

**DAN WEBSTER B.SC., R.P.BIO, P.AG.**

Project Ecologist



Dan Webster is a Professional Agrologist and a Registered Professional Biologist with over fourteen years experience in the upstream oil and gas environmental industry. Graduating in 1995 with a Bachelor of Science degree in Ecology from the University of British Columbia, Dan began his career at Longstaff Land Surveying in the summer of 1995. Dan was hired to work in the survey company's land department to address environmental issues (stream crossings, wildlife concerns and soil surveys) on proposed oil and gas developments and also gained land agent experience including government referrals, public and first nations consultation and private land surface lease negotiations. Dan continued with Longstaff until early 1998 before moving to an area supervisor position with Alpine Environmental Ltd. in Fort St. John. Dan spent eight years at Alpine as first area supervisor then Fort St. John Area Manager and as such was responsible for business planning and budgeting, maintaining client and government relationships, sales and marketing, hiring, training and mentoring of new staff, project management and supervision of daily operations. Dan also assisted in the daily operations and management of Nahendeh Land and Environmental, a First Nation owned environmental company based out of Fort Liard, NWT as part of his duties at Alpine. In September of 2003, Dan obtained his Professional Agrologist standing with the BC Institute of Agrologists. Dan left Alpine in July of 2005 to start his own company with his wife Joanna, Eco-Web Ecological Consulting Ltd. Dan's role at Eco-Web is that of a senior project manager responsible for designing and implementing projects from start to finish. Eco-Web has four main service specialties; Ecological Services, Reclamation and Remediation, Waste Management and Emergency Spill Response, all of which are designed around Dan's unique cradle to grave suite of skills and experience. Over the past few years Eco-Web has focused on our Ecological Services, completing over 35 wildlife mitigation plans and 12 environmental assessments. Dan's project experience includes wildlife habitat assessments and mitigation planning, environmental monitoring, aerial ungulate inventories, environmental impact assessments, stream surveys and fish habitat assessments, hydrometric surveys, land use planning, pre-site soil assessments, reclamation planning, environmental inspection, post-disturbance soil and vegetation assessments, final lease site reclamation including heavy equipment supervision, emergency spill response, Phase II site investigations, Phase III remedial activities and drilling waste management. In the spring of 2007 Dan also received his Registered Professional Biologist standing with the BC College of Applied Biology.

**KEY PROJECT EXPERIENCE**

- 2004 – 2009 - Developed Wildlife Mitigation Plans for well locations, pipelines and road construction in northeastern BC to address concerns related to sensitive wildlife, protected areas and timing of developments. Role on the projects was the primary project manager, so was responsible for setting up and completing all field work, including aerial ungulate surveys and ground surveys, writing the reports and interacting with the client and government personnel. The following are some example projects:
  - November 2004 – Shell “Bougie” d-62-B/94-G-15 – single well development on a narrow ridge adjacent to sensitive caribou and goat habitat. Completed field assessment of project area both aerial and on the ground, prepared an environmental assessment with mitigation recommendations for construction and drilling of the well.
  - September 2005 – BG Canada “Caribou” b-6-J/94-G-7 – single well development adjacent to the banks of the Buckinghorse River. An assessment of potential wildlife impact indicated a mitigation plan was required to address proximity to resident Mountain Goats.
  - November 2005 – Devon “et al Ojay” a-84-K/93-I-09 – single well development passing through a Major River Corridor Special Resource Management Area (Dawson Creek LRMP), requiring mitigation and reclamation recommendations.
  - February 2006 – Talisman “Husky Hz Federal” d-28-H/94-B-7 – two wells, one of which was inside a proposed wildlife habitat area for caribou movement between two adjacent ungulate winter ranges. Conducted a wildlife assessment and completed a detailed mitigation plan and monitoring of the entire project, ongoing.
  - March 2006 – Talisman “Crum” d-68-B/93-P-04 – single well development bordering a sensitive caribou ungulate winter range, required mitigation to address timing and caribou conflicts based upon the wildlife assessment.

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- July – September 2006 – Talisman Mount Spieker Pipeline from a-43-E/93-P-03 to a-66-E/93-P-03 – prepared a mitigation and reclamation plan to construct a pipeline through the high alpine in a caribou ungulate winter range. Monitored the complete construction and reclamation of the pipeline right of way.
  - November 2006 – Talisman “et al Ojay” a-93-I/93-P-8 & a-7-H/93-P-9 – two wells within a low elevation caribou ungulate winter range. Prepared a detailed mitigation plan to address construction, drilling and future production of the wells.
  - October - November 2007 – Talisman Ojay – Completed wildlife mitigation plans and amendments for further development within the Ojay field. Completed associated fish assessments for the project.
  - December 2007 – Suncor “Gwillim” b-76-K/93-P-5 - Completed a wildlife mitigation plan for a single well development in a low elevation Caribou Winter Range.
  - April 2008 – Talisman Ojay Pipeline – Completed a wildlife mitigation plan for a second pipeline phase to the Ojay project.
  - July 2008 – Talisman Ojay Field Development – Continued the mitigation planning as this field develops, including monitoring and project planning.
  - January – March 2009 – Huron Energy – completed the wildlife and vegetation components for the Environmental Assessment on an NEB regulated inter-provincial pipeline.
  - November 2003 – July 2006 - Completed Wildlife Mitigation plans, Seismic Personnel Environmental Training and wildlife monitoring for seismic programs in the Muskwa-Kechika Management Area and other sensitive areas in Northeastern BC. Responsibilities involved gathering field data, report preparation, training presentations and monitoring of the program.
    - November 2003 – Prepared a mitigation plan for a seismic spec company with a 2D seismic program in the Muskwa-Kechika Management area northwest of Fort Nelson. Part of the plan also included monitoring the seismic activity for wildlife concerns.
    - November 2004 – Prepared a wildlife mitigation plan for a seismic program bordering on the Muskwa-Kechika and another along the Buckinghorse river.
    - December 2005 – March 2006 – Prepared wildlife mitigation plans for 11 3D seismic programs east of Fort Nelson to address potential conflicts with boreal caribou and to address concerns by the First Nations. Implemented a number of new cutting and seismic design techniques in conjunction with the client and put on a training course at various remote locations for all project staff.
    - May – July 2006 – Prepared a number of wildlife mitigation plans to address activity within the spring calving season for a number of seismic programs. Coordinated ongoing monitoring and site specific mitigation measures employed to reduce the impacts on calving elk, moose and deer.
    - January – September 2008 – Prepared wildlife mitigation plans in support of winter and spring timing variances for 8 seismic programs throughout northeastern BC. Program issues ranged from caribou concerns to other large ungulates such as elk, moose and deer. Completed follow up monitoring of the programs to ensure the objectives of the mitigation plans were upheld.
    - July-August 2008 – Nevis 2D and Muncho 2D – completed mitigation planning for two 2D seismic programs within the Muskwa-Kechika Management Area.
    - September 2008 – March 2009 – Komie North and South 3D – Prepare a detailed wildlife mitigation plan for the seismic programs and coordinate environmental monitoring of seismic operations.
  - 2003 – 2008 - Completed environmental monitoring of seismic, wellsite construction and pipeline construction programs. Monitoring duties included patrolling the project area looking for wildlife and tracking wildlife movement, observing project activities and ensuring compliance with all applicable environmental regulations, providing recommendations for site-specific mitigation and shutting operations down if there was a danger to fish and wildlife or their habitat.
    - 2003 – Monitored a seismic program in the Muskwa-Kechika, provided site specific mitigation measures and addressed helicopter flight lines and wildlife encounters with project staff.

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- March 2006 – January 2007 – Monitored the construction and drilling of a single well in sensitive caribou habitat (see d-28-H description above). Provided on-site advice on construction and reclamation practices and implemented new mitigation techniques.
  - May – July 2006 – Monitored a 3D seismic program during the spring calving season in the Mount Puggins area of Northeastern BC.
  - July 2006 – September 2006 – Monitored the construction and reclamation of a pipeline through the alpine (see Spieker pipeline above). Dealt with lichen mat salvage, stream restoration and reclamation and revegetation along the pipeline.
  - July – September 2007 – Talisman Federal Pipeline tie-in from d-28-H/94-B-7 to d-30-E/94-B-8 – monitor all aspects of construction and horizontal directional drilling operations in this sensitive caribou area. Managed the waste management for the HDD involving managing significant water flow from drilling operations in a difficult disposal area.
  - Winter 2006/7 and Winter 2007/8 – Talisman Ojay – Monitored the wellsite and pipeline development in this sensitive caribou zone.
  - January – March 2008 – Talisman Sukunka 12 inch Pipeline Replacement – Monitored the water dispersal operations from a repair through the Sukunka River valley, in order to control water flow and quality into the Sukunka Watershed.
  - January – March 2009 – Komie North and South 3D Seismic, supervised the field environmental monitors in the course of wildlife monitoring during this 3D seismic program.
  - January – April 2009 – Talisman Lower Burnt Pipeline HDD. Monitored sensitive river water quality during this long, difficult bore to ensure no fracs occurred and that environmental regulations were complied with.
  - December 2008 – June 2009 – Emergency Spill Response Coordinator – Talisman Energy – Loss of Well Control, well blowout. The uncontrolled release of 30-35m<sup>3</sup> of invert onto the well location and adjacent forested area was contained, logged, cleaned up and hauled out of this sensitive caribou ungulate winter range area.
  - August – September, 2005 - Emergency Spill Response Coordinator – CN Rail Wabamun Lake Train Derailment. Responsible for over 60 crew members and 25 vacuum units, coordinated oil recovery operations for the shoreline clean up.
  - November 2005 – CNRL – Supervised the excavation, sampling and final clean up of a large salt water pipeline break in northeastern British Columbia.
  - October – November, 2005 - Flare pit excavation, delineation and confirmatory sampling to BC Contaminated Site Regulation standards. Responsibilities included directing the excavation through field sampling and taking final confirmatory samples.
  - 2001 – 2004 - Conducting ongoing monitoring and aerial surveys on mountain goats in regards to various seismic programs located in the Buckinghorse and Sikanni River areas of Northeastern BC. Duties include providing recommendations to industry and government on mitigating measures for the programs.
  - September 2004 - Assess and provide recommendations on the pre-existing impacts to the aquatic ecosystem of historical coal operations in the Dease Lake area of Northwestern BC. Project involved travelling to an extremely remote area and developing a water quality sampling program and provide advice for the client based upon analytical results and interpretation of historical activities.
  - June 2004 - Conducted Land Use Feasibility Studies for an oil company prior to purchase of a large newly formed gas field. The study included assessing environmental conditions, potential public and native concerns, as well as regulatory constraints that would be in place due to the field's proximity to LRMP Protected Areas.

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- December 2003 - Completed field screening for an Environmental Impact Assessment to aide a BC First Nations group develop an industrial property on Reserve Lands. Project involved completing a field reconnaissance and timber cruise of the project area and complete a report addressing environmental impacts, specifically wildlife and habitat protected by the Federal *Species at Risk Act*.
  - 1998 – 2006 - Prepared a number of Caribou Protection Plans, Permafrost Protection Plans and Environmental Field Reports for operators within the Caribou Management Zones in Alberta. Conducted a field assessment of the Caribou habitat and related site-specific conditions for the proposed work.
  - 2000 – 2004 - Completed Environmental Impact Studies as per the MOE effluent disposal requirements for proposed industrial camps and effluent disposal systems for the camp operating permits. Project activities involved completing all applicable field studies and soil tests, interpreting the data for disposal suitability and completing the draft report for senior review.
  - 1995 – 2008 - Completed stream surveys and fish inventories/habitat assessments in support of numerous creek crossings for access roads, pipeline corridors and winter access routes.
  - 1998 – 2005 - Drilling waste management including land spraying while drilling, drilling waste sampling, fluid detoxification and clarification, field lab testing, analytical interpretation and fluid disposal.
  - July 2003 - Designed and instructed a five day drilling waste management workshop for members of the Saulteau River First Nation and the West Moberly First Nation.
  - September 2002 - Designed and completed a research program to provide background data in support of an application to dispose of drilling waste from potassium sulphate based mud systems. Research involved collecting field samples of waste and receiving soils, applying several experimental trials, reviewing the subsequent lab analysis and drawing disposal loading limit criteria from the interpretation of the data.
  - 1998 – 2009 - Investigate, assess, manage, and supervise remedial excavations and waste management of contamination associated with spills (produced water, crude oil, condensate, and refined products). Supervision of heavy equipment operators.
  - 2004 – 2005 - Preliminary Site Investigation, Stage 2 Site investigation on a number of highly contaminated wellsites, including environmental drilling and groundwater monitoring and draft report completion.
  - March 2008 – Reclaim an oxbow and backchannel of the Sukunka River following pipeline replacement activities. Involved excavating site, controlling water dispersal, recontouring slopes and installing erosion control measures and seeding affected areas.
  - 2002 – 2004 - Completed final reclamation on winter access only well locations in the Sierra and Ladyfern areas of northern BC. Organized and supervised all equipment, including opening winter access. Seeded and fertilized the well locations. Submitted applications for a Certificate of Restoration to the OGC.
  - July 2001 - Completed a reclamation plan for a gas plant site in the Chetwynd area including completing all background soil surveys and vegetation information requirements as well as the preparation and defence of the application to the Agricultural Land Commission.
  - December 2000 - Completed an Environmental Impact Assessment to supplement an application to the Mackenzie Valley Land and Water Board for a well location in the Fort Liard area. The report addressed site-specific concerns regarding environmental issues including fish and wildlife habitat to reclamation recommendations. Project responsibilities involved completing field work and draft report completion to be reviewed by the senior project manager.
  - 1995 – 2009 - Completed multiple pre-construction assessments (to Schedule A criteria in BC) and Reclamation Inspections (to Schedule B criteria in BC) and submittals to the Land Reserve Commission in BC.
  - July – September 2008 – Coordinated field staff and completed field operations in the course of managing the turbidity monitoring on select drainages along TransCanada Pipeline's Keystone Pipeline in southwestern Manitoba

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- August – September 2008 – Investigated a lake complex with resident Trumpeter Swans and pursued an application for water withdrawal from the lake complex for EnCana's drilling completions use. Organized and supervised all aspects of the pumping and swan/lake bathymetric monitoring.
  - 2006 – 2009 – Completed multiple Hydrometric Surveys to determine instantaneous discharge in a variety of drainages for the purpose of determining if there was sufficient flow to obtain a Water Withdrawal Permit for the purpose of drilling.
  - August – September 2008 – Prepared Environmental protection plans for five separate major Horizontal Directional Drill Crossings of major rivers in British Columbia (Pine, Sukunka, Burnt Rivers) and Alberta (Battle and Little Smoky Rivers)
  - March, 1998 & February 1999 - Completed hydrometric surveys to establish flow and instantaneous discharge on a number of creeks and rivers associated with hydrostatic testing of a 30-inch natural gas pipeline. Interpreted flow results in the field and advised the client if there was sufficient flow to use the waterbody for pipeline testing.
  - March 2007 – Organized and completed an aerial inventory utilizing the Random Stratified Block Count procedures (RIC) for moose in the Tumbler Ridge area. Prepared the population estimation report in support of a proposed natural gas plant.
  - July 1997 - Prepared a detailed wildlife inventory proposal for the Prophet River First Nation to obtain funding from Forest Renewal BC to conduct an inventory of the wildlife within their traditional lands.
  - January 1996 - Participated in the completion of aerial surveys of moose (stratified random block counts) with BC government personnel. Participated as a spotter in the helicopter.
  - June 1996 - Conducted stream surveys and fish inventories on Ruddy Creek, Farrell Creek and a number of associated drainages in Northeastern BC to gain approval on a high priority wellsite in the area. Also assessed wildlife conditions and provided mitigative measures to minimize environmental impacts. Completed all field work and reporting.
  - 1996 – 1997 - Assisted Drilling Supervisors and Pipeline Engineers for planning and approval of a large number of wellsites and associated pipeline gathering systems. Duties included; route planning, assessing stream crossings, mediating environmental concerns, acted as government liaison, submission of regulatory requirements for approvals and native consultation
  - April-May 1995 - Participated in the reintroduction of wood bison into the Liard Plateau near the Deer River in NE BC. Involved releasing bison, monitoring of movement and construction of containment barriers.

#### EDUCATION

- University of British Columbia, Bachelor of Science Degree, Major Ecology, 1995.

#### PROFESSIONAL REGISTRATIONS

- BC Institute of Agrologists, Professional Agrologist
- BC College of Applied Biology, Registered Professional Biologist