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### **PROFESSIONAL EXPERIENCE:**

Owner Shadow Lake Environmental Consulting, 2006-present  
Coordinator, CircumArctic Rangifer Monitoring and Assessment (CARMA) Network,  
2004 - present  
Manager, Circumpolar Global Change Program, CWS, Yukon 2001-2006  
Manager, Canadian Wildlife Service, Yukon 1990-2001  
Wildlife Researchers, Canadian Wildlife Service, Yukon 1983-1990

### **EDUCATION:**

BSc (Forestry) Honours, University of British Columbia., 1972  
Honours Thesis "Dynamics of Raptor Predation"

MSc University of British Columbia, 1976  
Thesis "Computer Simulation of *Rangifer* Energetics"

### **MAJOR RESEARCH INTERESTS:**

- Adaptation of Rangifer to arctic and sub-arctic ecosystems including behavioral, nutritional, physiological, compensatory and reproductive strategies.
- Computer simulation modeling as a tool to integrate ecosystem components to assess impacts of global change (climate, development and institutional) on reindeer/caribou systems.
- Use of modeling as a tool in cumulative impact assessment.
- Integration of social, economic, biological and cultural research in assessment of assessing health of natural and human systems.
- Use of monitoring as a tool to integrate aboriginal communities in research and management of their environment.

### **RELEVANT PUBLICATIONS:**

Russell, D. E. 1976. Computer simulation of *Rangifer* energetics. MSF thesis University of B. C. 93 pp.

Russell, D.E. 2011. Energy-Protein Modeling of North Baffin Caribou in Relation to the Mary River Mine Project. In: *Final Environmental Impact Statement, February 2012*. EDI Environmental Dynamics Inc. 3-478 Range Road, Whitehorse.

Russell, D. E. 2013. Making more use of what we know: CARMA's approach to building capacity for monitoring to describe cumulative effects of climate and

- development on Nunavut's caribou. Unpublished report to Nunavut General Monitoring Program. 73pp.
- Russell, D. 2014a. Energy-protein modeling of North Baffin Island caribou in relation to the Mary River Project: a reassessment from Russell (2012). Prepared for EDI Environmental Dynamics Inc., Whitehorse YT and Baffinland Iron Mines Corporation, Oakville Ontario.
- Russell, D. E. 2014b. Kiggavik Project Effects: Energy-Protein and Population Modeling of the Qamanirjuaq Caribou Herd. Prepared for EDI Environmental Dynamics Inc., Whitehorse YT and AREVA Resources Canada.
- Russell, D.E. and Daniel, C. 2001. A North American caribou database. Presented at the 9th North American Caribou Workshop, April 2001; Kuujuaq, Quebec.
- Russell, D., G. Kofinas, and B. Griffith. 2000a. Need and opportunity for a North American caribou knowledge cooperative. *Polar Research* 19(1): 117-130.
- Russell, D.E., G. Kofinas, A. Gunn, R.G. White and S. Kutz. 2013a. CircumArctic Rangifer monitoring and assessment (CARMA) network – origins, goals, accomplishments and future. *Rangifer*, 33, Special Issue No. 21:141-144.
- Russell, D. E., van de Wetering, D., White, R.G., & Gerhart, K.L. 1996. Oil and the Porcupine Caribou Herd--Can we quantify the impacts? – *Rangifer* Special Issue 9:255-257.
- Russell, D.E. & White, R.G. 2000b. Surviving the north – a conceptual model of reproductive strategies in arctic caribou. – *Rangifer* Special Issue 12:67.
- Russell, D.E., White, R.G., & Daniel, C.J. 2005. *Energetics of the Porcupine Caribou Herd: A computer Simulation Model*. Tech. Rept. Ser. No. 431. Can. Wild. Serv., Ottawa, Ontario. 64pp.
- Russell, D.E., P.H. Whitfield, J. Cai, A. Gunn, R.G. White and K. Poole. 2013b. CARMA's MERRA-based caribou climate database. *Rangifer*, 33, Special Issue No. 21:145-152.
- White, R.G., Daniel C.J., & Russell, D.E. 2013. CARMA's integrative modeling: historical background of modeling caribou and reindeer biology relevant to development of an energy/protein model. – *Rangifer*, 33, Special Issue No. 21: 153-160.
- White, R.G., Russell, D.E. & Daniel C.J. 2014. Simulation of maintenance, growth and reproduction of caribou and reindeer as influenced by ecological aspects of nutrition, climate change and industrial development using an energy-protein model. *Rangifer* Special Issue # 22. 123pp.
- White, R.G., D.E. Russell, B. Griffith, and R.D. Cameron. 2006. Nutritional controls over caribou growth and reproduction in the Arctic: Is the “selfish cow” syndrome an Arctic adaptation? *Symp. Comp. Nutr. Soc.* 6:213-220.

- White, R.G, D.E. Russell, B.Griffith and R.D. Cameron 2008. Relevance of maternal body condition and energy/protein intake to lactation and offspring growth in *Rangifer*. *Comp. Nutr. Soc.* 7:253-260.
- White, R.G, D.E. Russell and G.P Kofinas 2008. Nutrition and the IPY: Role of nutrition in studying effects of global change on circumarctic human/rangifer systems. *Comp. Nutr. Soc.* 7:267-271.
- Gunn,A., D. Russell, R.G. White and G. Kofinas 2009. Facing a future of change: Wild migratory caribou and reindeer (Commentary). *Arctic* 62:iii-vi.
- Cuyler, C, R.G. White, K. Lewis, C. Soulliere, A Gunn, D.E. Russell and C. Daniel. 2012. Are warbles and bots related to reproductive status in West Greenland caribou? *Rangifer*, Special Issue No. 20: 243-257.
- Chen, W., D.E. Russell, A. Gunn, B. Croft, W.R. Chen, R. Fernandes, H. Zhao, J. Li, Y. Zhang, K. Koehler, I. Olthof, R.H. Fraser, S.G. Leblanc, G.R. Henry, R.G. White & G.L. Finstad. 2012. Monitoring habitat condition changes during winter and pre-calving migration for Bathurst Caribou in northern Canada. *Biodiversity* 10:1-9. DOI:10.1080/14888386.2012.705110  
<http://dx.doi.org/10.1080/14888386.2012.705110>
- Kutz, S., J. Ducrocq, C. Cuyler, B. Elkin, A. Gunn, L. Kolpashikov, D. Russell and R.G. White. 2013. Standardized monitoring of Rangifer health during International Polar Year. *Rangifer*, 33, Special Issue No. 21: 91-114.
- Bali, A., V.A. Alexeev, R.G. White, D.E. Russell, A.D. McGuire, and G.P. Kofinas. 2013. Long-term patterns of abiotic drivers of mosquito activity within summer ranges of Northern Alaska caribou herds (1979-2009). *Rangifer*, 33, Special Issue No. 21:173-176.
- White, R.G., C.J. Daniel and D.E. Russell. 2013. CARMA's integrative modeling: historical background of modeling caribou and reindeer biology relevant to development of an energy/protein model. *Rangifer*, 33, Special Issue No. 21: 153-160.
- Gunn, A., D.E. Russell, C.J. Daniel, R.G. White and G. Kofinas. 2013. CARMA's approach for collaborative and inter-disciplinary assessment of cumulative effects. *Rangifer*, 33, Special Issue No. 21:161-166.
- White, R.G., D.E. Russell and C.J. Daniel. 2013. Modeling energy and protein reserves in support of gestation and lactation: glucose as a limiting metabolite in reindeer and caribou. *Rangifer*, 33, Special Issue No. 21: 167-172.
- Gunn, A., D. Russell, L. Grieg. In press. Insights into integrating cumulative effects and collaborative co-management for migratory tundra caribou herds, NWT, Canada. *Ecology and Society*.

Gunn, A., Johnson, C.J., Nishi, J., Daniel, C.J., Russell, D.E., Carlson, M., and Adamczewski, J.Z. 2011. Addressing cumulative effects in the Canadian Central Arctic - Understanding the impacts of human activities on barren-ground caribou. In P. Kraussman and L. Harris, editors. Cumulative Effects in Wildlife Management: Impact Mitigation, CRC Press.