

Aquifer Recharge for Irrigation Water Supply and Environmental Benefits, Umatilla Basin, Oregon

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A group of agricultural interests, Native American Tribes, counties, ports, and the State of Oregon recently completed a feasibility study to store more than 100,000 acre feet of winter Columbia River water in the lower Umatilla River Basin of northeastern Oregon for later recovery. The project will provide a complex mix of benefits to local, regional, tribal, and state stakeholders within a highly interconnected multi-pathway regulatory structure and with multiple project constraints. Approximately 2/3 of the imported water is targeted to satisfy unmet irrigation groundwater rights in the Basin. The remaining 1/3 is intended to provide flow augmentation to the perennially-low Umatilla River summer flows, replenish over-drafted basalt aquifers, and improve groundwater and surface water qualities. Approximately 1,000 acre feet of water are also targeted to augment existing domestic water supplies. The water diverted from the Columbia River will be stored in an alluvial aquifer before further use and/or storage in basalt aquifers. The aquifer characteristics, storage constraints, Umatilla River flow augmentation strategy, and the state regulatory framework and steps to permit this project will be presented. The additional economic value to Umatilla and Morrow counties and the State of Oregon associated with increased irrigated acreage, fisheries enhancement, other environmental benefits, and municipal uses will be discussed, as well as the change in pattern of irrigated crops, domestic use, and increased flexibility in use of limited water supplies in the Basin.

Said Amali

Said Amali has more than 15 years of experience in water resources evaluations/planning and environmental quality impact assessments/mitigation. He cherishes the challenges of multi-discipline and multi-stakeholder projects, especially when science, policy development, and public relations are intertwined. Since joining IRZ Consulting LLC, he has focused on securing environmentally responsible and sustainable water resources for the agricultural community in the Umatilla Basin of northeastern Oregon. He is the project manager for the Umatilla Basin Regional Aquifer Recovery Assessment which involves evaluations of Columbia and Umatilla River water supplies, alluvial aquifer characterization, stream and groundwater quality, fisheries resources, regulatory framework and water rights, and engineering design of water supply and distribution systems. Other projects he worked on have included water and watershed planning programs, wastewater reuse, and environmental compliance services for a broad range of contamination scenarios.