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A Tribute to George Wayne Douglas 1938 – 2005

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Coming from humble beginnings, George Wayne Douglas, with his determination and strong spirit, established himself as one of British Columbia's most respected botanists. I first met George in 1995 when I began working with him at the British Columbia Conservation Data Centre (CDC). In time, I came to know him as an adept field botanist, a knowledgeable ecologist, an accomplished author, a practical taxonomist, a cunning businessman, a conservationist at heart, and a generous mentor. During our numerous field trips, George often talked about writing his memoirs and enjoyed recounting the stories and adventures that would go into the chapters. He had a lot of different experiences throughout his life that would have resulted in an interesting read. He was a born leader: he had a strong character, held his ground on issues, and had a critical, but practical approach. George had a vision for botany in British Columbia and he brought that vision to fruition.

George (known to family and close friends as Wayne) was born in the Royal Columbian hospital in New Westminster on 22 June 1938. He spent his early years exploring the bushes around the base of Burnaby Mountain near Vancouver, British Columbia, this may have been the root of his inspiration to study botany and ecology later in his life. He grew up in a large family with six brothers and sisters: Bonnie, Marilyn, and David who currently live in British Columbia, and Robert, who lives in South Africa (siblings David Charles and Judy predeceased him). His family was not affluent, so George always aspired to do well for himself, which he certainly accomplished.

As a youth, he excelled at sports but wasn't that interested in academics. In high school (Figure 1), he ran record sprints and was an excellent basketball player, as well as an accomplished golfer. He would continue to enjoy golfing throughout his life, playing at least two to three times a week. When he first started, at about 12 years of age, he used to sneak onto the Vancouver Golf Course, and golf his way to school, hide



FIGURE 1. George at Como Lake High School (circa 1956).

his clubs and then golf his way home after school. Later he was on the high school golfing team and was an amateur champion. He always knew how to have fun, especially back in high school, but he also worked hard. One of his favourite jobs at that time was at Labatt's Brewery where his Friday afternoons were spent "sampling" the products.

Despite his lack of interest in scholarly pursuits in high school, George ended up at the University of Washington (College of Forest Resources) in Seattle, Washington, on a track and field, basketball and golf scholarship. George continued to work on his athletics; however, much to his surprise, he became very keen on his studies and excelled in his field. Although he never finished high school, during his educational career he ended up receiving three post-graduate degrees!

George had a scholarship but he still had to work part-time jobs to finance going to university. Amongst his occupations were working in a mill, a cannery and a slaughterhouse. He was also an ambulance and taxi driver. Later in his schooling he got work that better suited his career goals like as a forestry consultant, where he supervised forest inventory, mapping and reforestation projects. He also worked as an ecological consultant while attending University of Washington and completed inventories in the North Cascades National Park focussing not only vegetation, but also wildlife, soils and geology.

During his bachelor studies, George received tutelage from two famous Pacific Northwest botanists, Dr. C. Leo Hitchcock and Dr. Art Kruckeberg. In later years, George dedicated one of his books to Dr. Kruckeberg (*Mountain Plants of the Pacific Northwest*), in which he wrote that Dr. Kruckeberg had inspired him during his first plant identification attempts and started him on the road to his lifelong career in botany. Somehow, George even ended up getting bestowed with Dr. Hitchcock's plant press, a true honour for a botanist! As a result of considerable effort during his bachelor degree, he was accepted into graduate school and studied under Dr. Ronald J. Taylor. George received a Bachelor of Science degree in forestry in 1968 and a Master's of Science degree in 1970 from University of Washington.

George's master's thesis involved a vegetation study in the subalpine zone of the western North Cascades, Washington, which was published in *Arctic and Alpine Research* (Douglas 1970). Following his Master's degree, he moved back to Canada to embark on his Ph.D. at the University of Alberta (Department of Botany) in Edmonton, Alberta, with Dr. Larry Bliss. It was a good time to return to Canada since the United States Army was rallying young troops for Vietnam. His doctorate was a study of alpine and high subalpine plant communities of the North Cascades Range, in Washington and British Columbia, and he published the research in *Ecological Monographs* (Douglas and Bliss 1977). In 1974, following his doctorate at University of Alberta, he received a Postdoctoral Fellowship in the Department of Botany to study lichens of the North Cascade Ranges of Washington (Douglas 1974).

His graduate work took him to the places he loved – the mountains of the Cascade Range. In fact, there is a special place on Mount Baker called Grouse Ridge where he wanted to have his ashes spread, but alterna-

tively he thought that Mount Prevost overlooking his home in Duncan would be a fine place too, which is where his family ultimately scattered his ashes.

After finishing his graduate studies, George took courses in landscape architecture at Pennsylvania State University, which later enhanced his immense enjoyment of gardening at home, but at the time, made him more marketable as a consultant. Then he focussed entirely on developing his consulting firm, Douglas Ecological Consultants Ltd., based out of Victoria, British Columbia. His consulting work was to take him all over British Columbia and to the Yukon Territory and resulted in valuable vegetation interpretations and guidance to land managers on the issues of environmental impacts and biodiversity monitoring.

In 1973 and 1974, he started working in the Yukon Territory, where the alpine was full of new species and breath-taking landscapes. His time there began when he was contracted by the Canadian Wildlife Service to examine the vegetation and soils of Kluane National Park and their vulnerability to land use within the park. George ended up spending eight summers working in the park, a good time for the business, but also some of the best memories of his life.

Parks Canada also hired him to work on many important projects in the 1970s. In fact, he was awarded some of Parks Canada's largest contracts ever. During this time he employed numerous prestigious scientists and colleagues to provide expertise on his projects. Among other projects, he was asked to evaluate the use and ecological impacts of chemical fire retardants in North America and to make recommendations on their future use, to assess the environmental impact of recreational use (mainly human and horse trampling) on different vegetation types in Waterton Lakes National Park, Alberta, and to assess the environmental impact of five potential transportation corridors in Kluane National Park. He also carried out a four-year biophysical inventory project in Kluane National Park, which was a multidisciplinary study that included ten professional scientists and reported on landforms, surficial deposits, soils and vegetation.

Douglas Ecological Consultants also worked on projects involving vegetation reconnaissance of large tracts of land in British Columbia, examining spruce hybridization in the province, evaluating the British Columbia ecological reserve system, air quality monitoring projects using lichens in northern Alberta, and a variety of environmental impact studies.

In the early 1980s, George started working on contracts for the British Columbia Ministry of Environment (MOE), for which he would work until his retirement in 2002. He started out at MOE as a consultant, designing and coordinating a biological monitoring network using lichens in northeastern British Columbia. He also investigated the occurrence of alpine plant communities in British Columbia for the Ecological Reserves unit of MOE, and suggested where new ecological reserves should be established.



FIGURE 2. George (left) and Lloyd Freese above the Tatshenshini River. 1992. Photo credit unknown.

At that time, he also became a Royal British Columbia Museum research associate and started working on a complete taxonomical and ecological treatment of approximately 360 taxa in the Asteraceae (sunflower family) in British Columbia. Unfortunately, only two of the planned three volumes were ever published due to funding difficulties. He was also involved in numerous articles and government documents in the 1980s, and he edited and contributed to an attractive and informative coffee table book on Kluane Park, Yukon, called *Kluane, Pinnacle of the Yukon* (Theberge and Douglas Editors 1980). His work in the Yukon also resulted in the *Rare Vascular Plants of the Yukon* (Douglas et al. 1981).

George also established a strong relationship with ecologists in the British Columbia Ministry of Forests (MOF) in the 1980s as well as the 1990s. He worked on floristic manuals and bibliographies for them, and annotated several thousand sheets of British Columbia plants. George and his colleagues at MOF (Del Meidinger, Andy Mackinnon and Jim Pojar) felt that it was of utmost importance to have a flora for British Columbia to provide a foundation for all inventory, floristic and conservation work going on within the province. Therefore, he collaborated with them on the very first flora for British Columbia and became the chief editor of the *The Vascular Plants of British Columbia* (Douglas et al. 1991-1994). For the first time

ever, botanists had a flora for British Columbia all in one work. Previously, botanists had to carry a variable number of floras depending on what part of the province they were working in.

In the 1990s, George was also involved in the following very popular field guides: *Plants of Northern British Columbia* (MacKinnon et al. 1992), *Plants of the Southern Interior of British Columbia* (Parish et al. 1996), and the second, expanded edition of the *Mountain Plants of the Pacific Northwest* (Taylor and Douglas 1995). In total, he contributed approximately 45 publications during that decade that greatly enhanced the knowledge of vascular plants in British Columbia and the Pacific Northwest.

In addition to his valuable contributions to the botanical literature, George also added thousands of valuable collections to major herbaria in Canada. During his career, he collected 13893 specimens, many of which represented new taxa for the province, new range extensions for known taxa, rare or at-risk species, and other interesting finds. From his collections in the Cascade Mountains he and John Packer named a new *Erigeron* (fleabane) for the Pacific Northwest, *Erigeron salishii* (Salish Daisy) (Douglas and Packer 1988). He also made the first collections in British Columbia of species like *Orthocarpus barbatus* (Grand Coulee Owl-clover), *Erigeron leibergii* (Leiberg's Fleabane), and *Tonella tenella* (Small-flowered Tonella).

In 1991, George started working for the British Columbia government as the Program Botanist at the CDC. This position gave him the opportunity to further contribute to floristics in British Columbia through the CDC mission of identifying, tracking, and monitoring the rarest or most at-risk plants in the province. To accomplish this goal, George continued to collect and amass important collections. In addition, through inventory work, George travelled throughout the province chasing the plants that were on the CDC's tracking list and surveying a wide variety of habitats, including range lands, wetlands and mountain tops. The year that I joined the CDC, we toured the peaks of the southern Rocky Mountains for five days via helicopter escort. Because of his background in alpine ecology, mountain excursions were definitely a focus for George, but also critical was our inventory work in the other habitats for rare plants, such as the sand dunes of the west coast of Vancouver Island, the hot springs in the East Kootenays, and the beaches of Osoyoos Lake. These trips sound like a series of holidays but that was where our work took us to confirm the conservation status of rare and at-risk plants in British Columbia.

In order to accurately survey and track the species, George not only saw the need for meticulous inspection of the herbaria collections and for inventory work in poorly surveyed areas as well as in regions under high development pressure, but he also saw the need for an updated flora. Therefore, in the late 1990s he started focusing his efforts on the production of the *Illustrated Flora of British Columbia* (Douglas et al. 1998-2002). At that time, he also co-authored the *Rare Native Vascular Plants of British Columbia* (Douglas et al. 2002) so that land use planners and field workers had an easy-to-use reference to the CDC-listed plants.

The *Illustrated Flora of British Columbia* (Douglas et al. 1998-2002) dominated George's life from the late 1990s to 2002. Since he was so dedicated to its completion, he worked on it at home as much as he did in the office. The production of the flora not only involved coordinating the contributors' schedules, keeping them on timelines and reviewing the products, but it also involved compiling high quality illustrations (some borrowed, others newly commissioned). The maps were a whole other project (published in Volume 8 of the series) – the first complete set of distribution maps for British Columbia plants ever done. It was an enormous effort but with enormous benefits.

The inventory work that George was involved with at the CDC not only allowed for more accurate provincial listing of rare and at-risk taxa, but also allowed him to prepare numerous status reports on the local southeast Vancouver Island and Okanagan Valley Endangered and Threatened plant taxa. As a result of these studies, he authored and co-authored 40 Committee on the Status of Endangered Wildlife in Canada (COSEWIC) status reports and update status reports, more than any other contributor of reports to the national species assessment team!

Along the way, George encouraged many of the individuals that he mentored to co-author status reports. He often invited enthusiastic students and other protégés to join him on field outings where he was very forthcoming about sharing his botanical knowledge. He also spent time helping the Co-operative Education students that worked at the Royal British Columbia Museum and many others that sought his advice. He encouraged his staff with regular bouts of appreciation. Every year, at Christmas his botanical supporters at the CDC were invited to lunch at his favourite spot, The Royal Colwood golf course clubhouse, where patrons have a great view of the lovely grounds with its ancient Douglas-firs and Garry Oaks, manicured greens and ponds.

Through his work it was obvious that George was a conservationist at heart. He may not have portrayed the image of one in the typical sense, but he always extolled the virtues of preserving natural areas. In the early 1990s, he participated in the Sierra Club expedition down the Tatshenshini River, northern British Columbia, part of a successful campaign to have a protected area established in there (Figure 2).

He became a member of the Garry Oak Ecosystem Recovery Team Rare Plant Recovery Implementation Group, and contributed valuable input to the membership discussions. He was also on the *Adiantum capillus-veneris* (Maidenhair Fern) recovery team and performed an advisory role to the South Okanagan-Similkameen Conservation Program. In his consulting work, he contributed to conservation through research and inventory, but also through work with golf clubs advising them on how to create environmentally friendly courses.

He also supported an important Nature Conservancy of Canada campaign to purchase one of the last remaining sizeable stands of Garry Oak in semi-pristine condition left on southeastern Vancouver Island, a property owned by the Elkington family, located east of Duncan. He did early inventories in the Garry Oak ecosystem, and advised the Nature Conservancy staff about the biodiversity values of the property during the raising of funds to purchase it. In 1999, George had the opportunity to conduct the most intensive and objective study of a Garry Oak woodland ever done in British Columbia on this very property, later coined the "Cowichan Garry Oak Preserve". The study examined the composition, phenology, stand structure, and soils of the Garry Oak woodland. Phenological data was obtained on a weekly basis from March until September and soils were also examined in detail from three soil pits. In 2004, Douglas Ecological Consultants Ltd. repeated the vegetation component of the study to monitor changes after five years (Smith and Douglas 2005).

During his government career, George reached out to many different groups to communicate his message to protect rare and at-risk plants. In particular, he established a relationship with Osoyoos Indian Band, and befriended Environmental Officer Ron Hall. He spent

many summers doing inventories on Osoyoos band lands monitoring the special habitats that they have conserved over the years in the region, while all surrounding properties have been converted to vineyards, orchards, golf courses, and residential and commercial developments. Even after he retired from government in 2002, he continued to work with the band helping them with invasive species control in sensitive rare plant habitats.

When George retired from government after 11 years of service in early 2002, he started up Douglas Ecological Consultants Ltd. full-time once again. He was very excited about getting out in a consulting capacity like the “old days” on some field trips since the inventory work had been scant in recent years with the government. In his capacity as a consultant to government, he became active in a variety of interesting botanical and ecological projects and produced many reports. In the last three years of his life, he worked on numerous status reports, four species at risk recovery strategies, and one multi-species recovery strategy. Sadly, his life and work were cut short by a long battle with cancer. He died on 10 February, 2005 at Cowichan District Hospital, Duncan, British Columbia. He left behind wife Sylvia, son Geordie, daughter-in-law Mary McPhail, and grandchildren Mackenzie and Ryder, his four siblings and numerous nieces and nephews.

He has, however, left a truly inspiring legacy. His botanical contributions are used often by many plant lovers, botanists and ecologists in British Columbia and beyond. He will be remembered as a leader, not a follower, who made things happen. He was hard-working and passionate about his work. His lengthy bibliography and professional experience, which follows, will attest to this assertion.

Other tributes to George W. Douglas appeared in *Botanical Electronic News (BEN)*, the first, an obituary written by his MOF colleagues, Del Meidinger, Jim Pojar and Andy MacKinnon, and the second, a tribute to George’s immense bibliography (<http://www.ou.edu/cas/botany-micro/ben/ben344.html>; <http://www.ou.edu/cas/botany-micro/ben/ben351.html>). The bibliography found in this article is an updated version of the one that was published in October of 2005 in “*BEN # 351*” and is found at <http://www.ou.edu/cas/botany-micro/ben/suppl/351/gwdouglas.html>.

An obituary also appeared in the local Duncan and Victoria papers that featured one of George’s favourite pictures with his beloved cat, Garfield, where the two of them are reading a Czech satirical, antimilitaristic novel from the First World War given to him many years ago by a valued colleague (Figure 3; <http://www.obituariestoday.com/Obituaries/ObitSearchList.cfm>).

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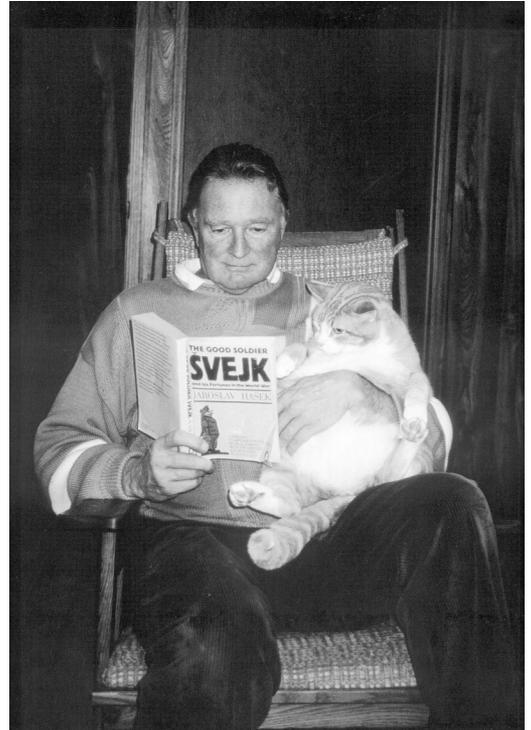


FIGURE 3. George and his beloved cat, Garfield. Circa 1993. Photo by Sylvia Douglas.

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Positions in Scientific and Professional Societies

Member: Northwest Scientific Association; Ottawa Field-Naturalists’ Club; Rare Plant Consortium; Association of Professional Biologists

Research Associate: Royal British Columbia Museum (1991-2004).

Dissertations and Post-doctoral Fellowships

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- ***COSEWIC.** 2005a. COSEWIC assessment and status report on the Branched Phacelia *Phacelia ramosissima* in Canada. Committee on the Status of Endangered Wildlife in

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- ### Professional Experience Summary
- 1966 – 1967: Forester and Consultant with Rayonier, Canada Ltd., Jeune Landing, BC and Mills, and Potter and Mills, Vancouver, British Columbia, where he supervised forest inventory, forest type mapping, and reforestation projects on northern Vancouver Island, British Columbia.
- 1968 – 1970: Ecological Consultant to the Intercampus Education and Scientific Preserves Committee (Washington Universities) at Western Washington State College, Bellingham, Washington, hired to examine and quantitatively sample more than twenty-five potential natural areas throughout the State of Washington, and recommend which ones should be protected.
- 1969 – 1974: Ecological Consultant to the United States National Park Service in Sedro Woolley, Washington, where he initially provided a biological inventory (vegetation, wildlife, soils and geology) of the newly formed North Cascades National Park, Washington. He also conducted vegetation analysis of the entire park (18000 km²) and provided advice and research with respect to vegetation problems.
- 1973 – 1974: Ecological Consultant to Canadian Wildlife Service, Edmonton, Alberta, and Parks Canada, Winnipeg, Manitoba. Project co-ordinator and chief ecologist examining vegetation and soils of Kluane National Park, Yukon Territory, and their relation to fragility and land use within the park. This study was also co-ordinated with small mammal and bird studies.
- 1973 – 1974: Ecological Consultant to Canadian Forestry Service, Edmonton, Alberta, reviewing and evaluating the ecological impact and use of chemical fire retardants in North America. He also made recommendations pertaining to the future use of chemical fire retardants in Canada.
- 1974 – 1975: Ecological Consultant to Canadian Wildlife Service, Edmonton, Alberta, and Parks Canada, Calgary, Alberta. Project co-ordinator and chief plant ecologist for a study designed to assess the environmental impact of recreational use (mainly human and horse trampling) on different vegetation types in Waterton Lakes National Park, Alberta.
- 1974 – 1975: Ecological Secretariat, Department of Lands and Forests, Victoria, British Columbia. Chief plant ecologist on a three-faceted study in west-central British Columbia. The study included a vegetation reconnaissance of a 1500 square mile area, examination of the spruce hybridization problem in the region, and an evaluation of the ecological reserve system and selection in British Columbia.
- 1974 – 1975: Ecological Consultant with Don Blood & Associates Ltd., Lantzville, British Columbia, for Parks Canada, Winnipeg, Manitoba. Chief plant ecologist with a biological and geological team assessing the environmental impact of five potential transportation corridors in Kluane National Park, Yukon Territory.
- 1975 – 1977: Ecological Consultant to Syncrude Canada Ltd., Edmonton, Alberta. This project involved setting up a continuous biological monitoring program for air quality in the tar sands refinery area near Fort McMurray, Alberta. Using lichens as an indicator, the affect of effluents (especially SO₂) and their environmental impacts will be continuously evaluated.
- 1975 – 2004: Research Associate in Biological Collections, Herbarium, Royal British Columbia Museum, Victoria, British Columbia. Author of a flora on the Asteraceae (Sunflower family) of British Columbia. This work includes a complete taxonomical and ecological treatment of approximately 350 taxa.
- 1975 – 1979: Ecological Consultant to Parks Canada, Winnipeg, Manitoba. Project co-ordinator and chief plant ecologist on four-year Biophysical Inventory Project in Kluane National Park, Yukon Territory. This multidisciplinary study included landforms, surficial deposits, vegetation, and soils. A total of ten professional scientists were involved in this study.
- 1977 – 1978: Ecological Consultant to Thurber Consultants Ltd., Victoria, British Columbia, with Department of Public Works Canada, Vancouver, British Columbia. Chief plant ecologist on environmental impact study team. This multidisciplinary study included all aspects from engineering and social to environmental impacts with respect to the paving and relocation of a large section of the Alaska Highway.

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- 1978 – 1979: Ecological Consultant to Department of Public Works, Canada – Whitehorse, Yukon Territory. Chief plant ecologist on environmental impact study. Assessed the environmental impact of Alaska Highway relocation and paving between Watson Lake and Haines Junction.
- 1978 – 1980: Ecological Consultant with Hardy and Associates Ltd. for Department of Public Works, Canada in Whitehorse, Yukon Territory. Chief plant ecologist on revegetation project. This multidisciplinary study examined vegetation and soils and recommended reclamation procedures for a 175 mile segment of the Alaska Highway.
- 1979 – 1980: Ecological Consultant to British Columbia Ministry of Environment, Land and Parks, Victoria, British Columbia. Designed and coordinated a biological monitoring network (using lichens) in northeastern British Columbia.
- 1980: Ecological Consultant to Ecological Reserves Unit, British Columbia Ministry of Environment, Victoria, British Columbia. Provided an assessment of alpine plant communities in British Columbia and adjacent regions and their occurrence in existing or proposed ecological reserves.
- 1981 – 1986: Taxonomical Consultant to British Columbia Ministry of Forests, Victoria, British Columbia. Provided editorial assistance for floristic manuals and prepared several reports, including a floristic bibliography. Identified and annotated several thousand sheets of British Columbia plant material.
- 1985: Taxonomical Consultant to National Museums of Canada, Ottawa, and World Wildlife Fund. Prepared detailed status reports on four Endangered vascular plants of British Columbia.
- 1985 – 1986: Interpretive Consultant to British Columbia Provincial Parks, Liard Hotsprings, and Mt. Robson Provincial Parks. Provided interpretive services for Provincial Parks summer interpretive programs.
- 1986 – 1995: Taxonomical Consultant to British Columbia Ministry of Forests, Victoria, British Columbia. Chief editor and major contributor for the four-volume *Vascular Plants of British Columbia*.
- 1987: Ecological and Taxonomical Consultant for British Columbia Provincial Parks, Strathcona Provincial Park, with Donald A. Blood & Associates, Nanaimo, British Columbia. Provided ecological and floristic expertise with respect to a preliminary assessment of natural resources.
- 1988 – 1989: Ecological and Taxonomical Consultant to British Columbia Ministry of Parks, Ecological Reserves Unit, Victoria, British Columbia. Chief co-ordinator for study team (including Blood & Associates and Westland Resources Group) formulating a new ecological reserve system for British Columbia.
- 1991 – 2002: Program botanist at British Columbia Conservation Data Centre, British Columbia Ministry of Environment, Lands and Parks, Victoria, British Columbia. Responsible for the tracking and inventorying vascular plants of conservation concern in British Columbia.
- 1992: Botanist, Sierra Club expedition down the Tashenshini River, northern British Columbia; part of the campaign to have a protected area established in the region.
- 2001 – 2004: Recovery team member and scientific advisor, Garry Oak Ecosystem Recovery Team Plants at Risk Recovery Implementation Group.
- 2002: Recovery team member and scientific advisor, *Adiantum capillus-veneris* Recovery Team.
- 2002: Ecological Consultant to Parks Canada, Pacific Rim National Park. Chief botanist involved in inventory and invasive species management.
- 2003: Botanical consultant to British Columbia Ministry of Environment. Chief botanist on inventory projects in South Okanagan Grasslands Protected Area and adjacent parcels.
- 2003: Botanical Consultant to British Columbia Ministry of Environment. Chief Botanist hired to inventory for *Silene spaldingii* to fill information gaps in its current status in the province.
- 2003: Botanical Consultant to Parks Canada. One of chief botanists hired to inventory rare plants on the Queen Charlotte Islands.
- 2003 – 2004: Botanical Consultant to Osoyoos Indian Band. Botanist and Project Coordinator managing invasive species in sensitive habitats on band lands. Also trained band members in managing the vegetation.
- 2004: Botanical Consultant to British Columbia Ministry of Environment. Chief botanist hired to inventory *Azolla mexicana* to fill information gaps in its current status in the province.
- 1974 – 2004: Principal of Douglas Ecological Consultants Ltd. Botanist, Ecologist and Project Director.