

# PAOLA VINCENT

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pvincent@feaverslane.com | (709)749-1949 | Petty Harbour, NL | April 2023

## SPATIAL ANALYSIS & CONSERVATION PLANNING

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- **Fine-scale Water Temperature and Level Monitoring:** Currently working with Freshwater-Alexander Bays Ecosystem Corporation supporting water monitoring in the Terra Nova River watershed to identify areas of concern for fish passage and habitat. Initial spatial screening was conducted to identify suitable temperature logger deployment. Ongoing support to convert field data into a comprehensive online map and information resource.
- **Community Coastal Resource Inventory:** Supervising and providing technical leadership for marine and coastal citizen science data collection using interviews and online maps. The information will be used by Fisheries and Oceans Canada and made publicly available to support ecosystem-based management.
- **Aquatic Connectivity Analysis:** Pilot analysis and report with Ontario Waterways (ONW) of Parks Canada based on an ArcGIS workflow using a customized version of an Aquatic Connectivity Tool. The tool is used to prioritize aquatic barriers (e.g., culverts, dams, etc.), to mitigate or remediate to restore passage for aquatic organisms. The tool customization included script edits and additional metrics to support ONW management questions.
- **Labrador Protected Areas Species Distribution and Habitat Modelling:** Research and analysis with Nature Conservancy of Canada of caribou GPS collar data including modelling seasonal habitat use densities in R. Habitat modelling for other threatened or at-risk species using MAXENT (the predicted probability of presence) and multi-criteria overlay.
- **Pink Footed Shearwater and Marbled Murrelet Distribution:** GIS and modelling support for the processing of environmental predictors used in GAM and MAXENT models to identify critical marine habitats for two globally threatened seabird species. Also provided support on the use of Landscape Metrics (originally FRAGSTATS) and specific metric selection for modelling. The project led by Canadian Wildlife Service was centred on understanding the spatial distribution and delineating critical habitat for species-at-risk management.
- **GIS-based Connectivity Framework:** Research, development, and piloting of a flexible framework to provide decision support for ONW to support their multi-faceted management role within the Trent-Severn and Rideau Canal Waterways. The framework is focused on aquatic and ecosystem connectivity but allows for the inclusion of heritage, recreational, and other values. Workshops and mentoring were provided to staff on the tools in the framework, such as Linkage mapper, Fipex/DCI, and Freshwater Habitat Classification. Pilot projects were completed that provided workflows for data acquisition, preparation and geoprocessing. Data included species observations, water quality parameters (salinity, temperature, alkalinity), and watershed condition.
- **Aboriginal Traditional Knowledge (ATK) and Traditional Territory Mapping:** First performed data cleaning and standardization of internal and public ATK data for Qalipu First Nation (QFN). This data then underwent importance rankings and spatial aggregation

to draft a traditional territory delineation that was presented to QFN staff, councilors and members.

- **Historical VHF Marbled Murrelet Datasets:** Contract for Canadian Wildlife Service to assemble VHF telemetry datasets of Marbled Murrelet movement based on data collection performed from 1998 to 2002 in Clayoquot Sound and Desolation Sound, British Columbia. Data from sources was compiled for public sharing on Movebank. Sources were quality checked and where necessary processed to derive location tracking data previously not available to scientists.
- **Habitat Restoration Sites Prioritization:** Multi-criteria prioritization using GIS analysis and local/expert knowledge to identify and rank suitable capelin, salmon, and char habitat restoration and enhancement sites. This incorporated field knowledge and extensive work on beaver dam site candidates to be outfit with a beaver baffler / flow device by World Wildlife Fund (WWF) Canada and partners.
- **Fisher's Knowledge Transformation:** Digitizing 3Ps cod fish harvesters' knowledge of cod fishing practices and changes over time. Fishing grounds and associated information were mapped by harvesters on large format paper maps. Digital spatial data and recommendations on survey methods were delivered to the Fish Food and Allied Workers Union. This work was extended to include flounder fish harvester data.
- **Labrador Coastal Characterization:** Digitizing coastal characterization for southern Labrador based on a Coastal Risk Assessment report. The results are available in the NL Geoscience Atlas and were used to support identification and prioritization of coastal habitat restoration sites by WWF Canada and the NunatuKavut Community Council.
- **Conservation Plan Analysis:** Analysis of environmental variation representation across existing and proposed protected areas on the Island of Newfoundland using ArcGIS Pro and Excel. Analyses and summary report were incorporated into a Canadian Parks and Wilderness Society official submission to the provincial government.
- **Marbled Murrelet Tracking and Sea Surface Temperature:** Contract for Fisheries and Oceans Canada entailed analysis of satellite sea surface temperature (SST) in raster format of 16 areas over the years 2012-2018 in the waters surrounding Vancouver Island. Software used was ArcGIS and Excel. Statistics, data spreadsheets, maps, graphs, workflows.
- **Coastal Change Assessment:** High-resolution mapping of beach systems in Conception Bay which required both field work and post data processing. Assisted in gathering remote sensing and elevation data and transforming raw data into comprehensive maps. Transect surveys were also conducted along beaches to assess geological and biotic data. UAV/drone, ROV and surveying equipment were used in the field, and Agisoft and ArcGIS were used for post-fieldwork processing.

## MUNICIPAL GIS AND MAPPING SERVICES

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- **Millertown Municipal Planning:** Providing mapping and data support to planner John Baird in developing the first municipal plan for the community.
- **Heart's Content Municipal Planning:** Providing mapping and data support to planner John Baird in developing the first municipal plan for the community.
- **Logy Bay – Middle Cove – Outer Cove:** Providing GIS support, survey digitizing, and mapping products. This includes current and future land use zones and environmental

maps with planner Stephen Jewczyk, as well as an ArcGIS Online mapping portal for the town.

- **Witless Bay:** Providing mapping for various town projects, survey digitizing, and crown land applications.
- **New-Wes-Valley:** Emergency 911 mapping as well as developing and delivering desktop GIS training modules.
- **Avondale:** Acquisition of high-resolution imagery and mapping for printing as a large mural.
- **Glovertown:** Providing mapping for amendments with planner John Baird.
- **Stephenville:** Providing mapping for amendments with planner John Baird.
- **Petty Harbour – Maddox Cove:** Providing GIS support (QGIS), mapping and survey digitizing for various town projects.
- **Paradise:** Providing mapping for amendments with planner Stephen Jewczyk.

## EMPLOYMENT

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February 2021 - Present	<b>Geographic Information Systems Consultant, <i>Feaver's Lane Enterprise Inc.</i></b> Providing spatial analysis, digitization, prioritization, reporting, cartography, and related services for clients in natural resources, environment, conservation and other sectors.
December 2019 - February 2021	<b>Geographic Information Systems Analyst, <i>Independent Contractor</i></b> Collaborated with and mentored by Randal Greene of Feaver's Lane Enterprises Inc. as a GIS Analyst on a per-contract basis.
May 2019 - July 2020	<b>Research Assistant (Field &amp; Laboratory), Department of Geography, <i>Memorial University of Newfoundland</i></b> Assisted in the gathering and processing of coastal elevation data and beach assessment with lead researcher Brandon Tilley and project managers Dr. Rodolphe Devillers and Dr. Norm Catto.
May 2019 - March 2020	<b>Server, Bartender, and Host, <i>Bernard Stanley Gastropub</i></b> Filled many front-of-house positions at this very busy restaurant with Gastropub atmosphere.
October 2014 - March 2019	<b>Food and Beverage Supervisor, Bartender and Server, <i>Exile Restaurant at Jag Hotel</i></b> Started as a server and was promoted to position which included many managerial responsibilities at this higher-end hotel restaurant and lounge.

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## EDUCATION

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August 2019

**Bachelor of Science (Major in Geography, Minor in Biology), *Memorial University of Newfoundland***

Focused on physical geography, geographic information systems, conservation, and marine biology.

## SKILLS

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- Very knowledgeable with **ArcGIS software**: online mapping and apps, digital terrain models, 3D geovisualization, geocoding, database management, habitat modelling, spatial screening, vector and raster analysis, etc.
- Holds **Esri certificate** for 6-week online training of “Cartographic Concepts” using ArcGIS Pro
- Holds **Esri certificate** for 6-week online training of “Spatial Data Science Analytics” using ArcGIS Pro
- Holds **Esri certificate** for 6-week online training of “Imagery in Action” using ArcGIS Pro
- Holds **Esri certificate** for 6-week online training of “Do-It-Yourself Geo Apps” using ArcGIS Pro
- Knowledgeable in **QGIS** software
- Familiar with **R** statistical software
- Familiar with **TownSuite** municipal management application
- Familiar with **AutoCAD**, in respect to converting CAD data into spatial data used in ArcGIS and QGIS
- Experienced with spatial analytical tools **Linkage Mapper**, **FIPEX/DCI**, **FRAGSTATS** (Landscape Metrics) and **MaxEnt**
- Experienced with **Nature Conservancy of Canada’s Freshwater Conservation Blueprint** tools for stream and river ecosystem classification and aquatic connectivity
- Familiar with **HTML** and **CSS**
- Attended the **Geomatics Atlantic 2020** workshops and conference offered through Canadian Institute of Geomatics
- Completed numerous high-resolution elevation surfaces in **Agisoft**
- Trained in **TileMill** for designing web-based basemaps
- Used **UAV/drone** and **ROV** technology in numerous field sites
- Experienced with **RTK GPS** equipment in surveying
- Competent in discovery, acquisition and editing of spatial data
- Completed field courses in a variety of Newfoundland environments
- Holds **Open Water Diver** and **Dry Suit** certificate

- Holds **Basic Drone Operations** license
- Experienced with recreational and sea kayaking
- Extensive management, communication, problem solving, and customer service skills