



## **Ann Garibaldi, M.Sc., R.P. Bio**

Phone 250.590.0550

Email [agaribaldi@iegconsulting.com](mailto:agaribaldi@iegconsulting.com)

### **ACADEMIC AND PROFESSIONAL QUALIFICATIONS**

2003 M.Sc., Ethnobotany. Interdisciplinary Degree, Environmental Studies and Biology, University of Victoria

1993 B.Sc., Environmental Plant Biology, Ohio University

Member, Society of Ethnobiology

Member, College of Applied Biology, British

Member, Association of Professional Biologists  
of British Columbia

Columbia

### **SUMMARY OF EXPERIENCE**

Ann Garibaldi is an Ethnobotanist and a Principal of Integral Ecology Group Ltd. in Victoria, B.C. She has over 14 years of research and consulting experience related to ethnobotany, traditional environmental knowledge and traditional land use with a technical background in botany and environmental sciences. She has applied her knowledge to a diversity of projects linking social and ecological systems within Alberta, British Columbia, and Alaska. Ms. Garibaldi has contributed her knowledge of cultural implications of changing environmental systems to the management and development of a comprehensive Cultural Heritage Assessment with the Dene, Cree and Métis community of Fort McKay, Alberta. Ann has worked extensively, since 2005, on social-ecological issues related to oil sands development in northeast Alberta including: conducting traditional land use studies and assessing impacts of development activities on traditional rights and interests, facilitating Aboriginal input into the mine reclamation process through the application of the Cultural Keystone Species model, a model she developed and published in collaboration with Dr. Nancy Turner (University of Victoria); documenting traditional lichen knowledge in northeast Alberta for the Wood Buffalo Environmental Association/Terrestrial Environmental Effects Monitoring; providing guidance on mechanisms to incorporate Aboriginal perspectives of biodiversity in wildlife habitat reclamation for the Cumulative Environmental Management Association; and establishing a Traditional Environmental Knowledge (TEK) program in collaboration with the community of Fort McKay. In Alaska, Ms. Garibaldi worked for the Alaska Natural Heritage Program creating vegetation classifications for Gates of the Arctic and Denali National Parks, conducting floristic inventories of designated Research Natural Areas and working with Aboriginal communities across the state on ethnobotanical studies. She has developed and executed multiple training workshops on TEK discourse and applications, conducted research projects to examine the role of social and ecological systems in restoration in British Columbia, and is author of the book *Medicinal flora of the Alaska Natives*. She formerly sat on the Ethnobotany Advisory Board with the University of Alaska.



---

## **SELECT PROFESSIONAL EXPERIENCE**

### **Fort McKay First Nation Sustainability Department, Fort McKay, Alberta**

2006-present

Responsibilities in this work include: Lead management and participation in a territory-wide Traditional Use Studies; management and participation in community-guided Traditional Land Use Studies; Participation in a project with the ALCES Group to assess the cumulative environmental impacts of industrial development in Fort McKay's Traditional Territory; Lead management and development of a community-based Cultural Heritage Assessment; conducting reviews of proposed oil sands mining operations applications in north-eastern Alberta; delivering presentations and obtaining feedback on regional environmental assessments to elders, trappers, and younger members of the Fort McKay community

### **Teck Coal Limited, B.C.**

2012-present

This work involved design and implementation of a traditional plant study at Teck Highland Valley Copper Mine in British Columbia (an associated fugitive dust study is also being conducted with this project). The study is designed to evaluate the presence, extent and magnitude of deposition of fugitive dusts from the mine and tailings pond, and the implications of this deposition on local traditional foods.

### **Chipewyan Prairie Industry Relation Corporation**

2012-present

Reviewed multiple industrial project applications related to Traditional Land Use, land and resource use, and historical components.

### **Alberta- Pacific Forest Industries, Inc. Edmonton, Alberta**

2011-2102

This work involved developing a recommendations report to assist Al-Pac in meaningful and effective Aboriginal engagement and consideration of Traditional Land Use and Traditional Environmental Knowledge in Al-Pac's forest management practices.

### **K'omoks First Nation, British Columbia**

2011

This works involved conducting two Traditional Use Studies (TUS) with the K'omoks First Nation to assess the potential impacts of project development on the rights and interests of the community. This project involves training and managing community researchers, conducting indoor interviews and participating in field site validation.



---

**Okanagan Nation Alliance, Westbank, British Columbia**

2010

Produced an overview assessment of key existing ethnobotanical literature relevant to the British Columbia Transmission Corporation's Interior to Lower Mainland Transmission Line. This Scientific Red Flag Analysis was created to assist the Okanagan Nation Alliance and Upper Nicola Band in identifying gaps in existing ethnobotanical literature and to assess any environmental impacts the existing transmission line may have had on culturally significant plant resources and traditional harvesting practices.

**FMA Heritage and JACOS, Fort McMurray, Alberta**

2009-2010

Responsibilities in this work include: meeting facilitation and provide input into the development of an Aboriginal Advisory Group as an alternative to a conventional TEK and TLU environmental assessment approach.

**Terrestrial Ecosystem Effect Monitoring Program, Fort McMurray, Alberta**

2008-2010

In collaboration with five regional Indigenous communities, outlined a long-term Community-based monitoring program to assess and measure quality and availability of select berry populations utilizing both western scientific and TEK-related research. Work responsibilities included facilitating community workshops to establish project approach.

**Alberta- Pacific Forest Industries, Inc. Edmonton, Alberta**

2008

Project work included delivering a one workshop articulating the concepts of Traditional Ecological Knowledge and Traditional Use Studies (TUS) to vice-presidents and managers with Alberta-Pacific and exploring how this work may inform Alberta-Pacific's TUS Program.

**Terrestrial Ecosystem Effect Monitoring Program, Fort McMurray, Alberta**

2007-2008

The first phase of this research involved conducting an ethnolichenology research project summarizing traditional uses of lichens in the boreal forest. During the second phase of this project in 2008, Ann collaborated with three regional indigenous communities to examine lichens as indicators of nitrogen, sulfur and metal deposition from surrounding oil sands mining activity.

**Cumulative Environmental Management Association. Fort McMurray, Alberta**

2005-2007



Responsibilities in this work included the design and execution of multi-day workshops on Traditional Ecological Knowledge (TEK) for program managers, workgroup chairs and committee members with the Cumulative Environmental Management Association in Fort McMurray, Alberta. During these workshops Ann presented on contributions of TEK, designing project-planning objectives, field research and interviewing protocols, and conducted problem-solving exercises.

**Albian Sands Energy Inc. and Fort McKay Industry Relations Corporation, Fort McMurray, Alberta**

2004-2006

Project work included designing, managing and implementing a collaborative program to address the role of traditional ecological knowledge of the Fort McKay First Nations – a Chipewyan, Cree and Métis community - in oil sands mine reclamation at Albian Sands Energy, Inc. As part of project work, Ann conducted inventories with indigenous colleagues to document traditional plant, animal and landscape information; trained indigenous youth in ethnobotanical research methods; provided recommendations and research support to a community-initiated multi-year traditional land use study; and facilitated meetings with industry personnel and indigenous community members to discuss project findings.

**Royal Roads University/Hamatla Treaty Society. Campbell River, British Columbia**

2005

Responsibilities for this project included collaboration with the Centre for Non-timber Resources at Royal Roads University to support the efforts of the Hamatla Treaty Society to inventory and map sites that contain significant traditional-use species (i.e. non-timber forest product) potential. This involved leading and training a field team in the identification and determination of plant cover values, ecosystem typing, and soils. As well, Ann assisted in the collection of botanical inventory data.

**Kenai Peninsula Borough, Office of Emergency Management. Kenai, Alaska**

2004-2005

This project involved the development a comprehensive All-Hazard Mitigation Plan for the Kenai Peninsula Borough that summarized historical natural disaster events and their effects on the peninsula and recommended ways to reduce future property damage and injury for borough residents. This was a multi-jurisdictional plan and required extensive communication and coordination with federal, state and local personnel.

**Research Associate/Vegetation Ecologist, Alaska Natural Heritage Program**

1995-2000

During five years of employment with the Alaska Natural Heritage Program as botanical research associate, Ann participated in numerous research and mapping projects in coordination with government, private, aboriginal and community entities. She participated in the production of landcover vegetation maps for Gates of the Arctic and Denali National Park and Preserve; documented and assessed vegetation and landscape characteristics to create vegetation classification; and conducted



biological inventories of tidal marshes and performing rare plant surveys in seven Research Natural Areas in the Tongass National Forest.

Ann also participated in ethnobotanical research projects. She researched and produced a book, *Medicinal Flora of the Alaska Natives*, a comprehensive account of the traditional healing methods using plants, and developed a database housing the information articulated in medicinal flora book.

## SELECT REPORTS AND PUBLICATIONS

Thomas, M., N.J. Turner, **A. Garibaldi**. In prep. *“Everything is deteriorating”: environmental and cultural loss in Secwepemc territory*. In: K.P. Bannister and N.J. Turner (editors). In prep. Secwepemc people and plants: research papers in Shuswap ethnobotany. Secwepemc Cultural Education Society (SCES). Manuscript in preparation for *Advances in Economic Botany*. New York Botanical Gardens Press, New York.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, P. Evans, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, N. Melaschenko, B. Miskimmin, and D. Spink. October 2012. Fort McKay’s Review of Marathon Oil Canada Corporation Birchwood SAGD Project Environmental Protection and Enhancement Act Approval Application. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, P. Evans, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, N. Melaschenko, B. Miskimmin, and D. Spink. September 2012. Fort McKay’s Review of Sunshine Oilsands Ltd. Thickwood SAGD Project EPEA and Water Act Application. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, P. Evans, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, N. Melaschenko, B. Miskimmin, and D. Spink. September 2012. Fort McKay’s Review of Sunshine Oilsands Ltd. Legend Lake SAGD Project EPEA and Water Act Application. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., T. Behr, S. Berryman, S., R. Bothe, J. Dennis, J. Errington, P. Evans, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, N. Melaschenko, B. Miskimmin, and D. Spink. June 2012. Fort McKay’s Review of Teck Resources Ltd. Frontier Oil Sands Mine Project Integrated Application. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, N. Melaschenko, B. Miskimmin, B. Simonsen, and D. Spink. June 2012. Fort McKay’s Review of Southern Pacific Resource Corp. Application for Approval of the STP Thermal Project – Phase 2. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, P. Evans, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, C. Molstad, and D. Spink. July 2012. Fort McKay’s Review of Cenovus TL ULC Telephone Lake Project Approval for Application. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., S. Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, and D. Spink. April 2012. Fort McKay’s Review of Athabasca Oil Sands Corp. Application



for Approval of the Dover West Clastics Project. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., J. Baker, S. Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, and D. Spink. January 2012. Fort McKay's Review of Athabasca Oil Sands Corp. Application for Approval of the Leduc TAGD Pilot Project. Prepared for the Fort McKay Sustainability Department.

Adamanche, L., J. Baker, S. Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, and D. Spink. January 2012. Fort McKay's Review of Athabasca Oil Sands Corp. Application for Approval of the Leduc TAGD Pilot Project. Prepared for the Fort McKay Sustainability Department.

J. Baker, S. Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, and D. Spink. January 2012. Fort McKay's Review of Ledcor CMI Ltd. Clearwater Multi-User Access Road (Submitted to Transport Canada and Department of Fisheries and Oceans Canada) Environmental Assessment Screening Assessment. Prepared for the Fort McKay Sustainability Department

**A. Garibaldi**. 2011. *Cultural Keystone Species in Oil Sands Mine Reclamation* Proceedings of the first seminar on social responsibility in mining, Santiago Chile, October 2011. Editors: David Brereton, Dante Pesce, and Ximena Abogabir. GECAMIN.

Berryman, S., J. Straker, **A. Garibaldi**. 2011. *Supporting community-led development of ecological and socio-economic indicators in a mining region*. Proceedings of the first seminar on social responsibility in mining, Santiago Chile, October 2011. Editors: David Brereton, Dante Pesce, and Ximena Abogabir. GECAMIN.

**A. Garibaldi**, W. Cocksedge, T. Brigham and J. Sigalet. 2011. *Al-Pac Traditional Land Use & Traditional Ecological Knowledge Management Program Recommendations Report*. Prepared for Alberta Pacific Forest Industries, Inc. December 2011.

Behr, T. and **A. Garibaldi**. 2011. *Traditional Land Use Study for the Teck and Silverbirch Frontier Project*. Prepared in collaboration with the Fort McKay Industry Relations Corporation for the Teck and Silverbirch Frontier Project. August 2011.

Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, D. Geller, L. Gould, M. Lagimodiere, B. Miskimmin, D. Geller, D. Spink, and J. Straker. June 2011. Fort McKay's Review of Dover Operating Corp. Application for Approval of the Dover Commercial Project and Environmental Impact Assessment (Submitted to Energy and Resources Conservation Board and Alberta Environment). Prepared for the Fort McKay Sustainability Department.

Behr, T. and **A. Garibaldi**. 2010. *Overview-level Traditional Land Use Study for the Dover Commercial Project*. Prepared in collaboration with the Fort McKay Industry Relations Corporation for the Dover OCPO Dover Commercial Project. October 2010.

Berryman, S., R. Bothe, J. Dennis, **A. Garibaldi**, L. Gould, M. Lagimodiere, B. Miskimmin, D. Geller, D. Spink and J. Straker. October 2010. Review of Sunshine West Ells SAGD Project Energy Resources Conservation Board (ERCB) and Alberta Environment (AENV) Approvals Application (March 1, 2010).



Prepared for the Fort McKay Industry Relations Corporation.

Peacock, S. and **A. Garibaldi**. 2010. Scientific Red Flag Analysis of Existing Ethnobotanical Literature and Past Impacts of the Existing Interior to Lower Mainland Transmission Line on Culturally Significant Plant Resources and Traditional Harvesting Practices. Prepared for the Okanagan Nation Alliance and the Upper Nicola Band. September 2010.

Fort McKay Industry Relations Corporation, **A. Garibaldi**, M. Lagimodiere, J. Sedley, C. Oloriz, and J. Zorrila. 2010. *Cultural Heritage Assessment Baseline: Pre-development (1960s) to Current (2008)*. Supplemental Information for the Shell Canada Limited Jackpine Mine Expansion and Pierre River Mine Project Application. March 2010.

Fort McKay Industry Relations Corporation, **A. Garibaldi** and M. Lagimodiere. 2010. *Project Specific Cultural Heritage Assessment*. Supplemental Information for the Shell Canada Limited Jackpine Mine Expansion and Pierre River Mine Project Application. March 2010.

**Garibaldi, A.** 2009. Moving from Model to Application: Cultural Keystone Species and Reclamation in Fort McKay, Alberta. *Journal of Ethnobiology* 29(2): 323-338.

**Garibaldi, A.** 2007. *TEK Training Workshop 2007*. Prepared for the Traditional Environmental Knowledge Standing Committee of the Cumulative Environmental Management Association. **Garibaldi, A.** 2007. *Traditional Lichen Knowledge in the Athabasca Oil Sands Region*. Prepared for the Terrestrial Environmental Effects Monitoring Program, Science Sub-Committee.

**Garibaldi, A.** 2006. *TEK Training Workshop 2006*. Prepared for the Traditional Environmental Knowledge Standing Committee of the Cumulative Environmental Management Association.

**Garibaldi Heritage and Environmental Consulting.** 2006. *Fort McKay-Albian Sands Energy Inc. TEK Project: Integration of Traditional Environmental Knowledge in Land Reclamation*. Prepared for the Fort McKay Industry Relations Corporation and Albian Sands Energy Inc.

**Garibaldi Heritage and Environmental Consulting.** 2006. *Report on Traditional Environmental Knowledge Input Into Wildlife Habitat Reclamation Recommendations*. Prepared for the Cumulative Environmental Management Association, Reclamation Working Group and the Aboriginal communities in the Regional Municipality of Wood Buffalo.

**Garibaldi, A.** and N.J. Turner. 2004. Cultural keystone species: implications for ecological conservation and restoration. *Ecology and Society* (on-line journal) <http://www.ecologyandsociety.org>, special feature on Traditional Knowledge in Social-Ecological Systems.

Boggs, K., **A. Garibaldi**, J. Stevens, J. Grunblatt, and T. Helt. 2001. *Denali National Park and Preserve Landcover mapping project*. Volume 2: Landcover classes and plant associations. Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska Anchorage, 707 A Street, Anchorage, AK. 164 p. Metadata is also available at: [http://www.nps.gov/akso/gis/metadata/lc\\_dena.html](http://www.nps.gov/akso/gis/metadata/lc_dena.html)

W.P. Smith, M.J. Stotts, B.A. Andres, J.M. Melton, **A. Garibaldi**, and K. Boggs. 2001. *Bird, mammal, and vegetation community surveys of research natural areas in the Tongass National Forest*. USDA Forest Service. Pacific Northwest Research Station Research Paper PNW-RP-535



Helt, T., K. Boggs, **A. Garibaldi**, S. Wesser, J. Stevens. 2000. *Gates of the Arctic National Park and Preserve Landcover Map*. Earth Satellite Corporation, Rockville, Maryland. 103 pp. Metadata available at: [http://www.nps.gov/akso/gis/metadata/lc\\_gaar.html](http://www.nps.gov/akso/gis/metadata/lc_gaar.html)

**Garibaldi, A.** 1999. *Medicinal Flora of the Alaska Natives*. Alaska Natural Heritage Program, University of Alaska, Anchorage.

**Garibaldi, A.** and K. Boggs. 1998. *Floristic inventories of tidal marsh communities and peatlands in southeast Alaska Research Natural Areas*. Report to U.S. Forest Service, Alaska Region. Alaska Natural Heritage Program, University of Alaska, Anchorage.

**Garibaldi, A.** and R. Lipkin. 1995. *Summary of rare species and critical habitats in the Alaska Army National Guard southwestern Alaska training sites*. Report to Alaska Army National Guard. Alaska Natural Heritage Program, University of Alaska, Anchorage.

## CONFERENCE PRESENTATIONS AND LECTURES

- August 2012 Poster presentation, Ecological Society of America, Portland, Oregon. *A community-led approach for landscape planning*
- Nov 2011 Presentation, First International Seminar on Social Responsibility in Mining, Santiago, Chile. *Cultural Keystone Species in Oil Sands Mine Reclamation*.
- Nov 2011 Presentation, First International Seminar on Social Responsibility in Mining, Santiago, Chile. Supporting Community-led Development of Ecological and Socio-economic Indicators in a Mining Region.
- Sept 2011 Presentation, Nuclear Waste Management Organization, Toronto, ON. *Applying Aboriginal Traditional Knowledge in Resource Management, Industrial Decommissioning, and Environmental Restoration*.
- May 2010 Poster presentation, Society of Ethnobiology, Victoria, BC. *Community-based Berry Monitoring in Northeast Alberta*.
- Nov 2009 Presentation, Canadian Aboriginal Minerals Association, Toronto, Ontario. Cultural Keystone Species model in the community of Fort McKay – addressing social, ecological and spiritual values in regional mine-land reclamation.
- Sept 2009 Paper and Presentation. The British Columbia Technical & Research Committee on Reclamation, Cranbrook, BC. *Cultural Keystone Species in Oil Sands Reclamation, Fort McKay, Alberta, Canada*.
- Sept 2009 Presentation, Northern Latitudes Mining Reclamation Workshop. Cultural Keystone Species in Oil Sands Reclamation, Fort McKay, Alberta, Canada.
- March 2009 Guest Lecturer, Seminar in Ethnobotany, University of Alaska. *Medicinal Uses of Alaska Native Plants, Coastal and Terrestrial*.





- 
- May 2008 Invited Lecturer, Scientific Speaker Series, University of Alaska Fairbanks. *Social-Ecological Considerations for Reclamation and Conservation.*
- April 2008 Alberta Society of Professional Biologists Conference, Red Deer, Alberta. *Cultural Keystone Species and Social-Ecological Considerations for Land Reclamation.*
- April 2008 Invited Speaker, Athabasca Watershed Planning Advisory Committee. Cultural Keystone Species and Social-Ecological Considerations for Land Reclamation.
- Nov 2007 Guest Lecturer, Seminar in Ethnobotany, University of Alaska. *Medicinal Uses of Alaska Native Plants, Coastal and Terrestrial.*
- March 2007 Society of Ethnobiology Conference, Berkeley, California. Through the Lens of the Applied: Cultural Keystone Species and Social-Ecological Considerations for Land Reclamation.
- April 2007 Alberta Society of Professional Biologists, Calgary, Alberta. Healing the Land” and the Social-Ecological Processes of Land Reclamation of Fort McKay First Nation and Métis Traditional Territory.
- Aug 2004 Society for Ecological Restoration, Victoria, British Columbia. *Bridging Social and Ecological Systems in Mine Reclamation in Northern Alberta.*
- March 2004 International BioPlatform E-Conference. Organized in Godollo, Hungary. *Contributions of Cultural Keystone Species to Social and Ecological Conservation.*
- March 2003 Society of Ethnobiology Conference, Seattle, Washington. Bridging Culture, Restoration, and Ethnobotany: the Study of Wapato (*Sagittaria latifolia* Willd.) in Interior B.C.
- Aug 2002 Joint Conference for the Society for Ecological Restoration and the Ecological Association of America. *In Search of Cultural Refugia: the Role of Cultural Knowledge in Ecological Restoration.*
- July 2002 Society of Conservation Biology, Canterbury, United Kingdom. Cultural Keystone Species: Implications for Ecological Conservation and Restoration.
- March 2001 Society of Ethnobiology Conference, Durango, Colorado. Valuing Those Soggy, Boggy Places: the Cultural Significance of Wetlands in British Columbia.
- March 2001 Society of Ethnobiology Conference, Durango, Colorado. *Beyond Myth, Beyond Sky: Teaching & Taboo in the Star Husband Tale.*
- March 2001 Society of Ethnobiology Conference, Durango, Colorado. Feast from the Swamp: Ecological and Cultural Significance of Wetland Plants.