Meet Claire Vaage: Working to Improve Management of Riparian Habitat in Dryland Ecosystems

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~Claire Vaage

Growing up in Idaho, with its vast natural resources, Claire Vaage had endless exposure to a world that, "fostered her innate curiosity." As Vaage recalls, it was an elementary school field trip to the Morrison-Knudsen Nature Center in Boise that sparked a passion for a future in environmental studies.

"I remember peering through the glass at the famed rainbow trout and looking down at dinosaur-like sturgeon," stated Vaage, "but my mind fixated on a preserved sockeye salmon within the nature center's walls, 'Lonesome Larry'."

"As much as hearing about his solo return to Redfish Lake in 1992 hurt," continues Vaage, "the story perfectly flipped a switch and changed how I viewed my beloved land and its flora and fauna."

Since her early life experiences, Vaage took advantage of educational opportunities along the way to help her explore her interests. "I learned about the invasive grasses of the Boise Foothills, took natural resource technical education elective classes in high school, and volunteered at the fish hatchery near my house," states Vaage.

These experiences led her to pursue environmental studies at Boise State University. She soon became involved with Idaho EPSCoR after joining Dr. Trevor Caughlin's Lab within the Department of Biological Sciences at Boise State University to work on sagebrush restoration as part of the Idaho EPSCoR GEM3 project.

Her research goals are to: 1) improve future studies and management of vital riparian habitat (plant habitats and communities along river margins and banks) within dryland ecosystems, 2) expand the data sets and understanding of the Dry Creek Experimental Watershed (DCEW), 3) develop a novel variable-width model and approach to accurately map riparian buffers, and 4) grow as a scientist by developing a research project and communicating her work.

Vaage hopes that her work will benefit land management agencies and researchers by providing a methodology that uses remotely sensed data to map riparian habitat.

"Riparian vegetation is critical to dryland ecosystem functions," notes Vaage. "The sagebrush steppe dominates Southern Idaho and includes riparian habitats which are under constant pressure from agriculture, wildlife, and recreational use. Current fixed-width buffers used to delineate riparian vegetation do not accurately reflect the truly variable width. This lack of precision affects how conservation strategies and management procedures are conducted."

Thus far, her research has helped establish hydrological analysis protocols for the Department of Biological Sciences and Department of Geosciences at Boise State University. Vaage, who will be graduating in Spring 2022 and moving on to a graduate degree, states, "My work will isolate the riparian vegetation within the Dry Creek Experimental Watershed and bolster the valuable data repository of the study site. Upon completion, the results of my research will hopefully enable accurate delineation of riparian habitat within sagebrush steppe ecosystems."

This research has significant implications for Idaho since incorporating these methods could lead to improved management and help restore riparian function across landscapes. Vaage states, "My research aligns with the increasing availability of aerial lidar and other imagery that will make a variable-width method of delineation doable while benefiting management strategies in Idaho and across the Western United States."