The Lower Boise Phosphorus Removal Project: The Story of the Dixie Drain

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The 2004 Snake River total maximum daily load (TMDL) established a seasonal instream total phosphorus target of 70 micrograms per liter (ug/L) for the Snake River and its tributaries, and a mean growing season limit for chlorophyll a of 14 ug/L in the Snake River to reduce nuisance algal growth in Brownlee Reservoir and the Snake River system. Municipal wastewater treatment plants are planning and working towards removing significant amounts (98 percent) of phosphorus inputs over the next 10 years as allocated in the 2008 Lower Boise River Implementation Plan. In addition to upgrading the wastewater treatment plants to enhanced biological nutrient removal treatment processes, the City of Boise is evaluating offset treatment options. The Lower Boise Phosphorus Removal Project could be the first of its kind approach to help meet expected treatment plant limits by removing phosphorus from Dixie Drain which flows into the Boise River between Notus and Parma in Canyon County, Idaho. In 2010, City of Boise (with Brown and Caldwell and JUB) developed a enhanced wetland project concept; staff collected water quality samples to establish background nutrient loads and water quality conditions, installed groundwater monitoring wells, and conducted a pilot study evaluating the use of alum to remove phosphorus. The City continues to work with DEQ and EPA to establish a plan that is acceptable to all parties.