

KATHRYN A. BECK

1708 McKenzie Ave. Bellingham, WA 98225 360-671-6913 email: calypso@openaccess.org

PROFESSIONAL EXPERTISE

- ** Design and implementation of rare plant surveys, vegetation analysis, and management
- ** Preparation of BA, ILP, EA, EIS, ICD and botanical resource reports
- ** Identification of rare plants of eastern Washington, particularly the lower Columbia Basin

PROJECT EXPERIENCE

Rare Plant Survey, Okanogan Co., WA, Tetra Tech EC; 2009-2010. Large scale rare plant, noxious weed, and cultural plant surveys done in Okanogan Nat. Forest for proposed gold mine.

Rare Plant, Noxious Weed Surveys, OR Coast, Bonneville Power Administration; 2010. Performed surveys for Federally listed species along Bandon-Rogue Transmission Line. Wrote vegetation resources EA and botany resource report.

Rare Plant Survey, Colville National Forest, Pend Oreille PUD & EES Consulting; 2010. Rare plant and noxious weed surveys done along Middle Fork LeClerc Creek for restoration.

Rare Plant, Noxious Weed Surveys, Walla Walla, Columbia Counties WA, Bonneville Power Administration; 2010. Performed surveys for *Spiranthes diluvialis* along Walla Walla-Tucannon Transmission Line. Wrote EA and botany resource report.

Vegetation Surveys, Klickitat Co, WA, Columbia Land Trust; 2010. Did rare plant, noxious weed surveys and vegetation mapping in wetland, steppe and forested habitats. Resource reports.

Rare Plant Survey, Columbia Gorge, WA, Northwest Pipeline Company; 2009. Designed and performed rare plant surveys for proposed new natural gas pipeline through Clark, Skamania, Klickitat, and Benton Counties. Habitats ranged from shrub-steppe to coniferous forest.

Rare Plant Survey, Sierras CA, HRD/DTA; 2009. Special-status plant surveys done for the NID Yuba-Bear (FERC No. 2266) and PG&E Drum-Spaulding (FERC No. 2310) Hydroelectric Relicensing Projects. Diverse habitats and elevations surveyed.

Rare Plant Survey, Mojave Desert, CA and NV, CH2M HILL; 2008-2009. Rare plant surveys performed in Mojave Desert habitat for proposed solar energy developments.

Rare Plant Survey, Pend Oreille County, Seattle City Light; 2007-2008. Rare plant surveys performed in diverse habitats and resource reports prepared for relicensing of the 14-mile long Boundary Hydroelectric Project, FERC No. 2144.

Rare Plant Survey, Lewis County, WA, Energy Northwest; 2005–2008. Noxious weed, rare plant and lichen surveys performed for relicensing of Packwood Lake Hydroelectric Project, FERC No. 2244, Gifford Pinchot National Forest. Sections written for rare plant and noxious weed surveys for ILP (Integrated Licensing Process) documents. In addition, wrote the Packwood Lake Hydroelectric Project Rare Plant Management Plan for the Project.

Rare Plant Survey, Stanislaus National Forest, Tuolumne Co. CA, DTA, Inc.; 2008. Rare plant surveys done along PG&E's Donnell-Curtis Transmission Line FERC No. 2118.

Rare Lichen and Bryophyte Survey, Stevens Pass, King Co. WA, Stevens Pass Ski Area; 2008. Performed surveys for rare lichens and bryophytes for proposed mountain bike trail routes, Mt. Baker-Snoqualmie National Forest.

Rare Plant Surveys, Spokane Co. and Columbia River WA, Washington Natural Heritage Program; 2008. Provided the WNHP technical services for field studies on rare plant species occurring in shrub-steppe, vernal pool and Columbia River riparian habitats.

Rare Plant Survey, Columbia River, WA, EDAW, Inc.; 2005. Performed rare plant survey for relicensing of Wells Hydroelectric Project, FERC No. 2149, Douglas County PUD. The 30-mile long Columbia River reservoir is in Douglas, Chelan and Okanogan Counties.

Rare Plant Survey, Kootenai National Forest, MT, Avista Corporation; 2005. Rare plant survey performed on powerline right-of-way for Special Use Permit.

***Spiranthes diluvialis* Surveys, Columbia River, WA, Central ID; 2000-2004.** Conducted surveys for the Federally Threatened orchid species *Spiranthes diluvialis*. Located and monitored 3 new populations, Rocky Reach, Columbia River.

Rare Plant Survey, Okanogan County PUD, WA; Tetra Tech EC, Inc.; 2004, 2008, 2010. Rare plant surveys, vegetation type mapping, noxious weed surveys were conducted along 120 miles of proposed and existing transmission line routes. Surveys were done for the Methow Transmission Project, a proposed 115-kV transmission line with associated access road construction between Twisp, Pateros, and Okanogan, Washington. In Okanogan NF, in part.

Rare Plant Survey, Douglas County PUD, WA; Tetra Tech EC, Inc.; 2004, 2008, 2010. Performed rare plant survey and vegetation mapping for proposed Withrow Wind Generation Project.

Rare Plant Survey, Mt. Baker Snoqualmie NF, DNR land, King County, WA; Mason, Bruce & Girard, Inc.; 2004. Conducted rare plant and lichen surveys along 11 miles of road and ROW for the Middle Fork Snoqualmie River Road Project for the Federal Highways Admin.

Rare Plant Survey, Upper American River Project, CA, Devine Tarbell & Asso.; 2003. Conducted rare plant surveys on over 70 miles of existing Upper American River Project transmission lines (FERC No. 2101) from Sacramento to the northern high Sierra Nevada.

Vegetation Mapping and Rare Plant Surveys -Washington State Parks & Recreation Commission; 2001-2003. Mapped vegetation communities in 14 state parks on the Washington Coast, Columbia Basin, Puget Trough, Olympic Peninsula, and Columbia River Gorge. Determined Plant Associations and ecological condition with cover estimates of dominant vegetation on over 15,000 acres. Conducted rare plant surveys in 4 of the state parks.

Rare Plant Survey, Eastern WA; Parsons Brinckerhoff Inc.; 2001-2003. Conducted rare plant surveys along proposed route for a 70-mile 500-kV BPA Schultz-Wautoma Transmission Line. Located populations of several rare plant species. Contributed botanical sections for EIS.

Rare Plant Survey, Northeastern and Southcentral WA; Bonneville Power Administration; 2002-2003. Conducted surveys for Federally listed species on 84-mile Grand Coulee-Bell 500-kV Transmission Line. Located a population of the Federally Threatened species *Silene spaldingii*. Assisted with wetlands evaluations along line. Did rare plant surveys at selected locations on the Vantage-Columbia and Big Eddy-Midway Transmission Lines in central and south-central, WA.

Rare Plant Survey, Klamath River Basin OR, CA; EDAW Inc.; 2002. Assisted with rare

plant surveys for relicensing of PacifiCorp Klamath Falls Hydroelectric Project, FERC No. 2082.

Rare Plant Survey, Baker Lake Road, WA; Mt. Baker Snoqualmie National Forest; 2002. Conducted surveys for rare plants and Survey and Manage lichen and bryophyte species along 8-mile hazard tree removal project.

Projects done before 2000 as a partner with Calypso Consulting:

Demographic Studies, Hanford Site, WA; The Nature Conservancy, WA Native Plant Society, National Fish and Wildlife Foundation; 1997-2001. Researched and implemented long-term demographic monitoring (life history) studies of the narrow endemics *Lesquerella tuplashensis* and *Eriogonum codium*. Also mapped populations, studied flowering phenology, pollinator exclusion, physical site factors, collected seeds for long-term preservation, and identified potential and on-going threats to the only known populations of two new plant species.

Rare Plant Survey, Columbia River, WA; Chelan County PUD; 1999-2000. Designed and conducted rare plant survey and botanical inventory for the relicensing of 45-mile Rocky Reach Hydroelectric Project, FERC No. 2145. Documented populations of 6 rare plant species, 2 of them new to Washington. Contributed botanical portion to License Application and ICD.

Rare Plant Survey, Box Canyon Hydroelectric Project, Pend Oreille River, WA; Duke Engineering & Services; 1996-1999, 2007. Designed and conducted a rare plant survey and botanical inventory for relicensing of the 60-mile Box Canyon Hydroelectric Project, FERC No. 2042. Conducted surveys by foot and kayak. Documented 52 populations of 10 rare plant species in aquatic, riparian, slough, and upland habitats. Contributed botanical portion to License Application and ICD.

Rare Plant Survey, Lake Chelan, WA; Chelan County PUD; 1998-2000. Designed and conducted rare plant survey and botanical inventory for relicensing of the 55-mile Lake Chelan Hydroelectric Project, FERC No. 637. Documented 5 rare plant species in various habitats. Contributed botanical portion to Lake Chelan Hydroelectric Project License Application and ICD.

Rare Plant Survey, Moses Coulee and Beezley Hills, WA; The Nature Conservancy; 1998. Conducted rare plant surveys in diverse shrub-steppe habitat. Located 27 populations of 8 rare plant species, 2 of them new to Washington.

Rare Plant Survey, Priest Rapids and Wanapum Dam Pools, Columbia River, WA; Duke Engineering & Services; 1999. Performed rare plant surveys for FERC relicensing.

Rare Plant Survey, Eastern WA; Washington Natural Heritage Program; 1998. Surveys focused on the Federally Threatened species *Howellia aquatilis* on DNR parcels in eastern WA.

Master Plan and Rare Plant Survey, Sun Lakes State Park, WA; Washington State Parks and Recreation Commission; 1997-1998. Performed rare plant survey and wrote botanical portion of Master Plan for the state park. Reviewed literature, regulatory guidelines, identified interpretation topics of park botanical resources and detailed management recommendations. Located 21 populations of 10 rare plant species.

Rare Plant Survey, Hanford Nuclear Reservation; WA, The Nature Conservancy; 1994-1997. Designed and conducted a 3-year large-scale rare plant survey as part of the Hanford

Biodiversity Project. Surveyed a variety of habitats including wetland, shrub-steppe, riparian, vernal pool, sand dune, and lithosol. Documented over 80 populations of 28 rare plant species and wrote comprehensive reports. Identified and published 3 previously undescribed plant taxa (*Physaria tuplashensis*, *Eriogonum codium* and *Astragalus conjunctus* var. *rickardii*).

Rare Plant Survey, Yakima Training Center and L. T. Murray Wildlife Area, WA; The Nature Conservancy; 1996. Conducted large-scale rare plant inventories of shrub-steppe, riparian, and lithosol habitats. Documented, mapped, and made management recommendations for 31 rare plant populations.

Rare Plant Surveys, Mt. Baker and Wenatchee National Forests, WA; Crystal Mountain and Mission Ridge Ski Areas; 1996-1997. Conducted rare plant surveys for on-going planning and management of ski area operations.

Rare Plant Survey, Bear River Hydroelectric Projects, Southeast ID; Northrop, Devine & Tarbell, Inc.; 1996. Conducted rare plant surveys in riparian areas for the Oneida, Grace-Cove, and Soda Hydroelectric Projects.

Floristic Survey, Horse Heaven Hills, WA; BLM; 1995. Assembled a species list for several high-quality BLM parcels for an educational wildflower guide.

Rare Plant Survey, Burns RD, Malheur National Forest, OR; Eagle Cap Consulting; 1995. Conducted rare plant survey in lithosol and montane forested habitats.

Floristic Survey, Wrangell-St. Elias National Park and Preserve, AK; 1995. Participated in a large-scale floristic survey of sub-arctic alpine, tundra, and talus habitats in remote and botanically unexplored portions of the park via helicopter.

Rare Plant Survey, North Bend RD, Mt. Baker-Snoqualmie NF, WA; Jones & Stokes, Associates; 1994, 1998. Conducted a rare plant survey in montane and subalpine habitats in the Snoqualmie Pass area for a ski area expansion. Also surveyed for Survey and Manage lichen and moss species.

Rare Plant Monitoring, Clackamas RD, Mt. Hood NF, OR; Cascades Environmental Services; 1994. Conducted long-term monitoring of *Corydalis aquae-gelidae*, a federal Species of Concern at Stone Creek Hydropower Project.

Rare Plant Survey, Long Lake and 9-Mile Reservoirs, Spokane River, WA; Washington Water Power; 1992-1993. Performed a rare plant survey of the 9-Mile Reservoir for FERC permit for 5-foot pool raise and on the 2500-acre WWP Long Lake parcels. Conducted surveys on forested and riparian habitats. Identified 30 populations of 4 rare plant species, identified significant ecological areas, and developed management plans.

Species Conservation Strategy, *Platanthera obtusata*; Okanogan NF, WA, USForest Service Washington Native Plant Society; 1993. Document contains a summary of known ecological information for this rare orchid species and recommendations concerning conservation and habitat management. Conducted field surveys for new populations in the Tonasket RD, Okanogan NF.

Rare Plant Survey, Western WA, PIC Technologies, Inc.; 1993, 2002, 2004. Surveyed buried natural gas pipeline routes, right-of-way, and compressor stations for rare plant species.

Rare Plant Survey, North Bend RD, Mt. Baker-Snoqualmie NF, WA, Cascades Environmental Services, Inc.; 1992-1993. Conducted rare plant surveys in forested, riparian, and subalpine habitats for the Upper South Fork Snoqualmie River Hydroelectric Project as per FERC regulations for small hydro permits.

Rare Plant Survey, Clackamas RD, Mt. Hood NF, OR, Cascades Environmental Services, Inc.; 1992-1993. Conducted rare plant surveys in forested and riparian habitats of PG&E Clackamas Creeks Hydroelectric Project as per FERC regulations for small hydro permits.

Botanical Inventory, North Cascades Mountains, WA; Washington Natural Heritage Program.; 1992. Planned researched and conducted botanical field surveys in WA state Natural Resource Conservation Areas (NRCA's) totaling 20,000 acres. Gathered data on plant species, their distribution, abundance and communities, as well as on potential threats to rare species and vulnerable vegetation communities. Included management recommendations.

Wetlands Delineations, Western WA; PIC Technologies, Cascades Environmental Services, Inc.; 1991-1992. Performed wetland delineations on along natural gas pipeline and right-of-way and in numerous field and forested wetland sites in Western Washington.

Rare Plant Survey, Naches RD, Wenatchee NF, WA; U.S. Forest Service; 1991. Conducted rare plant surveys within timber planning areas. Identified populations of rare plant species.

Rare Plant Survey, natural gas pipeline, Klamath, OR; PIC Technologies, Inc.; 1991. Conducted rare plant surveys in the southern Oregon desert and Columbia River along a natural gas pipeline route.

Rare Plant Survey, Tonasket RD, Okanogan NF, WA; U.S. Forest Service; 1991. Conducted rare plant surveys of montane forested and riparian habitats. Identified populations of 3 rare plant species.

Natural Resources, Botanist; Wrangell-St. Elias National Park, AK; National Park Service; 1985-1990. Initiated permanent Air Quality Biomonitoring Plots. Collected, identified and prepared plant and lichen samples for analysis of heavy metals. Designed and initiated an on-going study of primary vegetation succession at a rapidly deglaciating coastal area. Performed FirePro Ground Truth Plots to characterize parkwide vegetation communities. Researched vegetation disturbance and the environmental effects caused by All Terrain Vehicles on subarctic ecosystems. Surveyed and mapped ATV trails parkwide.

Forestry Technician, Mt. Baker-Snoqualmie NF, WA; U.S. Forest Service; 1983-1984. Performed Timber Stand Exams and Stocking Surveys forest-wide. Identified indicator shrub and herb species, established a reference herbarium for the RD.

EDUCATION

Western Washington University, Huxley College of Environmental Studies, Bellingham, WA
Bachelor of Science in Environmental Sciences, 1982
Bachelor of Arts in Biology, 1982

SELECTED PUBLICATIONS

Additions to the vascular flora of Washington from a biodiversity study on the Hanford Nuclear Reservation. 2006. *Madrono* 53: 36-45.

Noteworthy collections Washington. 2005. *Madrono* 52:128-130.

Nymphoides peltata (yellow floating heart). In: 100 worst invasive species in the Pacific Northwest. 2004. Eds. D. Boersma, S. Reichard, A. VanBuren.

Demographic studies of *Eriogonum codium* Reveal, Caplow & Beck (Polygonaceae) in Washington. In Reichard, S.H., ed. 2001. Conservation of Washington's rare plants and ecosystems. Washington Native Plant Society, Seattle. 223 pp.

State parks vegetation surveys. 2001. Washington State Parks and Recreation Commission and Washington Natural Heritage Program, Department of Natural Resources (unpublished). 23p.

Biodiversity inventory of the Moses Coulee Site. Final report and summary of findings. 2000. D. Rolph, ed. The Nature Conservancy of Washington (unpublished).

Research and overview of *Lesquerella tuplashensis*, 1994 – 1998. 1999. The Nature Conservancy of Washington (unpublished).

Botanical resources portion of the License Application for Lake Chelan Hydroelectric Project relicensing. 1998. Chelan County PUD.

A rare plant survey and preliminary vegetation mapping of The Nature Conservancy Beezley Hills Preserve. 1998. The Nature Conservancy of Washington (unpublished).

A rare plant survey of Sun Lakes State Park, Washington. 1998. Washington Native Plant Society and Washington State Parks and Recreation Commission (unpublished).

New variety of *Astragalus conjunctus* S. Watson from Benton County, Washington. 1997. *Great Basin Naturalist* 57: 352 - 354.

A rare plant survey of the Hanford Nuclear Reservation - the Hanford Biodiversity Project. 1997. The Nature Conservancy of Washington (unpublished).

Washington Watchable Wildflowers - A Columbia Basin Guide. 1997. Checklist for the Horse Heaven Hills section. Bureau of Land Management.

An undescribed species of *Lesquerella* from the state of Washington. 1996. *Rhodora* 97: 201-207

Eriogonum codium, a new species from Southcentral Washington. 1996. *Rhodora* 97: 350-356.

Botanical resources for FERC license applications for the Upper South Fork Snoqualmie River Hydroelectric Project, King Co., WA. 1994. Cascades Environmental Services, Inc.(unpublished).

Element concentrations and baselines for moss, lichen, spruce and surface soils, in and near Wrangell-St. Elias National Park and Preserve, Alaska. 1992. USGS and National Park Service.