Exhibit GS-2
Dockets UE-200900/UG-200901/UE-200894
Witness: Greg Summers

**BEFORE THE**

**WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

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| WASHINGTON UITILITIES AND TRANSPORTATION COMMISSION<br><br>Complainant,<br><br>v.<br><br>AVISTA CORPORATION d/b/a AVISTA UTILITIES<br><br>Respondent. | ) | DOCKETS UE-200900, UG-200901, UE-200894 *(Consolidated)* |
| In the Matter of the Petition of<br><br>AVISTA CORPORATION d/b/a AVISTA UTILITIES,<br><br>For an Accounting Order Authorizing Accounting and Ratemaking Treatment of Costs Associated with the Company's Wildfire Resiliency Plan. | ) | |

**EXHIBIT GS-2**

**CURRICULAM VITAE OF GREG SUMMERS**

# Greg Summers, MS, PWS

## Principal Scientist

Greg Summers is a senior Regulatory Specialist who oversees the preparation of Environmental Impact Statements (EISs), environmental assessments (EAs), biological assessments (BAs), biological evaluations (BEs), wetland projects of all varieties, and threatened and endangered compliance. Mr. Summers manages all varieties of wetland projects and performs wetland delineations, impact assessments, functions and values assessments, permitting, and mitigation. He manages projects in support of land-use planning, Section 404 permit applications, and state and local wetland enforcement activities, including the Land Conservation and Development Commission. Mr. Summers has provided expert testimony for clients, for jury trials, and at public land-use hearings for wetland law. He has worked throughout the United States in OR, WA, MT, AK, ID, WY, UT, CA, WI, ND, IL, VA, KY, TN, GA, MS, and the Canadian Provinces of British Columbia, Alberta, Northwest Territories, and Ontario.

Mr. Summers has served as a project director or project manager for various types of projects throughout the western United States, from large controversial National Environmental Policy Act (NEPA) EISs to small wetland delineations. Mr. Summers' regulatory experience includes NEPA and State Environmental Policy Act (SEPA) (EIS and EA); Endangered Species Act (ESA) including wildlife, plants, and fish; and Clean Water Act (CWA) Sections 404 and 401. Mr. Summers is experienced in the interpretation and implementation of the NEPA guidelines of a variety of federal agencies including the U.S. Army Corps of Engineers (USACE), Bureau of Land Management (BLM), BOR, Department of Energy, Federal Highway Administration (FHWA), U.S. Fish and Wildlife Service (USFWS), Federal Aviation Administration (FAA), and US Forest Service. He has worked with multiple federal agencies on federal and state environmental regulatory processes, including the Office of Surface Mining, U.S. Environmental Protection Agency (USEPA), USFWS, National Marine Fisheries Service (NMFS), and National Park Service. He has assisted both public and private clients.

He has also managed or overseen the preparation of SEPA documents for the Washington Department of Ecology and multiple state jurisdicitons including Snohomish, Lewis, Skagit, Clark, and Grant Counties in Washington State.

Mr. Summers is a Professional Wetland Scientist (PWS) certified by the Society of Wetland Scientists. He has undergone formal training

### Education

*MS, Range Science, North Dakota State University, Fargo, 1993*

*BS, Reclamation (biological emphasis), University of Wisconsin, Platteville, 1990*

### Licenses/Certifications

*Professional Wetland Scientist (PWS), No. 0001152*

### Work History

*Anchor QEA, LLC, Principal Scientist and Shareholder, 2013 to present*

*Beak/Jones & Stokes/ICF, Sr. Wetland Scientist, 1997 to 2013*

*Jacobs- Bechtel, NEPA Specialist, 1995 to 1997*

*Beak Consultants Incorporated, Wetland Scientist, 1993 to 1995*

in wetland delineation, mitigation, plant identification, and soils. Mr. Summers manages all varieties of wetland and biological projects and performs wetland delineations, impact assessments, functions and values assessments, permitting, and mitigation. His mitigation design experience includes freshwater wetlands (emergent, scrub-shrub, and forested), estuarine, dam removal, and stream restoration.

# Project Experience

## *NEPA/SEPA Projects*

### Chehalis River Strategy: Reducing Flood Damage and Enhancing Aquatic Species SEPA Programmatic EIS and Analysis

*Washington State Office of Financial Management*
*Lewis, Thurston, and Grays Harbor Counties, Washington*

Mr. Summers is managing several aspects of the comprehensive strategy to reduce flood damages while enhancing aquatic species habitat in the 2,400-square-mile Chehalis River Basin. The work includes developing a State Environmental Policy Act (SEPA) programmatic EIS, evaluating restoration priorities for aquatic species, assessing potential impacts to aquatic species and their habitats including adjacent wetland and riparian habitats, habitat mapping, extensive fisheries studies, hydrologic and hydraulic studies of existing flooding and potential flooding if a flood retention structure is used, fish passage and dam design, an extensive water quality monitoring program, geomorphology and sediment transport analyses,. He also leads coordination with a number of technical committees comprising state agency staff, tribal members and representatives, along with various other stakeholders that are reviewing the analyses.

### Chehalis Basin Flood Damage Reduction Project NEPA Environmental Impact Statement

*U.S. Army Corps of Engineers*
*Chehalis Basin, Washington*
*2018 to Present*

Mr. Summers is the NEPA advisor and technical contributor for wetlands, wildlife, water quality, vegetation, and groundwater for the EIS prepared for this effort. The lead agency is the U.S. Army Corps of Engineers (USACE) overseeing the development of an EIS evaluating the Chehalis River Basin Flood Control Zone District's proposal to build a flood retention control facility on the Chehalis River and levees near the Chehalis-Centralia Airport. Mr. Summers assisted with development of USACE's purpose and need relative to the applicant's objectives and the identification and screening of alternatives for this controversial project. Key issues include water resources, geology and geomorphology, cultural and tribal resources, flood damage reduction, wetland and vegetation and terrestrial and aquatic species issues.

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| Icicle Creek Strategy SEPA EIS<br>*Chelan County and the Washington State Department of Ecology*<br>*Leavenworth, Washington* | Mr. Summers is assisting the Anchor QEA team in the preparation of an EIS evaluating watershed management alternatives, including a dam raise and dam improvements, with the goal of optimizing the programmatic analysis to minimize the need for subsequent environmental review. Key issues include balancing diverse stakeholder interests in water availability and uses, including irrigation, minimum instream flow requirements, and municipal use. |
| Switzler Reservoir Technical Studies and Environmental Impact Statement<br>*Office of Columbia River*<br>*Klickitat and Benton Counties, Washington* | Mr. Summers is providing strategic input regarding natural resources fieldwork and documentation to evaluate existing conditions for terrestrial and aquatic species and their habitat, including special-status species, wetlands, and cultural resources for this 800-acre study area. Mr. Summers is also assisting in determining the applicable permits required for project implementation and providing strategy related to CWA 404 compliance. |
| NEPA Strategy and Support for Tualatin Basin Joint Water Supply and Dam Safety Project<br>*Clean Water Services, U.S. Bureau of Reclamation (USBR)*<br>*Washington County, Oregon* | Mr. Summers provided strategic support in the development of a NEPA compliance approach for this project, which is evaluating the increase in height of an existing dam or construction of a new dam to increase available water capacity primarily for instream flow users. Efforts included assisting in the development of comprehensive NEPA strategy to comply with Secretarial Order 3355 and Executive Order 13807 related to streamlining NEPA documents. Efforts also included assisting in developing an Memoranda of Agreement between Clean Water Services as a NEPA cooperating agency, and the U.S. Bureau of Reclamation, as the federal lead agency; the scope and approach to baseline studies; and the overall NEPA project schedule. |
| Skookumchuck Wind Energy Habitat Conservation Plan NEPA EIS<br>*U.S. Fish and Wildlife Service, Lewis County, Washington* | Mr. Summers was the principal in charge, NEPA strategist, and technical specialist for fish and wildlife, vegetation, wetlands, and general oversight on this project. As third party NEPA contractor, Mr. Summers prepared the EIS for the Habitat Conservation Plan (HCP) under the direction of the U.S. Fish and Wildlife Service. This EIS was prepared under the current NEPA streamlining guidance (Secretarial Order 3355 and Executive Order 13807). This EIS was based on studies provided in the HCP and relied heavily upon the HCP analysis for preparing the EIS. Due to changes in the project, additional analysis had to be completed including impacts to non-covered birds and bats and the evaluation of additional alternatives. |
| Elliott State Forest Habitat Conservation Plan EIS<br>*Oregon Department of Forestry* | Mr. Summers was the project director assisting the project manger and overseeing the preparation of the EIS on the revised Habitat Conservation Plan (HCP) for the Elliott State Forest in Coos Bay, |

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| *Coos Bay, Oregon* | Oregon. The EIS focused on potential impacts associated with the implementation of a revised forest management plan and HCP covering a 50-year period. Primary issues of concern in the EIS included impacts to avian and fish species (approximately 20 species are covered in the HCP/EIS) and potential socioeconomic impacts associated with changes in forest management strategies. The team had to work closely and coordinate with Oregon Department of Forestry, USFWS, NMFS, and Oregon Department of Fish and Wildlife to ensure timely completion of EIS, and for management of project schedule and budget. |
| Western Snowy Plover Habitat Conservation Plan (HCP) and EIS<br>*Oregon Parks and Recreation Department (OPRD)*<br>*Oregon* | Mr. Summers assisted the project manager with the NEPA strategy for this project that involved providing protections for federally listed western snowy plover in balance with OPRD's management activities and the public's recreational use along the length of the Oregon Coast. The project required close coordination with OPRD to revise and refine the HCP with participation from the USFWS, other key regulatory agencies and landowners, and the general public. |
| Columbia Gateway NEPA/SEPA EIS and Permitting Services<br>*Port of Vancouver*<br>*Vancouver, Washington* | As third-party contractor project director, Mr. Summers oversaw a team of environmental scientists, economic development specialists, and marine and rail engineers in: preparing a NEPA/SEPA EIS; ESA compliance; National Historic Preservation Act Section 106 compliance; CWA Section 404 and 401 compliance; WA state Joint Aquatic Resources Permit Application (JARPA) preparation; and preparation of all local permits. The lead federal agency was the USACE and the USFWS and NMFS were cooperating agencies. The Columbia Gateway Project is located in the Vancouver Lowlands area on the opposite side of a closed aluminum plant from existing POV facilities. The project consisted of mixed-use industrial development, bulk facility, two marine terminals, and road and rail infrastructure support. The NEPA process was completed to the EIS administrative draft stage. Scoping was completed and all environmental work in support of permitting (e.g., wetlands, fisheries, ESA, cultural resources) was completed when the abandoned aluminum plant property became available. As the aluminum plant property is immediately adjacent to existing POV facilities, a Brownfield's development, and was considered a better option for development by the public and agencies, the POV purchased this property to develop prior to Gateway. Mr. Summers oversaw the completion of the administrative draft EIS, re-scoped the project including permits, and then provided NEPA/SEPA, permitting, and environmental support for the new project (see West Vancouver Freight Access Project). |

## Strategic Environmental Regulatory Support, Including NEPA/SEPA EIS Services

*TransAlta Centralia*
*Centralia, Washington*

Mr. Summers oversaw the master services agreement his firm held with the TransAlta Centralia Mine (TCM) from 1997 to 2013. TCM was an active coal mine that has transformed from mining coal on-site and converting it to electricity using its on-site generating facility to closing its mining operations and improving on-site rail facilities to bring in 100% of their coal from the Powder River Basin to generate electricity. Mr. Summers led the environmental regulatory support for that transformation, including permitting the last mining effort, initiating mine expansion efforts, and assisting with converting to 100 percent off-site coal burning.

As project manager for the Westfield EIS, Mr. Summers was responsible for NEPA/SEPA compliance, alternatives analysis (both NEPA and 404), cumulative impact assessment, 404 permitting, and coal issues (e.g., dust and air). He was the liaison for the USACE, Washington State Department of Ecology (Ecology), and Lewis County and helped develop the strategy for scoping and level of analysis necessary for preparing a complete and legally defensible EIS. He also oversaw the wetland delineation and assisted with the 404 mitigation design and implementation, Section 106 compliance, ESA compliance, and overall permitting strategy.

During the EIS scoping process, the level of opposition to the mine expansion and burning of coal in Washington state, along with the large amount of mitigation that would be required, led TCM to make the decision to close the mine and haul in coal from the Powder River. As such, the project was changed from an EIS covering a mine expansion to an EA covering a rail upgrade (new rail lines for train storage and a rail loop) and coal offloading facility (rail dumper, receiving station, conveyors).

Mr. Summers led the strategy for shifting from an EIS to an EA and then managed the regulatory compliance effort for the rail and coal offloading facility upgrade needed for the project. He worked with the agencies to determine the scope of analysis, number of alternatives, and mitigation strategy for the project.

Mr. Summers also oversaw the development of a 125-acre wetland and stream mitigation project to compensate for over 20 acres of wetland impact; preparation of a cumulative impact analysis that USACE considered the best completed in the State to date.
Mr. Summers drafted a NEPA EA for USACE's internal processing. Analysis included the impact of increased coal delivery to the plant from the Powder River Basin and the potential effect of coal storage on nearby wetlands. He also continued to work with USACE and Ecology in assessing wetland impacts and developing a mitigation plan to compensate for wetland impacts. Documents prepared for USACE and Ecology were adopted by the local county for SEPA compliance.

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| Portland International Center Commercial Development/ Cascade Station Project NEPA EA and Permitting Assistance<br>*Port of Portland*<br>*Portland, Oregon* | Mr. Summers was project manager, leading the preparation of the NEPA EA and Discipline Reports (including air, noise, wetland, cultural, transportation, and biological) for the Portland International Center (PIC) Commercial Development/Cascade Station project. The PIC is a 458-acre, master-planned, mixed-use Plan District located on the west side of Portland International Airport (PDX). The PIC has been planned for office, retail, hotel, and a variety of light industrial and employment uses (including aviation-related uses) subject to an agreement between the FAA and the Port of Portland. Two primary environmental-related processes were completed before the proposed PIC development could occur: compliance with NEPA and completion of the City of Portland's rezoning to enable proposed revision to the plan. The analysis for the EA focused on changes in transportation due to the change in use of the PIC. In addition to transportation, all aspects required by NEPA were evaluated, and the resulting Finding of No Significant Impact was issued by the FAA. |
| EIS for Tongue River Railroad<br>*Surface Transportation Board*<br>*Montana* | Mr. Summers served as a wetland scientist and assisted as the Surface Transportation Board's (STB) preferred third-party contractor and prepared an EIS for the proposed construction of a rail line to haul coal from a proposed coal mine in the Otter Creek Area to existing Burlington Northern Santa Fe (BNSF) rail lines. He was responsible for developing the methodology of the wetland field studies and alternative alignment selection in the initial stages of the project. He evaluated the proposed alignments, with regard to wetland and stream impacts, and assisted in the selection of the preferred alternative to carry forward, based on potential impacts to wetlands, waters of the United States, and other natural resources. |
| West Vancouver Freight Access Project<br>*Port of Vancouver*<br>*Vancouver, Washington* | As project director, Mr. Summers oversaw the strategic shift in direction from the Columbia Gateway Terminal NEPA/SEPA EIS to the NEPA categorically excluded SEPA-compliant West Vancouver Freight Access Project for the Port of Vancouver. This change was made when the property adjacent to existing Port facilities, the decommissioned Alcoa Aluminum Plant, became available for purchase and subsequent brownfield development. He oversaw the change in federal lead agency from the USACE to the FHWA, including ensuring all agencies had what they needed for the NEPA regulatory process and ensuring the project manager and team were prepared to keep the project moving forward with the switch in direction. He then oversaw the NEPA/SEPA strategy, and assisted with the Section 106 and 4(f) consultations. |
| Independent Internal Adequacy Review of an | This project entailed an adequacy review of an Environmental Impact Report (EIR) prepared by several firms for Nicolet Minerals |

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| Environmental Impact Report for a Proposed Copper Mine<br>*Nicolet Minerals Company, LLC, Wisconsin* | Company, LLC (NMC). Mr. Summers was part of a team of reviewers that reviewed the entire EIR. He was responsible for reviewing the biological sections (wetlands, wildlife, plants, endangered species, soils, land use, fisheries, etc.) and general project management. Results from the review were provided to NMC in oral and written format. |
| Coyote Springs NEPA EIS<br>*Bonneville Power Administration and Pacific Gas and Electric Company*<br>*Morrow County, Oregon* | As a botanist and wetland scientist, Mr. Summers performed baseline surveys in support of the NEPA EIS being prepared for the proposed 500kV transmission line and cogeneration facility construction. Reports were prepared to document findings of the studies and evaluate potential impacts of the proposed construction. |
| Medford Airport NEPA Review<br>*Rogue Valley International Airport,*<br>*Medford, Oregon* | Mr. Summers completed a third-party NEPA review of Medford airport's WHMP. The review was requested to ensure the WHMP was adequate for both WHMP reguirements and NEPA consistency. |
| Crown Jewel Gold Mine<br>*US Forest Service*<br>*Tonasket, Washington* | As an environmental scientist, Mr. Summers was responsible for mapping forest stands and collecting biological data for a proposed gold mine in northern Washington. The maps were uploaded into a GIS layer to determine potential impacts and the data were input to the USFWS habitat evaluation procedures (HEP) model. Results from HEP model were used to evaluate impacts of proposed mine construction and were incorporated into EIS being prepared for the US Forest Service. Mr. Summers wrote several technical portions of the EIS and reviewed other sections of the EIS. |
| EIS for the ARRC Port MacKenzie Rail Extension Project<br>*Federal Rail Administration*<br>*Alaska* | As a strategic advisor, Mr. Summers assisted the project manager with NEPA strategy and 404 permitting strategy at his former firm who was the Surface Transportation Board's (STB's) independent third-party contractor for an EIS for the construction and operation of ARRC's Port MacKenzie Rail Project, which would connect the Matanuska-Susitna Borough's Port Mackenzie to ARRC's main line. Major elements of the project would include between 30 and 45 miles of new railroad track; a 200-foot-wide right-of-way; crossings of local roads, streams, trails, and utility corridors; sidings; and ancillary facilities. His former firm and its team assisted the STB's Section of Environmental Analysis on all aspects of the EIS process, including identifying a range of reasonable alternatives; supporting public involvement efforts for the contentious project; consulting with state, local, and federal agencies and Native Alaska groups; preparing EIS sections for technical resource areas such as land use, cultural resources, subsistence, biology, hydrology, proposed action and alternatives, recreation, noise, and air quality. |

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| EIS for Hay Creek II Coal Lease by Application<br>*Buckskin Mine*<br>*Campbell County, Wyoming* | Mr. Summers was the project director for the BLM's preferred third-party contractor for an EIS addressing a proposal for a competitive lease sale of a maintenance coal tract for a surface mine in Campbell County, Wyoming. The overall analysis area encompassed nearly 2,500 acres of private surface overlaying approximately 77.2 million tons of federal coal. The analysis area included various habitats of local and regional concern, such as sagebrush, riparian, and agricultural vegetation communities. In addition to overseeing the overall project, he also oversaw resource specialists providing evaluations and impact analyses for several key resources including: vertebrate T&E and sensitive species such as sage-grouse; paleontological resources; wetlands; noise; and visual impacts. All recent concerns related to leasing coal and its subsequent development were addressed, with special emphasis on loss of livestock grazing areas, conflicts with oil and gas development, cumulative impacts related to ongoing surface coal mining and other proposed development in the Wyoming Powder River Basin, greenhouse gas emissions, ozone, and global climate change |
| EIS for the Alaska Railroad Corporation (ARRC) Northern Rail Extension<br>*Federal Rail Administration*<br>*North Pole, Alaska* | As a strategic advisor, Mr. Summers assisted the project manager with NEPA strategy and 404 permitting strategy at his former firm who was the Surface Transportation Board's (STB's) independent third-party contractor for an EIS for the construction and operation of ARRC's Northern Rail Extension that would connect to ARRC's existing Eielson Branch near North Pole, Alaska, and extend the rail system to Delta Junction, Alaska. Major elements of the project would include approximately 80 miles of new railroad track; a 200-foot-wide right-of-way; crossings of local roads, rivers, trails, and utility corridors; sidings; and ancillary facilities. The project included assisting the STB's Section of Environmental Analysis on all aspects of the EIS process, including identifying a range of reasonable alternatives; supporting public involvement efforts; coordinating with eight cooperating agencies; consulting with state, local, and federal agencies and Native Alaska groups; preparing the Draft and Final EIS; supporting the Section 106 process and preparation/execution of a Programmatic Agreement; and supporting the Section 4(f) Assessment, for which the Federal Railroad Administration is the Lead Agency. |
| Power Line Upgrade EA<br>*Consumers Power, Inc., and Siuslaw National Forest*<br>*Benton, Lane, and Lincoln Counties, Oregon* | Mr. Summers was the project director for the upgrade of four power line segments that cross federal, state, municipal, and private lands in the central Oregon Coast Range. He oversaw and managed the project scoping, developed issues and alternatives, prepared a supporting BA and BE, conducted surveys for special-status plants and animals, and prepared the EA and decision notice. The EA assessed impacts on biological resources, special- |

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| | status plants and animals, cultural resources, visual resources, recreation, and public services. |
| Independent Internal Adequacy Review of an Environmental Impact Report for a Proposed Copper Mine<br>*Nicolet Minerals Company, LLC*<br>*Wisconsin* | Mr. Summers was a subject matter expert/project manager for this project that entailed an adequacy review of an Environmental Impact Report (EIR) prepared by several firms for Nicolet Minerals Company, LLC (NMC). Mr. Summers was part of a team of reviewers that reviewed the entire EIR. He was responsible for reviewing the biological sections (wetlands, wildlife, plants, endangered species, soils, land use, fisheries, etc.) and general project management. Results from the review were provided to NMC in oral and written format. |
| Categorical Exclusion, PDX Runway Improvements<br>*Port of Portland*<br>*Portland, Oregon* | As project manager, Mr. Summers provided project oversight for the completion of a NEPA categorical exclusion checklist for runway improvements at PDX. |
| Supplemental EIS, Milltown Hill Project<br>*BLM*<br>*Douglas County, Oregon* | As project manager, Mr. Summers provided overall project management for completion of supplemental EIS for proposed construction of dam on tributary of Umpqua River in Douglas County, Oregon. A previous EIS was issued; however, Umpqua River cutthroat trout has since been listed as endangered species. A wetland delineation for a proposed 681-acre reservoir area and an 18.5-mile proposed pipeline distribution system was completed. Delineation within proposed reservoir area was completed using 1987 USACE and National Food Securities Act (NFSA) wetland delineation manuals concurrently. Pipeline route delineation followed 1987 USACE wetland delineation manual guidelines solely, because it is a linear project and not subject to NFSA. Mitigation guidelines were established in accordance with federal and state regulations. Mitigation site has been selected in upper reservoir area for creation of approximately 80 acres of mitigation wetlands. |
| Portland International Airport Wildlife Hazard Management Plan, BA, and NEPA EA<br>*Port of Portland*<br>*Multnomah County, Oregon* | As project director, Mr. Summers oversaw his firm in assisting the Port of Portland in revising their Wildlife Hazard Management Plan (WHMP) for PDX, in compliance with the Federal Aviation Administration requirements and 14 CFR-Part 139.337. The WHMP presents an integrated and adaptive program to effectively manage risk at PDX by reducing the probability of occurrence of wildlife/aircraft collisions. The risk management techniques and protocols adopted in the WHMP include: 1) Wildlife control procedures to discourage, disperse and remove wildlife species of concern from the airfield vicinity; 2) Habitat modification practices to reduce the attractiveness of lands on and around the airport to wildlife species of concern; 3) Research and development projects |

to gather data and field-test new equipment and techniques; and 4) Information and education programs to articulate the hazards wildlife can pose to the safe operation of aircraft. Implementation of the WHMP is based upon management strategies developed to address the wildlife hazards unique to specific management areas identified at PDX. In support of the WHMP, Mr. Summers also oversaw the preparation of a BA evaluating plan impacts to proposed, threatened and endangered species, and the preparation of the wildlife sections of a NEPA EA that addresses the environmental impacts associated with implementing the management strategies developed in the plan.

## *Expert Witness/Testimony*

### Marshland Drainage District
*Confidential Client*
*Everett, Washington*

Mr. Summers was retained as an expert witness in this project. The plaintiff brought suit under Section 505 of the Clean Water Act (CWA) alleging violations of Sections 301(a) and 404 of the CWA. Specifically, the plaintiff alleged that the defendant illegally re-routed, deepened, and filled irrigation drainage ditches and streams, violated Section 401 of the CWA, and caused damage to their property by completing the inpermitted work. Mr. Summers provided expert opinion, rebuttal of plaintiff's experts opinions, deposition, and expert advice in the settlement agreement developed for the case.

### Skykomish River
*Monroe, Washington*

Mr. Summers was originally hired to provide expert advice to the State appointed public defender for a defendant under investigation for violations of the Clean Water Act (CWA) by the US Environmental Protection Agency (EPA). The site had experienced multiple unpermitted activities that occurred between 2007 and 2009 on the subject property. Mr. Summers was approved by the State of Washington to support the public defender providing technical wetland and CWA advice. Upon the passing of the defendant, Mr. Summers was then hired to provide the same advice and technical expertise in designing a restoration plan to be approved by the EPA and the EPA's wetland expert. Mr. Summers developed the restoration plan which was approved by EPA and their wetland expert.

### Marshland Drainage District
*Confidential Client*
*Everett, Washington*

Mr. Summers was retained as an expert witness in this project. The plaintiff brought suit under Section 505 of the Clean Water Act (CWA) alleging violations of Sections 301(a) and 404 of the CWA. Specifically, the plaintiff alleged the client re-routed a stream, lengthened a irrigation ditch, and removed one and placed two crossings on another irrigation ditch. Mr. Summers is providing expert opinion, rebuttal of plaintiff's opinions, and expert advice in develoing a settlement agreement for the case.

### Tickle Creek
*Confidential Client*
*Sandy, Oregon*

Mr. Summers was retained as an expert witness in this project. The defendant was charged with violating the development code of the City of Sandy and Mr. Summers was retained to provide expert witness and testimony in the jury trial. The development occurred within the buffers to wetalnds and streams and Mr. Summers provided information on wetland delineation methods, regulations regarding wetland protection, permitting, and mitigation, and general wetland ecology.

### Expert Witness
*Confidential Client*
*Clackamas County, Oregon*

Mr. Summers was retained as an expert witness to provide testimony regarding wetland delineation methodology and his opinion on the wetland boundaries determined by another party. The case was tried by jury and focused on determination of wetland boundaries and whether the wetlands were jurisdictional under federal and state laws. Mr. Summers was deposed and provided testimony in two jury trials regarding the matter.

## *Regulatory Compliance/Permitting*

### Confidential Client
*Port of Grays Harbor, Washington*

Mr. Summers is the proincipal in charge for this project, which involves assisting a confidential client with understanding the regulatory complexities applicable to their proposed project. He is assisting the project manager with providing strategic assistance to the client in navigating the environmental review processes needed and all permits that would be required to build the project. This involves ensureing the project is compliant with NEPA and SEPA and has adequate documentation, including supporting surveys and studies, to obtain all necessary permits for constuction.

### Skykomish River Restoration
*Karl Fredrick Klock Pacific Bison, LLC and Bobby Wolford Trucking and Demolition, Inc.*
*Monroe, Washington*

Anchor QEA was hired to permit the restoration design developed by Anchor QEA and finalized by EPA. The project is mandated by a consent decree between the EPA and Karl Frederick Klock Pacific Bison, LLC and Bobby Wolford Trucking and Demolitino, Inc. Anchor QEA was retained to obtain all of the permits necessary to implement the project including SEPA, ESA, and CWA compliance.

### Centralia Mine West Field Expansion Project
*TransAlta Centralia Mining, LLC*
*Lewis County, Washington*

TransAlta Centralia Mining (TCM) has identified lands immediately west of the Centralia Mine permit area as a potential source of additional coal to supplement the permitted reserves at the mine. In support of future permitting to expand the existing permit area boundary, TCM investigated the environmental resources present in the West Field expansion area that could be affected by any mining operations there. As project director, Mr. Summers managed the documentation of the baseline environmental conditions for wildlife resources, fishery resources, and wetlands that occur on and around the West Field expansion area, and

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| | prepared the baseline wildlife and wetlands report. For the baseline wildlife effort, existing wildlife habitats on the expansion area were mapped, wildlife expected to occur in the expansion area were identified, and an assessment was made of the likelihood that the expansion area supports candidate, proposed, threatened or endangered wildlife species identified by federal or Washington state agencies. For the wetland report, a delineation, functions and values assessment, and preliminary impact assessment and mitigation plan were completed. |
| Marshland Drainage District Channel Relocation<br>*Golden Eagle Farms*<br>*Everett, Washington* | Mr. Summers is the proincipal in charge for this project providing environmental support for the relocation of a drainage ditch within the Marshland Drainage District in Everett, Washington. The project requires a SEPA checklist, Critical Areas Report and checklist, Shoreline Substantial Development permit, JARPA documentation, mitigation and restoration plan, BPA and PSE utility easement and coordination, and ESA compliance (no effects letter) and supporting sutides. Mr. Summers oversaw the completion of all the studies, supporting documentation and applications. |
| Skykomish River Restoration<br>*Karl Fredrick Klock Pacific Bison, LLC and Bobby Wolford Trucking and Demolition, Inc.*<br>*Monroe, Washington* | Anchor QEA was hired to assist in restoring hydrologic connectivity to a property adjacent to the Skykomish River near Monroe, Washington. The site had experienced multiple unpermitted activities that occurred between 2007 and 2009 on the subject property. In addition to restoration of the unpermitted work additional hydrologic and biologic improvements were proposed for the property that will improve fish access to the floodplain during a wide range of hydrologic conditions. Overall, proposed site modifications include restoration components such as the following: reconnection and restoration of a large oxbow, restoration and reconnection of a small tributary to the oxbow, installation of culvert and at-grade crossings, and removal of invasive species. A basis of design report was prepared and presented to the EPA in addition to a JARPA for the work. |

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| Mitigation Bank Site Evaluation<br>*Confidential Client*<br>*Westport, Oregon* | Mr. Summers evaluated a 1,000-acre site in the Lower Columbia River as a potential mitigation bank. The evaluation included assessing the feasibility of the site for use as a multiple credit mitigation bank for wetlands and ESA-listed fish (e.g., salmonids) and wildlife (e.g., Columbia White tailed deer). The analysis included evaluating the site for levee breaching, wetland restoration, salmonid habitat restoration, wildlife habitat restoration, potential credits for wetlands and fish and wildlife, and the market potential for a bank in the service area. Conceptual plans included levee breaching, wetland restoration, and grading and planting plans. |
| Golden Eagle Farms Permitting, irrigation planning, and restoration projects for multiple blueberry farms<br>*Aqulini Group, LLC*<br>*Snohomish and Lewis Counties, Washington* | Mr. Summers is managing these projects providing environmental support for multiple locations for US Golden Eagle Farms. Projects include planning for water withdrawal from rivers for irrigation purposes, irrigation ditch maintenance and relocation, and restoration for project impacts. Irrigation projects have included planning for pump design, water distribution, irrigation pond design, and all associated permitting. Permitting for irrigation ditches, for non-exempt activities, included wetland delineation and reporting, SEPA checklist, Critical Areas determination and reporting, Shoreline Substantial Development permit, JARPA documentation, ESA compliance (no effects letter), floodplain no-rise analysis, CZM compliance, HPA documentation and obtainment, mitigation and restoration planning. Restoration has included fish restoration for land clearing activities, ditch restoration for ditch relocation activities, and wetland restoration for permit compliance. Anchor QEA prepared all of the studies in support of the permit applications and regulatory compliance including agency coordination and response to comments. |
| Rural Industrial Land Bank Assessment<br>*Clark County*<br>*Clark County, Washington* | Mr. Summers oversaw a review of Clark County Critical Areas Ordinance mapping, historical aerial photos, and USGS soil surveys for five sites located throughout Clark County. All five sites were more than 100 acres in size, and being considered for inclusion in the County's Rural Industrial Land Bank (RILB). Mr. Summers oversaw the completing an Existing Conditions site report wihch discussed how the designated or potential critical areas present at the site, combined with the applicable County Critical Areas and water quality regulations or standards, might create opportunities or challenges to the potential development scenarios. The reports were used to support the development of the programmatic environmental review required as part of the evaluation of suitable lands for inclusion in the County's UGA. |
| *Residential Development Projects* | For over 20 years, Mr. Summers oversaw the natural resource permitting needs for West Hills Land Development. He either |

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| *West Hills Land Development*<br>*Washington, Multnomah, and Clackamas Counties, Oregon* | performed or oversaw the wetland delineations of wetlands and non-wetland waters for numerous over 30 prospective residential development projects in Washington, Multnomah, and Clackamas counties. Responsibilities included conducting Clean Water Services' natural resource assessments, federal and state wetland functions and values assessments, and County significant natural resource inventories and critical areas assessments; evaluating potential project-related impacts to sensitive areas and ESA-listed species in order to develop reports and permit applications for submittal to regulatory agencies; and preparing project impact alternative analyses, purpose-and-need statements, and mitigation and restoration plans. |
| Recreational Land Use Evaluation<br>*Confidential Client*<br>*Washington and California* | As project director, Mr. Summers supervised the development and preparation of a recreational land use evaluation for a client with large land holdings in Washington and California. The client requested the study to determine if revenue could be generated from their lands for recreational use while they sit idle waiting for timber prices to recover. An exhaustive study of potential uses (e.g., destination resort, hunting, fishing, road rallies, zip line park) was undertaken and then refined based upon upfront cost, liability, and low revenue returns, among others. |
| Wapato Lake National Wildlife Refuge Pump House Bridge and Gaston Feed Store Bridge Replacement Projects<br>*US Fish and Wildlife Service*<br>*Portland, Oregon* | USFWS is restoring 1,000-plus acres of wetland at Wapato Lake National Wildlife Refuge. Lakebed restoration actions would be accomplished by reseeding or planting native vegetation and managing site hydrology (water levels) within the 800-acre lakebed portion of the Project with pumping infrastructure. Anchor QEA prepared the BA, wetland delineation, and 404 permits for replacing two brides to provide safe, structurally sound access points for USFWS to perform restoration and long-term management actions associated with the restoration, including access to pumping infrastructure to manage lakebed water levels. |
| Watters Quarry Clean Water Act Permitting and Compensatory Mitigation Design<br>*Knife River Corporation*<br>*Portland, OR* | Project director overseeing the wetland mitigation planning and design, biological support, removal/fill permitting compliance, cultural resources investigation and compliance, and hydrologic evaluation and monitoring. The mitigation involves designing a design for over 30 acres of wetland including ephemeral meadow wetlands. A surface water budget and groundwater study is being conducted to inform the design of the mitigation plan. |
| Troutdale Reynolds Industrial Park (TRIP)<br>*Port of Portland*<br>*Portland, Oregon* | Mr. Summers served as a project manager on a multi–disciplinary team to develop potential industrial site development footprints for a 700-acre former aluminum production facility. He oversaw the assessment of wetland functions and values using ORWAP and the use of scores to evaluate potential development scenarios. Mr. |

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| | Summers oversaw development of a draft alternatives analysis document and provided conceptual mitigation designs, assisted in the development of a large–scale conceptual mitigation plan to address compensatory wetland mitigation needs and flood storage capacity, and oversaw the calculattions for wetland functions and values losses and gains to demonstrate that the proposed compensatory wetland mitigation plan provided adequate functional lift. |
| Bradwood Landing<br>*Northernstar Natural Gas LLC*<br>*Bradwood, Oregon* | Project Director/Project Manager/Wetland Scientist. Greg oversaw and managed a variety tasks in support of the proposed Bradwood Landing liquefied natural gas (LNG) facility. His tasks included overseeing the conversion of Svenson Island from agriculture to use as mitigation for salmonids and wetland impacts. Greg oversaw the mitigation design for the breaching of dikes, recontouring of elevations, planting plan, and success standards. He was also involved in the salmonid modeling for both impacts from the proposed LNG facility and benefits from the proposed mitigation. |
| Klamath River Hydroelectric FERC Relicensing<br>*PacifiCorp*<br>*Klamath Falls, Oregon* | As part of the FERC relicensing effort, Mr. Summers' firm was retained to determine the anadromous fish production potential of stream habitat in the Upper Klamath River basin under various fish passage alternatives developed by participants in the relicensing process. To answer this question, state-of-the-art ecosystem diagnosis and treatment model (EDT) was used to determine the quality and quantity of over 200 miles of stream habitat. Data on 46 environmental attributes important to fish were rated and loaded into the EDT model on a reach-by-reach basis. The model was then run under a range of fish passage alternatives, including dam removal, to estimate fall Chinook abundance productivity resulting from the implementation of each alternative. The model was also used to identify those environmental attributes and assumptions that were having the greatest effect on study results. Mr. Summers was the project director. |
| Mt. Scott Creek Dam Removal<br>*Clackamas County*<br>*Clackamas County, Oregon* | Mr. Summers was a project manager for the removal of a dam on Mt. Scott Creek. The project included the preparation of a biological assessment to determine potential impacts on ESA-listed fish and general biological insight into the design of the stream channel once the dam is removed, including substrate, channel shape, and planting recommendations. Mr. Summers also managed the preparation of all permits and supporting material for project construction. |
| Mitchell Creek Sedimentation Pond BA | As project director, Mr. Summers directed the preparation of a BA evaluating effects on sensitive fish species of a mine-related sediment pond proposed in a headwater tributary of Mitchell |

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| *TransAlta Centralia Mining, LLC*<br>*Lewis County, Washington* | Creek. Species addressed in the BA were bull trout and coastal cutthroat trout. Conservation measures were designed to mitigate impacts of the proposed action. |
| Time Oil Road Turtle Underpass Design<br>*Port of Portland*<br>*Multnomah County, Oregon* | As project director, Mr. Summers reviewed available information on the design and construction of small-animal underpasses and designed a generic underpass system to allow safe passage of western painted turtles and other small animals under Time Oil Road. The underpass system included orientation/exclusion fencing and a single underpass linking wildlife habitat areas. |
| Thor Lake Independent Review<br>*Mackenzie Valley Land and Water Board*<br>*Northwest Territories, Canada* | Mr. Summers conducted an independent review of wetlands, surface water, and water quality sections of a mine permit application prepared for a proposed rare earth metals mine near Great Slave Lake, Northwest Territories, Canada. The mine proposes to mine, mill, and produce rare earth carbonate and oxides, zirconium, niobium and tantalum oxides, and possibly gallium from the Nechalacho deposit. The proposed mine has two components, and underground mine and flotation plant, and a hydrometallurgical plant. The metals would be shipped by barge across Great Slave Lake to the hydrometallurgical plant. Impacts were assessed from the mining, processing, and transportation processes to wetlands, surface water, water quality, and potential receptors. The results of the study were presented to the Mackenzie Valley Land and Water Board for consideration in granting a permit to Avalon Rare Metals, the project proponent. |
| Sutherlin Knolls Industrial Park<br>*Oregon Economic & Community Development Department*<br>*Oregon* | As project manager, Mr. Summers prepared the Purpose & Need/Alternatives Analysis and Conceptual Mitigation Plan for the 200-acre Sutherlin Knolls Industrial Park (SKIP) in Sutherlin, Douglas County, Oregon via the "Project Ready Industrial Sites Initiative." The SKIP received industrial certification from OECDD in February 2006. |
| Oak Creek Industrial Park<br>*Douglas County Department of Public Works*<br>*Roseburg, Oregon* | As project director, Mr. Summers oversaw the performance of multiple wetland planning services including a Wetland Delineation, Wetland Functional Assessment, Conceptual Site Plan, Purpose & Need/Alternatives Analysis, and Conceptual Mitigation Plan for the proposed 23-acre Oak Creek Industrial Park near Roseburg, Douglas County, Oregon via the "Project Ready Industrial Sites Initiative." The OCIP received industrial certification from OECDD on July 15, 2005. |
| Elgin and La Grande-to-Cove Gas Line Extension Projects<br>*Avista Corporation*<br>*La Grande, Oregon* | CWA Section 404 and ESA compliance including wetland delineations and potential, threatened, endangered, and sensitive species surveys for a 14-mile natural gas line extension project in eastern Oregon. As project director, Mr. Summers supervised |

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| | collection of field data on soils, vegetation, and hydrology; project budget; final report; and preparation of site maps. |
| Union-to-Cove Fiber-Optic Installation Project<br>*GTE*<br>*Union/Cove, Oregon* | CWA Section 404 and ESA compliance including wetland delineations and surveys for potential, threatened, endangered, and sensitive species for a 12-mile fiber-optic cable installation project. As project director, Mr. Summers supervised the fieldwork to collect data on soils, vegetation, and hydrology; project budget; final report; and preparation of project maps using AutoCAD and GIS. Coordinated with USACE, Department of State Lands (DSL), and Oregon Department of Transportation (ODOT) to determine jurisdictional status of the waters in the project corridor and related permitting requirements. |
| Level III Fiber-Optic Project<br>*Kiewit Construction*<br>*Oregon and Washington* | Mr. Summers was a project manager for the natural resource baseline surveys, noxious weed surveys, construction oversight, and noxious weed control and mitigation plan for more than 500 miles of right-of-way for the installation of fiber-optic lines in five counties in southeastern Washington and northeastern Oregon. Baseline data were collected on waters of the United States and State, noxious weeds, and general habitat. All resources were mapped on project maps to assist in minimizing impacts to the maximum extent practical, mitigation plans were prepared, and construction oversight was completed. |
| Jenkins-Kim Significant Natural Resource Inventory<br>*LDC Design Group, Inc.*<br>*Washington County, Oregon* | As project manager, Mr. Summers oversaw the preparation of a Washington County Section 422 Significant Natural Resource Inventory (SNRI) as part of the permitting effort for a 20-acre residential development site recently annexed into the urban growth boundary. The SNRI described and mapped wetland, riparian, and wildlife habitat types; assessed their resource value to wildlife; and determined project impacts on significant natural resources. |
| Skookumchuck Gravel Pit Wildlife Resources Report<br>*TransAlta Centralia Mining, LLC*<br>*Lewis and Thurston Counties, Washington* | As project director, Mr. Summers assessed the potential impacts of a proposed 41-acre gravel pit expansion on Washington priority species (Bald Eagle, western gray squirrel, and Mardon skipper) and habitats (Oregon white oak woodland). He also developed a management plan to protect and mitigate important wildlife habitats and species. |
| Annual NPDES Report<br>*Port of Portland, Oregon*<br>*Portland, Oregon* | Mr. Summers was a project manager for the completion of the 2000-2001 Annual Report for the Port's joint National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit. Project includes contacting the managers of each Operating Area (i.e., Marine, PDX, and Properties) to obtain information on stormwater-related activities |

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| | (e.g., training, monitoring) that occurred during the 2000-2001 monitoring year and compile a report summarizing the results. |
| PDX Airfield Safety Improvements Project BA<br>*Port of Portland*<br>*Portland, Oregon* | Mr. Summers was a project manager for the preparation of a biological assessment determining the potential effects of implementing runway safety improvements on ESA-listed species. Potential effects to bald eagles and plants were assessed. |
| Natural Resources Inventory and Assessment Mapping Project<br>*Port of Portland*<br>*Portland, Oregon* | Mr. Summers was the overall project director of the Port of Portland's habitat inventory of their properties. He supervised and coordinated the field effort to collect data on vegetation and habitat elements for undeveloped areas on over 16 Port-owned properties. He tested and refined data collection procedures and trained others in the use of this protocol. Aerial photographs were used to map individual habitats. Mr. Summers provided updated maps and data forms to the Port for entry into an Access database and coordinated in-house map digitization and data entry efforts to aid the Port in meeting their project deadlines. |
| Annual National Pollutant Discharge Elimination System Report<br>*Port of Portland*<br>*Portland, Oregon* | As project director, Mr. Summers prepared the 1999-2000 and 2000-2001 annual reports for the Port's joint NPDES municipal separate storm sewer system discharge permit. He contacted managers and other personnel of each operating area (i.e., marine, aviation, and properties) to obtain information on the implementation of the best management practices addressed in the Port's municipal storm water management plan, including related training and monitoring. Mr. Summers supervised the preparation of a detailed report summarizing results that was submitted to the Oregon Department of Environmental Quality. |
| Little Deschutes River Biological Evaluation<br>*Oregon Department of Transportation*<br>*Klamath County, Oregon* | As a botanist, Mr. Summers prepared a BA for proposed bridge reconstruction project. He prepared a USFS BE addressing impacts of bridge construction on any PETS species. |
| Badger Creek Wetland Delineation and Biological Evaluation<br>*Oregon Department of Transportation*<br>*Wasco County, Oregon* | As a wetland scientist, Mr. Summers performed a wetland delineation, impact assessment, and conceptual mitigation report for proposed bridge reconstruction project. He prepared a wetland delineation report and supporting documentation for 404 permitting. |
| Chanute Air Force Base<br>*US Air Force*<br>*Chanute, Illinois* | As an ecological risk assessor, Mr. Summers conducted ecological risk assessment as part of proposal. Used hypothetical bioassay values to conduct risk assessment following EPA Risk Assessment |

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| | Guidance for Superfund, Vol. II Environmental Evaluation Manual, for wildlife, threatened and endangered species, and vegetation. |
| Waste Area Groups 22, 23, 1 and 7, and 17<br>*Paducah Gaseous Diffusion Plant*<br>*Paducah, Kentucky* | As an ecological risk assessor, Mr. Summers reviewed and commented on ecological risk assessments conducted as part of cleanup effort for these waste area groups at Paducah Gaseous Diffusion Plant. Contaminants of concern included most organics, inorganics, and radionuclides. Mr. Summers ensured that EPA guidelines were followed and that results were correct for all endpoint species. |
| Centralia Mine Sensitive Species Assessments<br>*TransAlta Centralia Mining, LLC*<br>*Lewis and Thurston Counties, Washington* | TCM is preparing a permit renewal application for submittal to the U.S. Office of Surface Mines (OSM) to renew coal-mining leases at Centralia Mine in western Washington. OSM requires the 14,450-acre mine, in operation since 1969, to renew its operating permit at a maximum of 5-year intervals through the life-of-mine permit (2025). As project director, Mr. Summers supervised the preparation of a BA (federal) and a biological report (state) to determine whether renewal of mining operations is likely to affect any federal or state proposed, threatened, endangered, or sensitive species, as well as federally proposed or designated critical habitat. The BA addressed coastal cutthroat trout, bull trout, coho salmon, Olympic mudminnow, Bald Eagle, Oregon spotted frog, mardon skipper, white-topped aster, and small-flowered trillium. |
| SMLF Crocker Property Mitigation Plan<br>*Lane County Department of Public Works*<br>*Lane County, Oregon* | Lane County retained Mr. Summers' firm for more than 5 years to aid the Waste Management Division with its environmental permitting needs for several projects. They permitted and oversaw the implementation of a multiphase project involving more than 110 acres of wetland fill and 262 acres of wetland and upland mitigation. Part of the permitting included development of the mitigation site as a wetland mitigation bank. As the project director/manager/wetland delineator, Mr. Summers' responsibilities included mitigation design, delineation of wetland and wildlife habitat, and HGM assessment. The project also involved several federally listed species and involved "take" of Bradshaw's lomatium (*Lomatium bradshawii*), an endangered plant. Other deliverables included a comprehensive biological resource inventory, a consolidated wetland report (compilation of five separate delineations), and an analysis of on- and off-site alternatives. |
| Rivergate Industrial District Mitigation Sites Monitoring<br>*Port of Portland*<br>*Portland, Oregon* | As project director, Mr. Summers supervised Year 1 through Year 5 monitoring of two of the Port's mitigation sites in the Rivergate Industrial District as required by the terms and conditions of their Rivergate Consent Decree with USACE, their DSL permit, and their permit with the City of Portland Bureau of Development Services. He assisted in the development of the vegetation sampling |

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| | protocols and monitoring procedures utilized for the Ramsey Lake Enhancement Area/Visual Buffer and the 40-Mile Loop Trail Mitigation Site/Levee Repair Area sites. Managed the field crew in year one and supervised the following years. He assisted in the data analysis, and provided QA/QC for the monitoring reports. |
| Forty-Mile Loop Trail Permit Application<br>*Port of Portland*<br>*Portland, Oregon* | As project manager, Mr. Summers worked closely with Port personnel to prepare a Joint Section 404/Removal-Fill Permit application for the proposed 40-Mile Loop Trail Project along the Columbia Slough in the Rivergate Industrial District. Coordinated with the Port's engineering department, other consultants, and the City of Portland Bureau of Environmental Services to obtain information on the proposed trail impacts and restoration efforts. He assisted in preparation of the proposed mitigation plan and permit application figures. He prepared permit application for submission to DSL and responded to agency comments. |
| Rivergate Consent Decree Permit Application<br>*Port of Portland*<br>*Portland, Oregon* | As project manager, Mr. Summers prepared a joint removal-fill permit application for submission to DSL for the restoration and fill removal actions required under the Rivergate consent decree. |
| North Simmons Road Wetland Delineation and Permit Application<br>*Port of Portland*<br>*Portland, Oregon* | As project manager, Mr. Summers performed a wetland delineation and prepared the associated report for the North Simmons Road property in the Rivergate industrial district. He met with Port property personnel, the prospective tenant, and agencies to discuss project details and proposed impacts, and prepared a joint removal-fill permit application for submission to DSL and USACE. |
| Natural Resources Analyses of a Proposed Aggregate Site Adjacent to the Willamette River<br>*Eugene Sand and Gravel*<br>*Eugene, Oregon* | As an environmental scientist, Mr. Summers worked on this comprehensive natural resources assessment and permitting for proposed 450-acre aggregate mining site. He provided documents and testimony for County Land-Use (State Goal 5) process; developed wetland permit package, including alternatives analysis and mitigation design; and prepared NEPA documentation, including BA for bald eagle and fish species. He coordinated with eight regulatory agencies and local public interests. |
| Highway 26 Realignment<br>*Oregon Department of Transportation*<br>*Grant County, Oregon* | As a botanist, Mr. Summers performed a PETS study for proposed realignment of Highway 26. He prepared report concerning consequences of all alterations on PETS. |
| Coastal Timber Harvest Project<br>*Stimson Forestry*<br>*Linn County, Oregon* | As a botanist, Mr. Summers performed a PETS study for proposed clearing of logging roads. He prepared report detailing findings and consequences of proposed clearing of logging roads on PETS. |

## *Wetlands*

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| Big Creek In-Line Valve Replacement<br>*Northwest Natural*<br>*Knappa, Oregon* | As principal in Charge, Mr. Summers oversaw the completion of the wetland delineation and permitting support for the Big Creek Mueller In-line Valve Replacement Project. The project involved excavating a portion of their right-of-way to access and retrofit an existing in-line valve. A wetland delineation, report, and permitting support was provided to the client to construct the project. |
| Fertile Valley Creek<br>*Northwest Natural*<br>*Knappa, Oregon* | As principal in Charge, Mr. Summers oversaw the completion of the wetland delineation and permitting support for the Fertile Valley Creek pipeline replacement project. The project involved the replacement of an exposed section of a 10-inch high-pressure natural gas line in the channel of Fertile Valley Creek by using horizontal directional drilling to install a new line approximately 30+ feet below the elevation of the existing streambed. A wetland delineation and report was prepared to avoid the need for obtaining permits by avoiding any wetland impacts. |
| Highway 26 – Austin Junction<br>*Oregon Department of Transportation*<br>*Austin Junction, Oregon* | As an environmental scientist, Mr. Summers assessed impacts to wetlands and proposed, endangered, threatened, and sensitive (PETS) plant species for proposed realignment of Highway 26. He also prepared associated sections of EA detailing wetland and PETS impacts and possible mitigation measures. |
| Department of Energy<br>*Paducah Gaseous Diffusion Plant*<br>*Paducah, Kentucky* | As an environmental scientist, Mr. Summers assessed impacts to wetlands and PETS plant species for proposed realignment of Highway 26. He also prepared associated sections of EA detailing wetland and PETS impacts and possible mitigation measures. |
| Mining Mine-wide JARPA Permitting and Mitigation Planning<br>*TransAlta Centralia Mining, LLC*<br>*Washington* | As project manager, Mr. Summers oversaw the preparation of mitigation plans for various mining related projects requiring JARPA. Work included assessing direct and indirect wetland impacts and meeting with agencies to develop the appropriate wetland and stream mitigation plans. Mitigation plans included a biological and engineering report to describe the mitigation approach. Mr. Summers managed staff to prepare support JARPA documents such as BAs and Section 106 reports for submittal to permit agencies. He conducted meetings with agencies to discuss mitigation options and obtain JARPA related permits. |
| Big Hanaford Creek Construction Plans, Observation, and Monitoring<br>*TransAlta Centralia Mining, LLC*<br>*Washington* | As project director, Mr. Summers supervised the development and preparation of construction bid documents for a 150-acre wetland and stream restoration project and assisted project owner in the bid selection process. He prepared a construction observation and monitoring plan to provide on-site review of the excavation of a new stream channel, construction of large woody debris stream |

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| | structures, and installation of more than 300,000 native trees, shrubs, and emergent plants. He prepared daily field observation forms with observations made and recommendations to the project owner. |
| McClelland Lake Wetland Complex Functional Assessment Approach<br>*Petro-Canada Oil Sands, Inc. (Suncor Energy Ltd.)*<br>*Fort McMurray, Alberta, Canada* | As project manager, Mr. Summers managed the development of a wetland functional assessment methodology for the McClelland Lake Wetland Complex, an 18-square-kilometer, highly diverse wetland system proposed for oil-sands mining. He met regularly with a multi-stakeholder committee composed of representatives from the industry, provincial regulatory agencies, and Aboriginal communities to develop a consensus on the definition of key project terms and identify the wetland functions occurring in the system and the indicators that could be used to assess them. He reviewed existing scientific studies on wetland functional assessment, boreal peatland ecology, and the effects of oil-sands mining on wetlands. Mr. Summers compiled information provided by multiple technical experts contributed to a comprehensive functional assessment report. |
| Wetland Policy White Paper<br>*Shell Canada, Inc.*<br>*Alberta, Canada* | Mr. Summers was the project director for developing a white paper on the status of the science and policy regarding wetland regulations in Canada. The paper focused on the comparison of Alberta and Canada wetland regulations with Washington State and the U.S. regulations. |
| Buckskin Mine Hay Creek II Amendment Area Wetland Delineation<br>*Buckskin Mining Company-Kiewit Mining Properties, Inc.*<br>*Gillette, Wyoming* | As project director, Mr. Summers oversaw the methodology for delineating potential wetlands and other waters of the U.S. within the 1,009-acre Hay Creek II Amendment Area at the Buckskin Mine, the northernmost surface coalmine in Wyoming's Powder River Basin. He supervised the Collection of field data on the existing wetlands and other waters of the amendment area, and mapping of their boundaries. He reviewed and quality checked a detailed wetland delineation report submitted to the Wyoming Regulatory Office of the USACE for review and concurrence. |
| Baseline Assessment Surveys for Pacific Connector Gas Pipeline<br>*Williams-Northwest Pipeline Corp, Edge Environmental*<br>*Coos Bay/Malin, Oregon* | As project director, Mr. Summers oversaw baseline data collection for this proposed 223-mile-long pipeline project between Coos Bay and Malin. He oversaw the survey of a 400-foot-wide study area to delineate wetlands and streams; collect data on wetland vegetation, soils, and hydrology; and record stream characteristics and data for wetland functional analysis. He prepared survey maps, data spreadsheet compilation, HGM functional analysis reports, and the wetland/waters delineation report. |

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| Buckskin Mine Permit Area Delineation and Nationwide Permit 21 Renewal Application<br>*Buckskin Mining Company-Kiewit Mining Properties, Inc.*<br>*Gillette, Wyoming* | As project director, Mr. Summers supervised the delineation of potential wetlands and other waters of the U.S. within the existing 8,011-acre WDEQ-LQD permit area of the Buckskin surface coalmine as part of the mine's renewal application to USACE for coverage under Nationwide Permit 21. The project involved reviewing previous delineations, Section 404 Permits, mitigation plans, and monitoring reports to compile a comprehensive history of the wetland permitting and mitigation performed on the site to date. Mr. Summers supervised the collection of field data on the existing wetlands and other waters of the permit area and mapped their boundaries and the preparation of a detailed wetland delineation report submitted to the Wyoming Regulatory Office of the USACE for review and concurrence. He oversaw the preparation of USACE Pre-Construction Notification to renew the mine's coverage under USACE's Nationwide Permit 21 for proposed future coal extraction operations in the permit area. |
| Pond 3B Natural Resources Assessment<br>*TransAlta Centralia Mining, LLC*<br>*Lewis County, Washington* | As project manager, Mr. Summers oversaw the evaluation of natural resource value of wetlands associated with Pond 3B, a 115-acre coal fines refuse pond on the Centralia Coal Mine property where a functional wetland community has developed across much of the shallow water portions. He prepared the documentation of wetland, aquatic, and wildlife resources and evaluated overall functional value of developing wetland. He noted opportunities where active management could be employed to enhance similarly created wetlands and improve habitat conditions for fish and wildlife. |
| Pit 20 Wetland Mitigation Plan and Planting Plan<br>*TransAlta Centralia Mining, LLC*<br>*Lewis County, Washington* | As project manager, Mr. Summers evaluated the feasibility of creating viable wetland habitat at the Pit 20 site, an old coal mine pit undergoing reclamation. Historic wetland conditions were reviewed, on-site conditions were assessed, bathymetry of the Pit was examined, and water quality was reviewed for potential contaminants. A detailed wetland mitigation plan was prepared that outlined landscape conditions, grading, hydrology, target wetland/riparian habitats, seeding and planting plans, special habitat features to benefit fish and wildlife, and wetland functions to be achieved. The plan was used by TCM to seek a land use change from the Office of Surface Mining. |

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| Edgewater Properties Consolidated Wetland Delineation<br>*Matrix Development Corporation*<br>*Tualatin, Oregon* | As project manager. Mr. Summers prepared a wetland delineation report that combined the results of four previously performed wetland delineations into a single report for a proposed multi-parcel residential development. He prepared a natural resource assessment report for this site for submission to Clean Water Services and a joint removal-fill permit application package for the proposed project. |
| Arbor Lakes Residential Development<br>*West Hills Development*<br>*Washington County, Oregon* | As project manager, Mr. Summers oversaw the wetland delineation, natural resource assessment, and permitting services for a 111-acre multi-phase, multi-year residential development project. He supervised the Delineation of potential wetlands and other waters of the U.S., assessed their functions and values, planned compensatory wetland mitigation, and prepared Joint Section 404/Removal-Fill Permit applications for proposed project impacts. He also oversaw the preparation of a Clean Water Services natural resource assessment to establish and mitigate the loss of protective buffers around wetlands and other water quality-sensitive areas. |
| Arbor Heights East Residential Development<br>*West Hills Development*<br>*Washington County, Oregon* | Mr. Summers served as project manager for the development of a 77-lot detached single-family home subdivision on a 21.51-acre parcel in Washington County. He ovesaw the preparation of a Clean Water Services' Natural Resource Assessment for the project, including a complex upland vegetated corridor compensatory mitigation plan, and coordinated with the Oregon Department of Fish and Wildlife (ODFW) on fish passage issues. He supervised preparation of a Joint Section 404/Removal-Fill Permit application, including a purpose and need statement and alternatives analysis, for the placement of fill material into wetlands and an excavated pond to facilitate road and lot construction. He also oversaw amphibian salvage activities in the drained pond to capture and relocate red-legged frogs to an off-site location per ODFW requirements. |
| Arbor Oaks Residential Development<br>*West Hills Development*<br>*Washington County, Oregon* | Mr. Summers served as project manager overseeing multiple wetland delineations, natural resource assessments, and permitting services for a 111-acre multiphase, multiyear residential development project. He supervised the delineation of potential wetlands and other waters of the state and United States, assessment of their functions and values, planning for compensatory wetland mitigation, and preparation of the Joint Section 404/Removal-Fill Permit applications for proposed project impacts. He also oversaw the prepearation of a Clean Water Services natural resource assessment to establish and mitigate the loss of protective buffers around wetlands and other water quality sensitive area and to obtain Service Provider Letters for the project. |

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| Arbor Oaks Phase 1 Wetland Mitigation Monitoring<br>*West Hills Development*<br>*Washington County, Oregon* | Mr. Summers served as project manager overseeing the annual monitoring for an on-site compensatory wetland mitigation site at the Arbor Lakes Phase 1 residential development. He established the methodology for sampling on-site vegetation to determine survivorship of woody species and areal cover of herbaceous and invasive species; evaluating site hydrology and taking key photographs of mitigation features; assessing whether the site was meeting or on track to meet the performance standards required by the federal and state permits; and development of a site-specific invasive species control plan for reed canarygrass (*Phalaris arundinacea*). |
| Arbor Pass Creekside Residential Development<br>*West Hills Development*<br>*Hillsboro, Oregon* | Mr. Summers served as project manager for an application to obtain a revised Clean Water Services' Service Provider Letter for a condominium development in Hillsboro, Washington County, Oregon. He oversaw the preparation and submittal of a revised significant natural resource overlay impact and mitigation plan to meet City of Hillsboro zoning requirements. |
| Bethany Church Investors Property<br>*West Hills Development*<br>*Washington County, Oregon* | Mr. Summers served as project manager for the preparation of a wetland delineation for a 14.5-acre agricultural parcel proposed for future residential development. He reviewed the wetland delineation fieldwork and report and oversaw the preparation of a final submittal package to Oregon DSL. |
| Waterleaf Residential Development Natural Resource Report<br>*Riverside Homes, Inc.*<br>*Portland, Oregon* | Mr. Summers served as project manager for the preparation of a natural resources report for a proposed residential development on a 26.54-acre site within a City of Portland environmental conservation zone. He oversaw the development of a natural resource inventory, wetland delineation, and wildlife habitat assessment, and the evaluation of the site for rare, threatened, and endangered plant and animal species habitat. In addition, he developed a wildlife habitat impact analysis, cumulative effects analysis, and mitigation plan describing how the permanent and temporary impacts of the development on natural resources would be compensated. Mr. Summers also oversaw the development of a Joint Section 404/Removal-Fill Permit application for the placement of fill material into potential waters of the state and United States. |
| Arbor Pass Wetland Mitigation Monitoring<br>*West Hills Development*<br>*Hillsboro, Oregon* | Mr. Summers served as project manager for a pooled compensatory wetland mitigation site constructed for two off-site residential development projects. He oversaw the sampling of on-site vegetation to determine survivorship of woody species and areal cover of herbaceous and invasive species; evaluation of site hydrology and tooking of key photographs of mitigation features; assessment of whether the site was meeting or on track to meet |

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| | the performance standards required by the federal and state permits; and preparation of annual monitoring report for submission to the Corps and Oregon DSL. |
| Hillsboro Landfill<br>*Waste Management, Inc.*<br>*Hillsboro, Oregon* | For more than 14 years, Mr. Summers' former firm managed a variety of environmental issues associated with a 380-acre landfill site, of which approximately 200 acres is natural area within the Tualatin River floodplain. Mr. Summers was the project director/project manager/wetland scientist. Prior to design, Mr. Summers oversaw and qualitatively assessed current functions and estimated those that likely existed during and prior to the 1852 Land Survey. This assessment guided design development for the 126-acre wetland mitigation site. The mitigation plan was based on a "self-design" concept, whereby the river has been harnessed to provide the majority of the site's hydrology and re-vegetation. By carefully designing the site topography to control and capture hydrology during vernal high flows, we created various zones of preferred vegetation and minimized weed problems (mainly reed canary grass). This approach was very successful and has greatly reduced planting efforts and associated cost (we also found that vegetation is generally much more robust than similar sites in the vicinity utilizing traditional planting approaches). The design also included outlets to provide egress for federally listed salmonid species back to the channel following seasonal flooding. Additional site elements include a peat fen restoration modeled after fens known to have occurred in the Willamette Valley, which are now extremely rare, and construction of a vegetated perimeter corridor that provides flood-escape cover and habitat for wildlife. |
| Coffin Butte Wetland Mitigation<br>*Valley Landfills, Inc.*<br>*Adair, Oregon* | As project director, Mr. Summers designed and implemented two wetland restoration sites totaling approximately 15 acres. Both sites involved restoring former wetland and enhancing highly degraded wetlands to a wet prairie/ash forest sere, which is now rare in the Willamette Valley. Both sites contain Nelson's Sidalcea (*Sidalcea nelsoniana*), a federally listed endangered plant species, and both sites have been designed to facilitate recovery of this species; they successfully increased the site's population size from about 20 plants to approximately 300 over the past 5 years. |
| Georgia Pacific Wauna Mill Stormwater Ditch Remediation Project<br>*Bridgewater Group, Inc.*<br>*Clatsop County, Oregon* | As project manager, Mr. Summers oversaw the preparation of a wetland determination/delineation and preparation of a Joint Section 404/Removal Fill Permit application to pipe and fill an existing stormwater ditch at Georgia Pacific's Wauna paper mill in Wauna, Clatsop County, Oregon. The project was part of an ongoing environmental remediation project at the former Koppers |

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| | Wood-Treating Site pursuant to a Voluntary Remediation Agreement with the Oregon Department of Environmental Quality. |
| Dry Creek Landfill<br>*Rogue Waste Services, Inc.*<br>*White City, Oregon* | As project manager/director, Mr. Summers developed a wetland permit package for a 654-acre landfill site. Permitting involved brokering a 30-acre parcel of unique vernal pool habitat (containing a federally endangered fairy shrimp species) in the Agate Desert to mitigate wetland impacts. Involved close coordination with the USFWS, Oregon Department of Fish and Wildlife, Oregon DSL, and USACE. |
| Eastbank Pedestrian Walkway<br>*Portland Development Commission*<br>*Oregon* | As a wetland scientist, Mr. Summers assisted in completion of biological documentation of effects of walkway project on threatened Lower Columbia River steelhead trout in Portland Harbor area of Willamette River. He reviewed design plans and coordinated with engineering consultants and agencies to gain approval for project without need to conduct formal consultation under the ESA. |
| Randall Wetland Mitigation Site Monitoring<br>*Port of Portland*<br>*Hillsboro, Oregon* | As project director, Mr. Summers oversaw the Year 2 through Year 7 monitoring of the Port's Randall Mitigation Site as required by the terms and conditions of their USACE and DSL permits. He supervised the development of the vegetative sampling protocols and management of the field crew. |
| Arbor Heights/Arbor Crossing Residential Developments<br>*West Hills Development*<br>*Washington County, Oregon* | As project director, Mr. Summers supervised the wetland delineations for two properties proposed for residential development in Washington County, Oregon. He oversaw the preparation of separate wetland delineation reports, wetland functional assessments, and Joint Section 404/Removal-Fill Permit applications for each project, and the development of a combined compensatory wetland mitigation plan. |
| Oak Creek Industrial Park<br>*Douglas County Department of Public Works*<br>*Roseburg, Oregon* | As project director, Mr. Summers oversaw the performance of multiple wetland planning services including a Wetland Delineation, Wetland Functional Assessment, Conceptual Site Plan, Purpose & Need/Alternatives Analysis, and Conceptual Mitigation Plan for the proposed 23-acre Oak Creek Industrial Park near Roseburg, Douglas County, Oregon via the "Project Ready Industrial Sites Initiative." The OCIP received industrial certification from OECDD on July 15, 2005. |
| Sutherlin Industrial Park<br>*Douglas County Department of Public Works*<br>*Sutherlin, Oregon* | As project manager, Mr. Summers performed a wetland delineation and Oregon-hydrogeomorphic functional assessment for a 51-acre property proposed for commercial/light industrial development. He delineated herbaceous and vernal pool wetlands and prepared the associated report for submission to DSL. He conducted a functional assessment for both the wetland proposed |

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| | for impact and the proposed mitigation site. He prepared conceptual plans for future site development and a conceptual compensatory wetland mitigation plan and the Section 404(b)(1) alternatives analysis for potential impacts to wetlands and other waters of the state. Work was associated with the OECDD's "Project Ready Industrial Sites Initiative." |
| Portland International Airport SW Quad Safety Fill Project<br>*Port of Portland*<br>*Multnomah County, Oregon* | The purpose of this project was to remove from the SW Quad those habitat elements (i.e., wetlands, open water, and trees) that were serving as attractants to wildlife species determined to pose a wildlife strike hazard to aircraft operations, in compliance with FAA regulatory mandates. Specifically, the project involved converting a stormwater conveyance canal to an underground piped structure, filling adjacent wetlands and remnant drainage ditches, removing associated riparian forest patches, and modifying some existing grassland areas. As part of the project, Mr. Summers, a project manager, prepared a natural resource assessment for riparian habitat, described and mapped wildlife habitats, numerically assessed wildlife value using the Wildlife Habitat Assessment rating system, directed a City of Portland environmental review, and prepared a BA addressing impacts to proposed, threatened, or endangered species associated with filling 3.94 acres of wetlands and other waters. Mr. Summers also prepared a Joint Section 404/Removal-Fill Permit application package to fill the approximately 3.94 acres of wetland and other waters, and developed a mitigation plan for impacts to wetland and other waters. |
| Local Wetland Inventory<br>*City of Port Orford*<br>*Port Orford, Oregon* | As project manager, Mr. Summers conducted a local wetland inventory of all wetlands (0.5 acre or larger) in the 2,570-acre City's urban growth boundary. Tasks included wetland mapping, collecting field data, coordination with agency and city staff, and assistance with community involvement. |
| Clackamas County Shooting Range Expansion<br>*Clackamas County*<br>*Clackamas County, Oregon* | Mr. Summers oversaw the wetland delineation and buffer evaluation for the expansion of the Clackamas County Shooting Range. A wetland delineation and an assessment of the adjacent buffers was completed. The expansion encroached into buffers regulated by Water Environment Services so a buffer mitigation plan was developed to compensate for the impacts. |
| Sunnybrook Wetland Delineation and Permitting and Mitigation Planning<br>*Oregon Department of Transportation*<br>*Clackamas County, Oregon* | Mr. Summers conducted the wetland delineation, 404 permitting, and conceptual mitigation design for the proposed Sunnybrook interchange improvement and I-205 widening. Mr. Summers delineated the wetlands and compiled the results as an appendix to the permit application submitted to DSL and COE. As part of the permit application, we conceptual wetland mitigation plan was designed that including enhancing and creating approximately 6 |

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| | acres of wetlands. Additionally, Mr. Summers prepared the plans for the removal of a 150 foot long culvert on a tributary of Mt. Scott Creek and the channel restoration design. |
| Little Deschutes River Biological Evaluation<br>*Oregon Department of Transportation*<br>*Klamath County, Oregon* | As a wetland scientist, Mr. Summers prepared wetland and biological assessment for proposed bridge reconstruction project. He prepared US Forest Service BE addressing impacts of bridge construction on any wetlands and PETS species. |
| Tri-Property Wetland Delineation<br>*LDC Design Group, Inc.*<br>*Aloha, Oregon* | As project manager, Mr. Summers performed the wetland delineation fieldwork and prepared a project report for a 33-acre property proposed for residential development. He used both routine and atypical situation methodologies to delineate wetlands within the property boundary. He worked with client and agencies to resolve a disputed boundary. |
| Boeckman Road Wetland Delineation<br>*LCD Design Group, Inc., and West Hills Development*<br>*Wilsonville, Oregon* | As project manager, Mr. Summers performed wetland delineation and prepared delineation report for a 24.2-acre property proposed for residential development. He worked with the DSL to determine the jurisdictional status of several artificially created wetlands/waters. |
| Highway 58 – Willamette Highway BAs, BEs, and Wetland Analyses<br>*Oregon Department of Transportation*<br>*Oak Ridge, Oregon* | As an environmental scientist, Mr. Summers prepared two BEs, three BAs, and two wetland reports. BEs addressed 25 species of threatened, endangered, and sensitive fish, amphibians, reptiles, mammals, birds, invertebrates, and plants. BAs were prepared to evaluate potential impacts to northern spotted owl and American peregrine falcon. |
| Flexible Services Contract<br>*Oregon Department of Transportation*<br>*Oregon* | As project manager, Mr. Summers managed the flexible services contract that has provided the ODOT with wetland services since 1989. Support of contract included wetland delineations, functions and values assessments, impact assessments, mitigation planning, permitting, and mitigation design. |
| Cascadian Nursery<br>*Claremont Properties*<br>*Oregon* | Mr. Summers was project manager for a proposed residential development. The project included preparation of a joint DSL/COE Section 404 removal/fill permit, Clean Water Services natural resource assessment, and Washington County significant natural resources inventory report. Delineation of wetlands and natural resources on site was used to determine potential impacts and obtain all permits for the project. |
| Saltzman Heights<br>*Venture Homes* | Mr. Summers was project manager for a proposed residential development. The project included preparation of a joint DSL/COE Section 404 removal/fill permit, Clean Water Services natural |

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| *Oregon* | resource assessment, and Washington County significant natural resources inventory report. Delineation of wetlands and natural resources on site was used to determine potential impacts and obtain all permits for the project. |
| Mitchell Creek Project<br>*Centurion Homes*<br>*Portland, Oregon* | As project manager, Mr. Summers assessed streams, wildlife habitat, and wetlands on a 70–acre parcel to negotiate placement of environmental protection (EP) zones in relation to those resources according City of Portland's Chapter 33.340. Streams, wildlife habitat features, and wetlands were tied in to a cadastral survey to determine exact location and placement of respective EP zones. Information was used to create development plan for property that incorporates innovative mitigation measures proposed for protection of streams and watershed resources. |
| Claremont Hills<br>*Marshall-Grimberg Group*<br>*Beaverton, Oregon* | As project manager, Mr. Summers delineated wetlands on 90-acre parcel of agricultural land within urban growth boundary of Beaverton, Oregon. Delineation was complicated by extensive hydrologic manipulation of land for agriculture. Completed permit application package for development on area. |
| Headquarters Solid Waste Disposal Facility<br>*Weyerhaeuser Company*<br>*Cowlitz County, Washington* | As a wetland scientist, Mr. Summers performed wetland, fisheries, wildlife, botanical, and surface water technical studies for planning, design, and construction of a 400–acre wood waste landfill site. The project included filling 12 acres of wetlands in headwaters of Cowlitz River drainage. Wetland delineation, mitigation plan preparation, and 404 permit preparation were required. An extensive alternatives analysis was required to clearly demonstrate that an upland alternative was not practicable. The final mitigation package was more than 150 acres, which is one of region's largest aquatic and terrestrial habitat mitigation, creation, and monitoring programs. |
| North Albany Project<br>*Oregon Department of Transportation*<br>*Albany, Oregon* | As project manager, Mr. Summers performed wetland delineation, functions and values assessment, and impact assessment for proposed upgrade of I-5 north of Albany, Oregon. He worked with ODOT project managers to select mitigation site and designed mitigation plan using all available area. Mitigation beyond what is required for the project will be developed into mitigation bank for future ODOT projects. |

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| Warner Highway Project<br>*Federal Highway Administration*<br>*Lakeview, Oregon* | As project manager, Mr. Summers performed wetland delineation, functions and values assessment, and impact assessment for proposed highway realignment. He compared two possible routes to determine impacts to ecological resources and to identify preferred alternative route. He prepared report detailing findings and possible mitigation measures. |
| Cowlitz Falls Hydroelectric Project<br>*Washington Public Utility District*<br>*Morton, Washington* | As a wetland scientist, Mr. Summers assisted in implementation of habitat enhancement measures as mitigation for construction of 70–megawatt hydroelectric project on Cowlitz River. Shoreline restoration was completed before reservoir was filled, which determined post-construction pool depth. He supervised planting of more than 9,000 plants as part of shoreline restoration for proposed reservoir. He prepared and managed implementation of fish and wildlife mitigation. He prescribed mitigation measures focused on big game, Bald Eagles, Ruffed Grouse, forest management, wetlands, shoreline/riparian management, and fishery enhancement. Mr. Summers conducted or managed on-ground work including forest management to benefit wildlife, meadow creation, development of diked reservoir subimpoundments, island creation and planting, reclamation and management of reservoir and riverine riparian habitat, forest reclamation, tributary stream habitat improvements, Bald Eagle management, and enhancement of transmission line corridor. |
| Chenoweth Wetland Mitigation Project<br>*Oregon Department of Transportation*<br>*The Dalles, Oregon* | As project manager, Mr. Summers designed wetland as mitigation for impacts associated with construction of proposed interchange. He prepared a technical report detailing wetland design, planting plan, and contingency measures. |
| Olalla Creek Wetland Mitigation Project<br>*Oregon Department of Transportation*<br>*Winston, Oregon* | As project manager, Mr. Summers delineated wetlands for proposed highway realignment project and prepared report detailing wetland impacts, possible mitigation measures, and proposed planting plan for project. He also designed wetland to mitigate for impacts and prepared report detailing wetland design and planting plans. |
| Wren Hill Wetland Mitigation<br>*Oregon Department of Transportation*<br>*Wren, Oregon* | As project manager, Mr. Summers designed wetland as mitigation for impacts to wetlands from proposed construction of highway. He prepared report detailing wetland design, planting plan, and construction phases and concerns. |
| Highway 26 – Austin Junction Project<br>*Oregon Department of Transportation* | As project manager, Mr. Summers performed wetland delineations for proposed realignment of Highway 26. He also prepared report detailing wetland impacts and possible mitigation measures. |

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| *Austin Junction, Oregon* | |
| Hillsboro Landfill Expansion Project<br>*Emcon Northwest, Inc.*<br>*Hillsboro, Oregon* | As a wetland scientist, Mr. Summers completed wetland delineation; threatened, endangered and, sensitive (TES) plant survey; and habitat evaluation for proposed landfill expansion. He prepared report addressing effects of proposed expansion on wetlands, TES plants, and habitat of project area. He assisted in design of 60-acre wetland system to mitigate for wetland impacts, devised planting plan for constructed wetland, and prepared report detailing these plans. |
| Technical Center Campus<br>*Fuisz Technologies, Ltd.*<br>*Sterling, Virginia* | As project manager, Mr. Summers performed wetland delineation for proposed construction of manufacturing plant in Loudon County, Virginia. |
| Functions and Values Analysis for Wetlands South of Solid Waste Management Units 2 and 3 of WAG 22, Department of Energy<br>*Paducah Gaseous Diffusion Plant*<br>*Paducah, Kentucky* | As project manager, Mr. Summers performed functions and values analysis of wetland to assist in choosing remedial actions for SWMUs 2 and 3 of WAG 22. Functions and values of wetland were evaluated using USACE's WET 2.0 program. |
| Roseburg Project<br>*Hancock Forestry*<br>*Seal Rock, Oregon* | As a botanist, Mr. Summers performed a plant survey for possible Siuslaw National Forest PETS species for proposed timber harvest. He also prepared portions of report detailing findings and consequences of proposed clearing for logging roads on PETS plant species. |
| Medford Landfill Expansion<br>*Emcon Northwest, Inc.*<br>*Medford, Oregon* | As a botanist, Mr. Summers performed PETS study and habitat evaluation for proposed landfill expansion. He prepared a report concerning effects of proposed expansion on PETS and habitat of project area. |
| Arboretum Development<br>*Mid-Willamette Valley Council of Governments*<br>*Salem, Oregon* | As a botanist, Mr. Summers performed a habitat evaluation, wetland assessment, and PETS species study for proposed arboretum. He prepared report concerning effects of proposed expansion on wetlands, PETS, and habitat of project area. |
| Remedial Investigation<br>*Owens Corning*<br>*Jackson, Tennessee* | As an ecological risk assessor, Mr. Summers conducted ecological risk assessment, habitat assessment, threatened and endangered species survey, and wetland vegetation survey. He conducted ecological risk assessment following EPA Risk Assessment Guidance for Superfund, Vol. II Environmental Evaluation Manual, for piscivorous wildlife and threatened and endangered species. He determined broad-scale impacts to vegetation from possible offsite migration of contaminants by statistical comparisons of site |

areas to control areas. He assessed possible impacts to threatened and endangered species. Methods and results were detailed in portions of remedial investigation report.

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Kirby, D.R., K.D. Krabbenhoft, M.E. Biondini, and G.P. Summers. Ecological dynamics of a created seasonal wetland in North Dakota. American Society for Surface Mining and Reclamation, Annual Meeting. Pittsburgh, PA. 1994.

Summers, G.P., M.E. Biondini, D.R. Kirby, C.E. Grygiel, and K.D. Krabbenhoft. Nitrogen flow in the decomposition process of a prairie wetland. Society of Wetland Scientists, Annual Meeting. Portland, OR. 1994

Summers, G. P. The role of wetlands in nitrogen cycling of a prairie system. Masters Thesis. North Dakota State University, Fargo, ND. 1993

Summers, G. P., K.D. Krabbenhoft, M.E. Biondini, D.R. Kirby, and C.E. Grygiel. Nitrogen cycling in a northern prairie wetland system. Society for Range Management, Annual Meeting. Albuquerque, NM.1993

## Environmental Training and Lecturing

Summers, Greg, Marcotte, Kim, Blackburn, Scott, Lingan, Tom, Miller, David, and Blum, Megan. NEPA Streamlining: Practitioner Perspectives on Opportunities and Risks. National Association of Environmental Professionals National Conference. Baltimore, MD. 2019.

Summers, Greg. The Chehalis Basin Strategy – Flood Damage Reduction and Aquatic Habitat Restoration. Northwest Environmental Business Council Annual Meeting. Portland, OR. 2016.

Summers, Greg. NEPA for Large Projects – Lessons Learned and Approach Considerations. Law Seminars International. Portland, OR. 2014.

Summers, Greg. NEPA for Mining Projects. BLM and Mining Company NEPA Training, Gillette, WY. 2010.

Summers, Greg. The Interaction of NEPA and State Law (WA SEPA). CLE International NEPA Conference. Portland, OR. 2009.

Summers, Greg. Oil Sands and Wetland Mitigation – A Comparison of Alberta and Washington State Regulations and Issues to Consider Moving Forward. Shell Canada – Construction and Reclamation Workshop. Edmonton, Alberta, Canada. 2009.

Summers, Greg. Oils Sands and Alberta's Wetland Policy – Considerations Moving Forward. Calgary Energy Forum. Calgary, Alberta, Canada. 2009.

Summers, Greg. NEPA and FAA Regulations. Port of Portland NEPA Training. Portland International Airport, Portland, OR. 2005

Summers Greg. Permitting, NEPA, and Wetland Regulations. Continuing Education Courses. Portland State University, 2001-2008.

Summers, Greg. Integrated Permitting. Continuing Education Courses. Portland State University, 2001-2008.