

Joan Eamer, MSc, RPBio

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Joan is an independent ecosystem scientist and science writer. Her interests and skills are in synthesizing, interpreting, and communicating environmental research results and issues for a range of audiences. She has extensive experience in policy, management, and planning.

Joan worked as a biologist for Environment Canada for over 20 years in the fields of environmental assessment, biodiversity, and wildlife management. From 2005 to 2009 she took a leave of absence to lead the Polar Programme of the United Nations Environment Programme (UNEP), employed by UNEP/GRID-Arendal, an international foundation based in Norway.

Since leaving Environment Canada in 2011, Joan has written and edited material for Arctic Council and United Nations agencies and worked on northern ecological science projects for Canadian clients. She has also designed maps and graphics for several reports and public consultations. Joan worked part time for SLR Consulting from January 2014 to July 2017, primarily providing advice on climate change and environmental impacts related to mine and infrastructure development in Western Canada.

Selected project and job experience

Environmental impacts from North American mining, through SLR Consulting (2014–2017), including:

- 1) Report on pollutant releases from the North American mining industry, including an industry overview and an analysis of releases reported through government registries, for Commission for Environmental Cooperation;
- 2) Development and review of content on environmental impacts of proposed mines and infrastructure, often with a focus on climate change impacts and adaptation.

Global marine assessment, as editor of technical report and co-author of key findings report for UNESCO's assessment of transboundary large marine ecosystems (2016).

Indicator development through a project to review past monitoring and research, and recommend aquatic biological indicators for the Slave and Hay river systems (2016–2017).

EDUCATION

- M.Sc., Zoology, University of British Columbia, 1985 (thesis on coastal waterfowl habitat)
- B.Sc., Biology, University of Victoria, 1977
- Additional courses in ecological monitoring and data management

AREAS OF EXPERTISE

- Ecosystem status and trends assessment
- Climate change and biodiversity science and policy
- Mining impact assessment
- Community-based monitoring
- Editing and science graphics production

PROFESSIONAL POSITIONS

- Associate, Eamer Science & Policy (since 2013)
- Principal Consultant, Ecology and Climate Change, SLR Consulting (Canada) Ltd. (01/2014–07/2017)
- Biodiversity Specialist, Environment Canada, Vancouver (02/2009–07/2011)
- Polar Programme Manager, UNEP/GRID-Arendal, Norway (03/2005–02/2009)
- Head of Biodiversity and Ecosystem Science, Canadian Wildlife Service, Environment Canada, Yukon (06/1996–02/2005)
- Head of Environmental Assessment, Environmental Protection Service, Environment Canada, Yukon (11/1988–06/1996)
- Environmental Supervisor, Curragh Resources Ltd. Faro Lead-Zinc Mine, Yukon (03/1987–10/1988)
- Mine Inspector, BC Ministry of Environment (seasonal, 1985–1986), Northern BC
- Water and Air Studies Technician, BC Ministry of Environment (1974–1978)

Arctic biodiversity assessment and policy development for the Conservation of Arctic Flora and Fauna (CAFF) working group of the Arctic Council (2011–2016):

- 1) *The Economics of Ecosystem and Biodiversity (TEEB) Scoping Study for the Arctic*, for CAFF, UN agencies, and WWF Global Arctic Programme (editor and author, through SLR Consulting);
- 2) Background and options paper on Arctic biodiversity principles, including draft principles and recommendations for their use in mainstreaming biodiversity;
- 3) Implementation plan for follow-up to the Arctic Biodiversity Assessment;
- 4) Assessment of sea-ice-associated biodiversity and environmental change (writer, editor, maps and graphics production);
- 5) Reports on Arctic species trend analysis, working with the Circumpolar Biodiversity Monitoring Program and the Zoological Society of London (editor of technical reports and author of a key findings report for policy makers).

Canadian biodiversity assessments: National report, technical reports, and key finding reports for Canada's *Ecosystem Status and Trends Assessment*, led by the Canadian Councils of Resource Ministers. Role: author or editor of all arctic and taiga ecozone assessments and the assessment of northern caribou status and trends. Lead author of the national report (2009–2015).

Ecological and biodiversity monitoring, research and assessment; assessments of impacts of climate change; and wildlife management, Yukon, with some projects extending across northern Canada or including northern Alaska, through positions with Environment Canada, Yukon (1988–2005), including:

- 1) Conducted field stream assessments, reviewed development proposals, and participated in hearings for mining operations in Yukon.
- 2) Contributed to consultations, research plans and assessments of impacts of climate change.
- 3) Led or participated in biodiversity and climate change impacts monitoring projects, some associated with research initiatives and national or international initiatives. These included waterfowl surveys, stream and wetland benthic invertebrate surveys, forest biodiversity monitoring and studies on alpine tundra vegetation. Also conducted fish contaminants surveys.
- 4) Facilitated and reported on ecological monitoring networks in northern Canada as co-chair of Ecological Monitoring and Assessment Network for Northern Canada (EMAN-North).
- 5) Developed and co-ordinated the Arctic Borderlands Ecological Knowledge Co-op, a community-based ecological monitoring program operating in northern Yukon, Mackenzie Delta and Alaskan communities, involving Inuvialuit, Inupiat and Gwich'in community members in documenting and interpreting changes in plants, animals, and ecosystems in their traditional lands.
- 6) Contributed to research and monitoring plans, and wildlife and protected area management, as Federal government member of the Wildlife Management Advisory Council (North Slope) – a co-management board under the Inuvialuit Final Agreement.

Caribou researchers' network support: Network development and communications lead for the CircumArctic Rangifer Monitoring and Assessment Network (CARMA), an international network of caribou and reindeer researchers, managers and user groups (various periods, 2004 to present).

Benthic invertebrate and fish studies with the BC Government (1974–1978 and 1985–1987): baseline and impact studies on coal and placer gold mining in the Kootenays and northern BC. The studies included benthic invertebrate sampling, sorting and identification and assessment of presence/absence of fish species in small streams affected by mining activity.

Publication list available on request.