

Lower Boise Watershed Phosphorous TMDL: Perspectives on Selecting Water Quality Targets and Allocations

Dave Clark, P.E.

HDR Engineering, Inc

412 E Parkcenter Blvd, Suite 100

Telephone: 208-387-7000

Dave.clark@hdrinc.com

This presentation reviews the lower Boise River conditions related to excess nutrients. The study looks at total phosphorous contributions from point and nonpoint sources and considers the relationship between excess phosphorous and nuisance algae, measured as chlorophyll-a. The cities and other dischargers to the river need a clear understanding of the river water quality to develop management scenarios that meet regulatory requirements. Agencies have various programs to collect water quality data from the Boise River watershed. The Department of Environmental Quality (DEQ) is required to solicit this data for review and determine if waterbodies are meeting water quality standards. For waterbodies that do not meet the water quality standards, the ramifications can be significant requiring expensive, time-intensive, and complex actions to reduce the causes of water quality impairment. Impacted stakeholders face the challenge of making policy decision and selecting a strategic approach to these additional requirements. A comprehensive and integrated examination of the collected data is useful for understanding the response of the Boise River spatially and temporally. Successfully achieving improvements in water quality starts with assessing the potential cause and effect relationships and translating Idaho's narrative nutrient criteria to numeric limits. The total maximum daily load (TMDL) process is then completed by DEQ to establish load and wasteload allocations for nonpoint and point source dischargers, respectively. Data analysis and/or water quality modeling may be used to evaluate various scenarios and understand the impacts on water quality. The various conditions that are modeled represent different management scenarios within the watershed that could be used to improve water quality. The allocations will then be incorporated into NPDES permits. The cities with NPDES permits are currently facing this challenge given the conditions of the Boise River.