SACHA O'REGAN

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EDUCATION

2010–13 MSc Biological Sciences, Simon Fraser University, Burnaby, Canada
Thesis title: Amphibians under stress: life histories, density dependence, and differences in vulnerability

2006–10
BSc Honours Biology with Distinction, Western University, London, Canada
Thesis title: Assessing the validity of quantitative nuclear magnetic resonance (QNMR) spectroscopy as a technique for determining body composition of arthropods

SKILLS

Writing: Extensive writing experience — seven peer-reviewed publications, environmental impact assessments, technical data reports, policy advice documents, permit applications, MSc thesis, book chapter

Data analysis: Statistical programming and data visualization with R and Microsoft Excel; geospatial data management in ArcMap

Leadership: Coordinating multi-disciplinary teams to meet technical report deadlines, supervising field crews, teaching experience

Field: Marine and terrestrial wildlife surveys, fish habitat assessment and fish surveys, amphibian mark-recapture techniques, water quality sampling

Additional Assets: Registered Professional Biologist with the College of Applied Biology; experienced in providing scientific and regulatory advice to private industry and government agencies; experienced in working with First Nations, academics, regulatory agencies, and fishers; knowledge of provincial and federal legislation and policies relating to marine and freshwater fisheries, species or ecosystems at risk, forestry, water quality and disposal at sea; trained in wetland restoration by Tom Biebighauser through the BCWF Wetlands Institute; fluently bilingual

EMPLOYMENT EXPERIENCE

MC WRIGHT AND ASSOCIATES, NANAIMO May 2017–Present

Senior Biologist

Leading environmental assessments and permit applications for forestry and other development projects. Developing habitat offsetting and monitoring plans. Developing stream, wetland, and estuary habitat restoration prescriptions.

- Authored an in-depth literature review and field assessment of the impacts of boating, docks, and dock-associated infrastructure on fish and fish habitat for MFLNRORD. Provided management recommendations to MFLNRORD that were incorporated into a Pender Harbour Dock Management Plan.
- Mapped San Juan estuarine habitat types in ArcMap for a Pacheedaht First Nation-led coastal restoration fund project.
- Authored six *Fisheries Act* requests for review for direct-to-barge and traditional log-handling facilities.
- Authored CEMP, OEMP, and field survey reports for a run-of-river project.
- Authored Wild Salmon Policy habitat status assessments for the Kennedy and Artlish River watersheds.
- Other responsibilities: data analysis in R; geospatial data mapping in ArcMap; fieldwork including salmon spawning, fish habitat, amphibian, vegetation, intertidal, eelgrass, and subtidal ROV surveys on Vancouver Island, and in the Sunshine Coast, Strathcona, and Mount Waddington Regional Districts, BC.

STANTEC, BURNABY Nov 2013–May 2017
Environmental Scientist

- Co-author of two environmental impact assessments and two *Fisheries Act* Authorization Applications, and first author of six technical data reports (on topics of marine ecosystems and fish, sediment and water quality, freshwater fish).
- Co-authored a novel hydrodynamic modelling study to investigate the movement patterns of larval eulachon from the Nass and Skeena Rivers.
- Responded to Information Requests on three projects from regulatory agencies, First Nations, and the public as part of environmental assessment applications.
- Other responsibilities: data analysis in R; fieldwork including pond-breeding amphibian, breeding bird, nocturnal raptor call-playback surveys, wildlife feature, intertidal, eelgrass, and subtidal ROV surveys in coastal BC habitats, and marine mammal surveys in both BC and the Saint Lawrence.

HAKAI NETWORK FOR COASTAL PEOPLE, ECOSYSTEMS AND MANAGEMENT June 2013–Nov 2013
Independent contractor

- Designed, conducted, and published an interview-based study assessing fishers' perspectives on local trends and management efficacy in BC's commercial sea cucumber, urchin, and geoduck fisheries (O'Regan 2015, below).

BC MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS March 2013
Independent contractor

- Authored 128-page report as second author on an eight-scientist team to evaluate the impact of Central Coast forest management practices and BC's Ecosystem-based Management Land Use Objectives on biodiversity, stream channel morphology, sediment supply, and forest functioning, and make recommendations for the design, implementation, and data analysis of an experimental watershed program (Hocking et al. 2013, below).

SIMON FRASER UNIVERSITY Sept 2010–Jan 2013
MSc Research

- Designed and conducted a large-scale outdoor study investigating the response of three BC frog species (Great Basin spadefoot, Northern red-legged frog, Pacific treefrog) to climate warming and changes in pool permanency (O'Regan et al. 2014, below).
- Developed a framework to identify the risk of amphibian populations to decline based on relationships between life-history traits, density-dependent bottlenecks, and stressor occurrence.

SIMON FRASER UNIVERSITY Sept 2011–Dec 2011
Teaching Assistant

- Led tutorials, marked assignments, and advised 40 undergraduate students in third-year Animal Ecology.

SIMON FRASER UNIVERSITY May 2010–Aug 2010
NSERC USRA Researcher

- Conducted a literature review to characterize the state of knowledge on amphibian density-dependence.
- Assisted colleagues at the UBC Experimental Pond Facility with a study examining the impacts of warming and nutrient additions on aquatic food web structure and function.

UNIVERSITY OF CALGARY May 2009–Aug 2009
NSERC USRA Undergraduate Researcher

- Conducted an experiment examining the feeding preferences of predacious diving beetle larvae.
- Assisted with investigating the effects of cattle grazing on temporary wetland ecology.

OPERATION WALLACEA, INDONESIA June, July 2008
Research Assistant

- Assisted with harp trapping and mist netting bats, tarsier habitat assessments, frog surveys, coral reef monitoring, marine mammal surveys, intertidal transects.

SELECT PUBLICATIONS AND REPORTS

O'Regan, S.M., M. Smith, C. Dexter, and M.C. Wright. 2018. Impacts of Docks in Pender Harbour: Phase 2 Assessment. Prepared by M.C. Wright and Associates Ltd. for the Ministry of Forests, Lands, and Natural Resource Operations and Rural Development.
https://arfd.gov.bc.ca/ApplicationPosting/viewpost.jsp?PostID=43285

O'Regan, S.M. 2015. Harvesters' perspectives on the management of British Columbia's giant red sea cucumber fishery. *Marine Policy*. 51: 103–110. http://bit.ly/sea-cucumbers

O'Regan, S.M., W.J. Palen, and S.C. Anderson. 2014. Climate warming mediates negative impacts of rapid pond drying for three amphibian species. *Ecology*. 95: 845–855. (*Recommended by Faculty of 1000 as being of special significance in its field) http://bit.ly/amphib-climate

Hocking, M.D., **S.M. O'Regan**, R.W. Collings, J. Benner, H. Munro, K. Squires, N. Swain, and K. Lertzman. 2013. Ecosystem-based management in the Great Bear Rainforest: A knowledge summary for priority ecological questions and experimental watersheds design. Prepared for British Columbia Ministry of Forests, Lands, and Natural Resources Operations. http://bit.ly/ebm-report

Phillis, C.C.*, **S.M. O'Regan***, S.J. Green*, J.E.B. Bruce*, S.C. Anderson, J. Linton, Earth2Ocean Research Derby, and B. Favaro. 2013. Multiple pathways to conservation success. *Conservation Letters*. 6: 98–106. (*Authors contributed equally; listed in reverse alphabetical order) http://bit.ly/consv-pathways

Complete list available at http://sachaoregan.ca/publications

SELECT AWARDS

2012 Graduate Fellowship, Simon Fraser University
2011 Graduate Fellowship, Simon Fraser University
2010 NSERC Alexander Graham Bell Canada Graduate Scholarship
2010 Pacific Century Graduate Scholarship, Simon Fraser University