criteria Decision Analysis for Integrated Land Management: Case study in the Humber region of Newfoundland, Canada** – MSc thesis project investigating information support for land management decisions using Geographic Information Systems (GIS) and Multiple Criteria Decision Analysis (MCDA). A case study group of Humber region land managers representing various perspectives was assembled and GIS data representing their concerns was collected. The Multiple Criteria Decision Analysis System software tool was developed and integrated to support the exploration, structuring, and evaluation of decision scenarios (<http://research.library.mun.ca/9520/>).

**GIS-based Multiple Criteria Decision Analysis: State of the field** – Geography 6002 term report

**Case Study Methodology: Annotated bibliography** – Geography 6001 report

**Forest Biomass Estimation using GIS and Geographically Weighted Regression** – Geography 6120 term project

**Trace the Fact: Spatial autocorrelation** – Geography 6000 report

**Comparative DEM Analysis and Boolean MCE Analysis in GIS** – Geography 3260 term project

**Migration and Colonization: Newfoundland's Population in 1768** – Geography 3620 term project

**Simulation of an ATM Queue for making service recommendations** – Business 7400 term project

**Options and Futures Analysis** – Business 7170 term project

**Business Plan for a Golf Course and Real Estate Development** – Business 7030 term project

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**Integer Programming Optimization Application** – Business 6400 term project

**Investment Game** – Business 6140 term project

### ***Conference and Workshop Attendance***

**Climate Change Impacts Workshop**, Town of Conception Bay South, NL, December 2018

**Beaufort Sea Partnership**, Inuvik, NT, October 2018

**Arctic Shipping Forum**, St. John's, NL, October 2018

**Coastal Zones Canada**, St. John's, NL, July 2018

**Aquatic Habitat Planning Workshop**, Department of Fisheries and Oceans and Marine Institute, Clarenville, NL, March 2018

**Aquatic Habitat Restoration Workshop**, ACAP Humber Arm, St. John's, NL, March 2018

**Geomatics Atlantic**, St. John's, NL, November 2017

**Esri Regional User Conference**, St. John's, NL, November 2017, November 2016, November 2012, November 2011, November 2010, November 2009, November 2007

**Newleef Green Economy Conference**, Newfoundland and Labrador Environmental Industries Association, St. John's, NL, October 2017, October 2015

**Canadian Institute of Geomatics Conservation GIS Workshop**, St. John's, NL, June 2017

**Esri Geodesign Summit**, Redlands, CA, January 2017

**Canadian Boreal Forest Agreement Newfoundland Regional Working Group**, Corner Brook, NL, December 2016, November 2016, October 2016, May 2016, April 2016, March 2016, February 2016, January 2016, November 2015, September 2015, June 2015, April 2015, February 2015, October 2014, June 2014, January 2014, November 2013, October 2013, July 2013

**Esri Regional User Conference**, St. John's, NL, November 2016, November 2012, November 2011, November 2010, November 2009, November 2007

**Canadian Institute of Geomatics NL Annual General Meeting**, St. John's, NL, November 2016, September 2015

**International Marine Conservation Congress**, St. John's, NL, July 2016.

**Citizen Science Focus Group**, <http://nlnature.com/>, St. John's, NL, September 2015

**Protected Areas Forum**, Canadian Parks and Wilderness Society, St. John's, NL, May 2015

**StartupNL Pitch Events**, St. John's, NL, May 2015, December 2014

**Marine Protected Areas Workshop**, Memorial University of Newfoundland, St. John's, NL, March 2015

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**2<sup>nd</sup> World Small-scale Fisheries Congress**, Merida, Mexico, September 2014

**Too Big To Ignore Working Group 1**, Tiburon, CA, February 2014

**Development of Well-being and Sustainability in Small-scale Fisheries**, Centre for Economic and Social Studies, Hyderabad, India, December 2013

**CoastGIS**, Victoria, BC, June 2013

**Too Big To Ignore Working Group 1**, Vancouver, BC, June 2013

**NCC 50<sup>th</sup> Anniversary Retreat**, Niagara, ON, November 2012

**Newfoundland and Labrador Environment Network Annual General Meeting**, St. John's, NL, November 2012

**Ducks Unlimited Canada Wetland Policy Workshop**, St. John's, NL, October 2012

**Newfoundland and Labrador Species at Risk Stewardship and Education Workshop**, St. John's, NL, October 2012

**Voices from the Land** (environmental education workshop), St. John's and Torbay, NL, September 2011

**Newfoundland and Labrador Species at Risk Stewardship and Education Workshop**, Corner Brook, NL, April 2011

**Newfoundland and Labrador Environment Network Annual General Meeting and Conference**, St. John's, NL, April 2011

**Newfoundland and Labrador Environment Network Funding Workshop**, St. John's, NL, March 2011

**ESRI International User Conference**, San Diego, CA, July 2010

**Society for Conservation GIS**, Monterey, CA, July 2010

**Traditional Use Map Biography Seminar** (with Terry Tobias), St. John's, NL, April 2010

**Aldrich Interdisciplinary Conference**, St. John's, NL, March 2010

**GIS Day**, St. John's, NL, March 2010

**Humber River Basin Project Workshop**, Corner Brook, NL, February 2010

**International Symposium on Spatial Data Quality**, St. John's, NL, July 2009

**GIS Day**, St. John's, NL, March 2009

**Humber River Basin Project Workshop**, Corner Brook, NL, October 2008

**Geomatics Atlantic**, St. John's, NL, June 2007

**Newfoundland and Labrador Marine Show**, St. John's, NL, 2004, 2003, 2002

**Canadian Centre for Marine Communications Showcase**, St. John's, NL, 2001

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**Gupta Software Developers' Conference**, Palm Springs, CA, June 1995

### ***Oral and Poster Presentations***

**Environmental Policy Institute and Humber Natural History Society**, Corner Brook, NL, November 2018 – “Coastal Restoration Planning in Newfoundland and Labrador: Identification and Prioritization of Sites”, public presentation

**Nature Newfoundland and Labrador**, St. John's, NL, September 2018 – “Coastal Restoration Planning in Newfoundland and Labrador: Identification and Prioritization of Sites”, public presentation

**Coastal Zones Canada**, St. John's, NL, July 2018 – “Coastal Restoration Planning in Newfoundland and Labrador: Identification and Prioritization of Sites”, conference presentation

**Geomatics Atlantic**, St. John's, NL, November 2017 – “Delineating the Human Footprint for Conservation Planning (and other applications)”, conference presentation

**Geomatics Atlantic**, St. John's, NL, November 2017 – “We Can't Afford Not To: Exploring geographic information applications for small communities”, conference presentation co-author

**Canadian Institute of Geomatics Conservation GIS Workshop**, St. John's, NL, June 2017 – “Conservation Prioritization using Multi-Criteria Overlay in QGIS”, workshop presentation

**Conservation Biology Senior Undergraduate Lectures**, St. John's, NL, November 2017, November 2016, November 2015, November 2014, March 2014, March 2013 – “Using GIS to Guide Conservation Planning”, guest lectures

**Cartography Senior Undergraduate Lectures**, St. John's, NL, December 2015 (guest lecturer), January 2015 (guest lecturer), November 2014 (guest lecturer), Winter 2014 (course instructor), Fall 2011 (course instructor), Winter 2010 (guest lecturer)

**Geomatics Atlantic**, St. John's, NL, November 2014 – “Putting Small-scale Fisheries on the Map”, conference presentation co-author

**Geomatics Atlantic**, St. John's, NL, November 2014 – “Use of Intact Landscapes by Woodland Caribou on the Island of Newfoundland”, conference presentation co-author

**2<sup>nd</sup> World Small-scale Fisheries Congress**, Merida, Mexico, September 2014 – “Information System on Small-scale Fisheries”, user training and feedback sessions

**Too Big To Ignore Working Group 1**, Vancouver, BC, June 2013 – “Information System on Small-scale Fisheries”, professional presentation

**Labrador Conservation Blueprint Core Team Meetings**, Goose Bay, NL, March 2013 – “Representation Analysis”, “Rare and Special Species and Habitats”, “Overall Conservation Importance”, professional presentations

**Labrador Conservation Blueprint Core Team Meetings**, Goose Bay, NL, September 2012 – “Consolidated Land Cover”, “Conservation Prioritization”, professional presentations

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**Connectivity Working Group**, St. John's, NL, May 2012 – “Using Forest Resource Inventory to Measure Intactness on the Island of Newfoundland”, professional presentation

**Labrador Conservation Blueprint Core Team Meetings**, Goose Bay, NL, February 2012 – “Identifying and Prioritizing Large Conservation Benchmark Areas in Labrador Using BEACONS Tools”, professional presentation

**Labrador Conservation Blueprint Core Team Meetings**, Goose Bay, NL, November 2011 – “Labrador Human Footprint Index”, professional presentation

**Newfoundland and Labrador Species at Risk Stewardship and Education Workshop**, Corner Brook, NL, April 2011 – “Data Collection by Volunteers”, workshop presentation

**Torbay Gully Land Owners Meeting**, Torbay, NL, March 2011 – “NCC Land Acquisition Options”, professional presentation

**Landscape Collaborative Community**, November 2010 – “Normalization in GIS-based Multiple Criteria Decision Analysis”, webinar presentation to online community

**Society for Conservation GIS**, Monterey, July 2010 – “A GIS-based Multiple Criteria Approach to Integrated Land Management Decision Analysis: Case study in the Humber region of Newfoundland, Canada”, conference presentation and poster

**Aldrich Interdisciplinary Conference**, Memorial University of Newfoundland, March 2010 – “A GIS-based Multiple Criteria Approach to Integrated Land Management Decision Analysis: Case study in the Humber region of Newfoundland, Canada”, conference presentation

**GIS Day**, Memorial University, March 2010 – “Multiple Criteria Decision Analysis System”, software demonstration

**Humber River Basin Research Workshop**, Sir Wilfred Grenfell College, Corner Brook, NL, February 2010 – “A GIS-based Multiple Criteria Approach to Integrated Land Management Decision Analysis: Case study in the Humber region of Newfoundland, Canada”, workshop poster

**Department of Geography**, Memorial University, February 2010 – “More than Coincidence: Supporting Land Management Decision Making with GIS”, blue box seminar on thesis project results

**Canadian Forest Service**, Natural Resources Canada, Corner Brook, NL, December 2009 – “More than Coincidence: Supporting Land Management Decision Making with GIS”, thesis project presentation

**ESRI Regional User Conference**, St. John's, NL, November 2009 – “More than Coincidence: Supporting Land Management Decision Making with GIS”, thesis project Phase 1 presentation

**Department of Geography**, Memorial University, April 2009 – “A GIS-based Multiple Criteria Approach to Land Management Decision Making in the Humber River Basin”, thesis proposal presentation

**GIS Day**, Memorial University, March 2009 – “Introduction to GIS for high school students”, software demonstration and interactive exercise

Geography 6001 **research methods presentation**, March 2009 – “Case Study Methodology: Annotated bibliography”

Geography 6000 **technology show and tell**, November 2008 – “Sieve Mapping”

**Humber River Basin Research Workshop**, Sir Wilfred Grenfell College, Corner Brook, NL, October 2008 – “A GIS-based Multiple Criteria Approach to Land Management Decision Making in the Humber River Basin”, thesis project overview presentation

Geography 6120 **weekly class presentations**, Fall 2008 – various spatial analysis topics

**QPS and HITT**, The Netherlands, September 2006 – “ICAN’s Next Generation Software Architecture and Prototypes”, professional presentations

**ICAN**, St. John’s, NL, 2006-2008 – “ICAN’s Next Generation Software Architecture and Prototypes”, professional presentations

**St. John’s .NET Developers’ Group**, November 2005 – “Managing Settings in .NET”, educational presentation

**St. John’s .NET Developers’ Group**, September 2004 – “To Port or Not To Port”, overview presentation of ICAN’s marine navigation and surveillance software, and discussion of options and issues for porting to or re-writing for .NET

**ICAN**, St. John’s, NL, 2002-2008 – “Structured Query Language”, internal educational presentations

**ICAN**, St. John’s, NL, 1998-2005 – “Internal Information Systems”, internal educational presentations

**Newtel Information Solutions**, St. John’s, NL, 1997 – “Hardware Replacement Strategy for Software Development Workstations”, presentation to company leaders

## ***Publications***

Greene, R., Bradstreet, M., Macdonald, C., Notzl, L. (2019). “Southeastern Beaufort Sea Natural Area Conservation Plan”, prepared for the Nature Conservancy of Canada.

Greene, R., Bradstreet, M., Macdonald, C., Notzl, L. (2018). “Tallurutiup Imanga Natural Area Conservation Plan”, prepared for the Nature Conservancy of Canada.

Gallo, J., Greene, R. (2018). “Connectivity Analysis Software for Estimating Linkage Priority: A User Guide for the Linkage Priority Tool of the Linkage Mapper Toolbox”, prepared for the Conservation Biology Institute.

Greene, R. (2018). “Coastal Restoration Fund – Newfoundland and Labrador Project Report 2: Proposed Site Prioritization Approach, Capelin Spawning Sites Mapping, Data Acquisition Gap Analysis”, prepared for World Wildlife Fund Canada.

Greene, R. (2018). “Options and Recommendations for an Online Spatial Data Exploration Platform for the WWF-Canada Coastal Restoration Fund project”, prepared for World Wildlife Fund Canada.

Chuenpagdee, R., Rocklin, D., Bishop, D., Hynes, M., Greene, R., Lorenzi, M.R., Devillers, R. (2017). “The global information system on small-scale fisheries (ISSF): A crowdsourced knowledge platform”, Marine Policy, IN PRESS (<http://dx.doi.org/10.1016/j.marpol.2017.06.018>).

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- Greene, R. (2017). "Technical Background for Joint Agreement on CBPPL Voluntary Protected Areas", prepared for the CBFA Newfoundland Regional Working Group.
- Greene, R., Lisgo, K. (2015). "Benchmark Potential on the Island of Newfoundland", prepared for the CBFA Newfoundland Regional Working Group.
- Lisgo, K., Greene, R. (2015). "Proposed Goals and Protected Area Objectives and Targets for Conservation Features of Interest", prepared for the CBFA Newfoundland Regional Working Group.
- Greene, R. (2014). Land Cover Dataset Background, prepared for the CBFA Newfoundland Regional Working Group.
- Greene, R. (2014). Water Edge Density Background, prepared for the CBFA Newfoundland Regional Working Group.
- Greene, R., Devillers, R., Chuenpagdee, R. (2014). "Putting Small-scale Fisheries on the Map", Geomatics Atlantic, St. John's, NL, November 2014, abstract in conference proceedings.
- Goudie, I., Greene, R., Feldgajer, J. (2014). "Use of Intact Landscape by Woodland Caribou on the Island of Newfoundland", Geomatics Atlantic, St. John's, NL, November 2014, abstract in conference proceedings.
- Greene, R., Lisgo, K. (2014). "Benchmark Constraint Analysis". Prepared for the CBFA Newfoundland Regional Working Group.
- Greene, R., Fernandez, R. (2013), "Watershed Mapping for the Northeast Avalon", in Edinger, E., Hermanutz, L., Profiling Regional Watershed Management on the Northeast Avalon: Integrating Practices for Drinking Water Quality, prepared for Northeast Avalon Atlantic Coastal Action Plan and The Harris Centre ([https://www.mun.ca/harriscentre/reports/arf/2012/Edinger\\_Hermanutz\\_Water\\_12\\_13\\_Final.pdf](https://www.mun.ca/harriscentre/reports/arf/2012/Edinger_Hermanutz_Water_12_13_Final.pdf)).
- Notzl, L., Greene, R., Riley, J.L. (2013). "Labrador Nature Atlas, Volume One", Nature Conservancy of Canada, ISBN 9781897386293 (<http://support.natureconservancy.ca/pdf/blueprints/Labrador-Nature-Atlas-Vol1.pdf>).
- Riley, J.L., Notzl, L., Greene, R. (2013). "Labrador Nature Atlas, Volume Two: Ecozones, Ecoregions and Ecodistricts", Nature Conservancy of Canada, ISBN 9781897386293 (<http://support.natureconservancy.ca/pdf/blueprints/Labrador-Nature-Atlas-Vol2.pdf>).
- Greene, R., Devillers, R., Luther, J.E., Eddy, B. (2011). "GIS-based Multiple Criteria Decision Analysis (MCDA)", Geography Compass 5(6), 412-432 (<http://dx.doi.org/10.1111/j.1749-8198.2011.00431.x>).
- Greene, R., Luther, J.E., Devillers, R., Eddy, B. (2010). "An approach to GIS-based multiple criteria decision analysis that integrates exploration and evaluation phases: Case study in a forest-dominated landscape", Forest Ecology and Management 260(12), 2102-2114 (<http://dx.doi.org/10.1016/j.foreco.2010.08.052>).
- Greene, R. (2010). "A GIS-based Multiple Criteria Approach to Integrated Land Management Decision Analysis: Case study in the Humber region of Newfoundland, Canada", Society for Conservation GIS Annual Conference, Monterey, CA, July 2010, abstract in conference proceedings.
- Greene, R. (2010). "A GIS-based Multiple Criteria Approach to Integrated Land Management Decision Analysis: Case study in the Humber region of Newfoundland, Canada", Aldrich Interdisciplinary Conference, Memorial University of Newfoundland, St. John's, NL, March 2010, abstract in conference proceedings.
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Greene, R., Devillers, R., Luther, J.E., Eddy, B. (2009). "More than Coincidence: Supporting Land Management Decision Making with GIS", ESRI Regional User Conference, St. John's, NL, November 2009, abstract in conference proceedings.

Greene, R. (2008). "A GIS-based Multiple Criteria Approach to Land Management Decision Making in the Humber River Basin", Humber River Basin Research Workshop, Sir Wilfred Grenfell College, Corner Brook, NL, October 2008, abstract in conference proceedings.

### ***Academic Scholarships, Awards and Research Support***

**Fellow of the School of Graduate Studies** – MSc studies

**ESRI Canada scholarship** – MSc studies

**MITACS Accelerate internship** – MSc thesis project

**Institute for Biodiversity, Ecosystem Science and Sustainability funding** – MSc thesis project

**Humber River Basin Project funding** – MSc thesis project

**School of Graduate Studies funding** – MSc studies

**Faculty of Business Administration Honours award** – BComm studies

**Financial Management Association National Honours Society** – BComm studies

**Faculty of Arts Deans List** – first year university studies

**Centenary of Responsible Government scholarship** – first year university studies

**Noel Sparrow Award for Academic Excellence** – grade 9 studies

### ***Training***

**Various Spatial Analysis and Data Management Webinars** – Conservation Biology Institute, Society for Conservation GIS, DataOne, Canadian Institute of Geomatics, etc.

**Open Standards for the Practice of Conservation** (self-paced tutorial) – Conservation Measures Partnership

**Moving to the Cloud** (online self-paced course) – Coursera / University of Melbourne

**Mentoring Master Class** – Mary Jane Copps, through Futurpreneur Canada and TD Bank

**Maxent** (self-paced tutorial) – AT&T Research

**Species Data Use Training** (self-paced tutorial) – NatureServe

**GeoPlanner Workshop** – Esri

**CityEngine Workshop** – Esri

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**Marxan with Zones** – Pacific Marine Analysis and Research Association

**Competitive Strategy** (online self-paced course) – Coursera / Ludwig Maximilians Universitat

**Information Architecture** (self-study) – O'Reilly

**New Models of Business in Society** (online self-paced course) – Coursera / University of Virginia

**Technology Commercialization Workshop** – Concordia Ventures, organized by Oceans Advance and NATI

**Smart Growth** (online self-paced course) – Coursera / University of Virginia

**Lean Startup** (self-study) – Eric Reis

**PostGIS** (online self-paced course) – Boundless Geo

**Python Scripting for Map Automation in ArcGIS 10** (online self-paced course) – ESRI

**Fundraising and Philanthropy** – Nature Conservancy of Canada

**Exploring Spatial Patterns in Your Data Using ArcGIS 10** (online self-paced course) – ESRI

**Editing in ArcGIS Desktop 10** (online self-paced course) – ESRI

**Performing Analysis with ArcGIS Desktop** – ESRI Canada

**Wilderness and Remote First Aid** – Pretty SAFE Enterprises

**Land Information System** – Nature Conservancy of Canada

**ArcGIS Desktop III: GIS Workflows and Analysis** – ESRI Canada

**Protected Area Tools for Marxan and ArcGIS** – The Nature Conservancy

**Marxan Tutorials and Good Practices** (self-paced) – University of Queensland

**Spatial Analysis Workbook** (self-paced) – ESRI

**Intellectual Property, Patents and Trademarks** – MITACS STEP

**Effective Networking** – MITACS STEP

**Using and Managing a Web-based GIS** – ESRI Canada

**Fundamentals of the Geodatabase** – ESRI Canada

**IDRISI** (self-paced) – Clark Labs

**Graduate Research Integrity Program** – Memorial University of Newfoundland

**First Aid** – St. John Ambulance

**Introduction to Microsoft Project** – Nexient Learning Centres

**Programming with C#** – IEEE Online Training

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**Visual Studio .NET Introduction** – SmartCertify Direct

**Dealing with Difficult People** – Fred Pryor Seminars

**Microsoft Access Developer's Guide to SQL Server** (self-study) – SAMS

**Structured Query Language** – ICAN Internal (developed and presented this course)

**Advanced Visual Basic 5** – IRIS Software

**Business Systems Analysis and Design** – Peopleware Technologies

**Object Oriented Analysis** – IMSIG

**Advanced Structured Query Language** – American Management Systems

**Project Management & Team Building** – Andersen Consulting

**Graphical User Interface Design** – Corporate Computing

**SQLWindows Performance by Example** – Gupta

**Introduction to ClassIQ class library for SQLWindows** – Metex

**Advanced SQLWindows** (Building Blocks class library) – FrontEnd Systems

**Introduction to SQLWindows** (video) – Gupta (also facilitated this course)

**Introduction to SQLWindows** – SQLTechnologies

**Application Developers Workbench** – Ernst and Young

**Introduction to Local Area Networks** – Memorial University Continuing Studies

**Management of Desktop Publishing** – Memorial University Continuing Studies

**IBM Mainframe Tools Training** – Newfoundland and Labrador Computer Services

## ***Software Development Tools, Languages and Platforms***

**CityEngine**

**SketchUp**

**TileMill/MapBox**

**Django web development framework**

**Leaflet web-mapping library**

**JavaScript**

**PostgreSQL/PostGIS**

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**PyCharm**

**PHP**

**R**

**arcpy**

**Python**

**ArcObjects**

**DevExpress**

**ArcGIS ModelBuilder**

**C++**

**gdal**

**C#**

**Microsoft SQL Server**

**Oracle DBMS**

**ERWin**

**Crystal Reports**

**Visual Basic**

**Microsoft Visual Studio**

**Lotus Approach**

**Visual Basic for Applications**

**Microsoft Access**

**Gupta SQLWindows**

**Gupta SQLBase**

**Structured Query Language**

**SAS**

**Focus**

**COBOL**

**Clipper**

**dBase**

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**Simscrip**

**Pascal**

**Basic**

***Web Content, Team Collaboration and Project Management Tools and Platforms***

**Slack**

**Survey123**

**Google Forms**

**Miradi and Miradi Share**

**Doodle**

**GitKraken**

**Trello**

**eSurv.org**

**Microsoft OneDrive**

**Google Docs and Sheets**

**GitHub**

**Atlassian BitBucket**

**Git**

**WooThemes for WordPress**

**WordPress**

**Sawtooth**

**HelpNDoc**

**DataBasin**

**ArcGIS Online**

**ArcGIS Server**

**Google Drive**

**PBWorks**

**Dropbox**

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**Atlassian Confluence**

**Subversion**

**Atlassian Jira**

**Microsoft Visual Source Safe**

**Microsoft Project**

### ***Memberships***

**Common Ground** – co-working member

**Canadian Institute of Geomatics** – member and regular attendee of presentations

**NL Nature** – user and contributor of nature observations on this online citizen science community

**Society for Conservation GIS** – member

**Open Forum on Participatory GIS** – member

**Royal Canadian Geographical Society** – member

**Wildflower Society** – member

**Nature Newfoundland and Labrador (formerly the Natural History Society)** – member and regular attendee of presentations

**Newfoundland and Labrador Historical Society** – member and regular attendee of presentations

**East Coast Trail Association** – member

**The Works Fitness Centre** – member

**Newfoundland and Labrador Beekeeping Association** – former member

**Society for Conservation Biology** – former member

**International Appalachian Trail, Newfoundland and Labrador Chapter** – former member

**The Landscape Collaborative** – former member and volunteer development coordinator

**IEEE** – former Geoscience Society and Computer Society member

**Canadian Association of Geographers** – former member

**St. John's .NET Developers' Group** – former participant and occasional presenter

**Squash Newfoundland and Labrador** – former member and regular tournament participant

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## *Volunteering*

**Canadian Species Data Modelling Working Group** – member of peer support and learning group of experts in spatial data management and analyses related to species occurrences and ranges

**Futurpreneur Canada** – business mentor for entrepreneurs leading startups

**Canadian Institute of Geomatics** – vice-chair of the Newfoundland and Labrador branch; chair of organizing committee for Conservation GIS Workshop 2017; member of organizing committee for Geomatics Atlantic 2017 and 2014 conferences

**Heart and Stroke Foundation** – canvasser

**Elsevier and Wiley Interscience** – peer reviewer for international journals including Geography Compass, Biological Conservation and Land Use Policy

**Science Gossip** – citizen science volunteer, classifying figures and illustrations from Victorian-era science periodicals for this Zooniverse project

**Association for New Canadians** – mentor providing informal assistance with language skills, job searching and local familiarization for recent immigrants

**Newfoundland and Labrador Environment Network** – former steering committee member

**City of St. John's** – former environmental advisory committee member

**Landscape Collaborative** – former development coordinator

**GIS Day** – display booth organizer and presenter

**The Works Squash League** – former co-organizer

**Junior Squash** – former coaching assistant