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CONFLUENCE ENVIRONMENTAL COMPANY

KERRIE MCARTHUR, PWS, CERP

Senior Biologist

Kerrie McArthur has 24 years of wide-ranging experience as a natural resources professional. Her experience includes wildlife research projects, field surveys, and biological assessments of threatened and endangered species. She conducts water quality monitoring and stream-channel characterization, and she is experienced in wetland reconnaissance, delineations, restoration, and mitigation; plant and animal identification; habitat evaluation; piezometer monitoring; fisheries surveys; and functional assessment of aquatic ecosystems. Kerrie has written numerous wetland delineation reports, project-specific biological assessments, and aquatic and terrestrial plant and animal sections of SEPA/NEPA environmental impact statements (EISs), and has developed mitigation plans for sensitive species and habitats including salmonids and wetlands.

Representative Projects

Mitigation Site Performance Monitoring, King County Department of Natural Resources and Parks (DNRP), King County, WA. *Work Order Manager/Senior Biologist.* Assisting DNRP staff by conducting quarterly site inspections to ensure maintenance is occurring at three mitigation sites. Preparing quarterly site inspection reports. Conducting yearly monitoring of mitigation sites to document if the mitigation area is meeting performance standards. Preparing annual mitigation monitoring reports.

Site Inspections for Mitigation/Landscape Maintenance Work Orders, King County Wastewater Treatment Division, King and Snohomish Counties, WA. *Work Order Manager/Site Inspector.* Supported King County WTD by inspecting several environmental mitigation and Green Stormwater Infrastructure (GSI) sites to ensure work is being completed as described in King County Mitigation/Landscape Maintenance Work Order Contract Coo866C14 and as per project - specific work orders issued for mitigation/landscape maintenance work. The work involved traveling to various sites in King and Snohomish Counties, inspecting landscaping activities, and reviewing weekly site maintenance activities completed at each location. Managed landscaper's work schedule based on weekly maintenance goals for each site and the progress of accomplishing the goals. Provided weekly progress reports to WTD. Coordinated arborist site visit and reporting of distressed western red cedar trees identified during site inspections to identify cause of distress and course of action. Provided daily inspection reports on the same day inspection occurred. To ensure reports were delivered on-time, we used the King County SharePoint site. Provided weekly progress reports which summarized site maintenance needs. The progress reports allowed the County to determine the level of resources being deployed at each site, which allowed for cost savings to the County because they were not deploying resources where they were not needed.

EDUCATION

B.S., Biological Oceanography, Minor in Fisheries, University of Washington, Seattle, WA, 1995

CERTIFICATIONS

Professional Wetland Scientist, #2655, Society of Wetland Scientists, 2016
Certified Ecological Restoration Practitioner, #0187, Society for Ecological Restoration, 2018
Qualified Senior Writer for Biological Assessment, WSDOT, 2007-present
Certified Fisheries Professional, American Fisheries Society, No. 2841, 2006-present
Forage Fish Spawning Habitat Surveyor, WDFW, 2006

EXPERTISE

Biological Assessment
Wetland Delineation
Mitigation Monitoring
Plant Surveys
Fish Surveys
Wildlife Surveys
Marine Epibenthic and Pelagic Zooplankton/Benthic Infauna Analysis
Water Quality Monitoring
Fish Habitat Assessment
Qualified to conduct eelgrass delineations per WDFW and Corps Guidelines

AFFILIATIONS

Society of Wetland Scientists, 2008-present
Society for Ecological Restoration, 2012 – present, Board Member, 2018

Pier 4 Reconfiguration Project Biological Evaluation, Port of Tacoma, Tacoma, WA. *Project Scientist*. Prepared a biological evaluation to assess potential impacts from proposed reconfiguration of an industrial pier on species listed or proposed for listing under the Endangered Species Act. Activities evaluated included piling removal, pile driving, overwater structures, berth deepening, and creation of 4 acres of open water area. Analyzed terrestrial and underwater noise, water quality, and habitat quality in the project area of the Blair Waterway in Commencement Bay. Calculated and evaluated habitat quality for existing and postconstruction conditions using habitat types and values assigned in the Commencement Bay Natural Resource Damage Assessment, Restoration Plan and Final Programmatic Environmental Impact Statement.

Frederickson Industrial Park Development Permitting, Sierra Pacific Industries, Frederickson, WA. *Senior Biologist.* Managed and conducted a critical areas study on 290 acres of grazed pastureland and forest proposed for industrial development and mitigation area. Wetland delineation consisted of characterizing difficult soils and grazed vegetation. Prepared critical areas study, conceptual mitigation plan for the creation and enhancement of 35 acres, SEPA checklist, JARPA and county permitting package. Provided project management for multidisciplinary team.

Aberdeen Mill Wetlands Restoration and Mitigation, Sierra Pacific Industries, Aberdeen, WA. *Project Manager.* Rehabilitated wetlands along the Chehalis River and in Elliott Slough to mitigate wetlands filled as part of an existing wood manufacturing facility in Grays Harbor County. Surveyed the wetland site; developed a detailed wetland restoration and planting design; prepared a wetland maintenance and monitoring plan; oversaw installation of the designed wetland features along the river; conducted mitigation monitoring, and recommended adaptive management strategies. Performed periodic monitoring and oversaw maintenance to ensure the plants developed into a properly functioning ecosystem.

Gateway Pacific Terminal NEPA/SEPA Third-Party EIS, U.S. Army Corps of Engineers, Washington Department of Ecology, Whatcom County, Bellingham, WA. *Wildlife/Vegetation Technical Lead.* Prepared the Wetlands and Terrestrial Wildlife and Vegetation methodology reports (Phase 1), which described how impacts will be addressed in the NEPA/SEPA combined EIS addressing the impacts of construction and operation of a deepwater terminal facility exporting various dry goods. Activities assessed included train tracks, new road construction, off-loading and on-loading facilities, accessory buildings, covered conveyors, trestle, and wharf.

Des Moines Creek Restoration Opportunities and Constraints, Port of Seattle, Des Moines, WA. *Senior Biologist*. Conducted stream channel surveys, large woody debris surveys, fish habitat assessments, and geomporphic surveys in the lower 3 miles of Des Moines Creek to evaluate habitat conditions and potential restoration opportunities within the Port owned property. Evaluated stream water temperature and groundwater temperature data to determine the feasibility of augmenting low flow conditions with groundwater to improve water temperature for resident and anadromous fish using the creek. Prepared reports describing the results of the surveys and results of the low flow augmentation analysis. Assisted in preparing report describing the restoration opportunities and constraints at the site.

Water Quality Monitoring, Snohomish County Public Works, Snohomish County, WA. *Project Manager/Senior Biologist.* Bridge No. 538 (Blue Bridge) on the Mountain Loop Highway needed retrofitting of its western piers because flooding events had caused severe erosion that undermined the pier. Assisted Snohomish County in complying with water quality monitoring requirements during retrofitting and construction of the mitigation site. Collected and recorded turbidity measurements upstream and downstream of the construction area. Observed the river downstream of the construction area to record visible turbidity plumes and to record turbidity within the plumes. Communicated turbidity readings regularly with on-site construction crew as well as Snohomish County environmental lead staff. Prepared daily water quality monitoring reports and a summary report. Coordinated with other water quality monitoring staff regarding up-to-date site conditions and schedules.