

# Scope of Utah Lake Study: Site Specific Standards and Implementation

## Standards and Uses

Designated Beneficial Uses

Water Quality Standards

Assessment

Not Impaired

Impaired

TMDL Study

Permitting and Nonpoint Source Implementation

The Clean Water Act (CWA) requires that States establish water quality standards (WQS) that consist of designated uses and associated criteria intended to protect those uses. Furthermore, the CWA provides for the restoration and maintenance of the physical, chemical and biological integrity of waters to protect, fish, shellfish, and recreational uses “wherever attainable”. States are required to uphold the “fishable and swimmable” goal of the CWA, unless they can demonstrate those uses are unattainable through the process of a Use Attainability Analysis (see below). EPA rules further define existing uses as those uses attained in a water body on or after November 28th, 1975, and prohibits the removal of a designated that would downgrade or remove such existing uses. In the case of Utah Lake, the following uses are defined in the “Standards of Quality for Waters of the State”:

* Class 2B: Protected for infrequent primary contact recreation. Also protected for secondary recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include but are not limited to wading, hunting, and fishing.
* Class 3B: Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
* Class 4: Protected for agricultural uses including irrigation of crops and stock watering.

For the purpose of the current assessment of Utah Lake, DWQ maintains that the “existing use” for the lake is not Class 2B, but rather Class 2A (or Primary Contact Recreation), defined as “Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.” This definition matches the existing uses of the lake, which is a popular destination for boaters, water skiers, and other recreationists who frequently experience full immersion in the lake and a high probability of ingestion. It is under this definition that DWQ has protected the lake with regards to allowable bacterial contamination levels and Harmful Algae Bloom (HAB) closures of the lake.

## Flexibility in assigning uses and developing standards

DWQ recognizes that Utah Lake is unique, given its elevation, depth, water chemistry, and the myriad of potential impacts influencing its ecology and attainment of both aquatic life uses and recreation. Through the development of the Steering Committee and authorized Science Panel, these site specific characteristics and their influence on the ecology and frequency of algal blooms will be evaluated, the data needs for understanding these processes will be identified, and studies will be designed to give scientists the information to make sound decisions and establish site specific criteria to protect the “fishable and swimmable” goals for Utah Lake.

In addition to establishing site specific criteria, states can modify designated uses if there is reason to believe that they were improperly classified or that the uses are unattainable due to a number of possible factors. States may conduct a use attainability analysis (UAA) whenever the State wishes to remove a designated use or adopt subcategories of uses that require less stringent criteria. To perform a UAA or develop site specific standards, States must engage in a structured scientific assessment of the factors affecting the attainment of a use which may include physical, chemical, biological, and economic factors. In order for a UAA or a site specific standard to be accepted by the State, one of the following 6 factors must be met:

1. Naturally occurring pollution concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
4. Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as lack of proper substrate, cover, flow; depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
6. Controls more stringent than those required by § 301 (b) and 306 of the Act would result in substantial and widespread economic and social hardship.

## Implementation

Once site specific criteria to support the recreational and aquatic life uses for Utah Lake are developed, an evaluation of the pollutant loads must be performed to determine the allowable inputs to Utah Lake to maintain the target in-lake concentration. Similar to the TMDL process, all sources of the pollutant of concern (i.e.​phosphorus or nitrogen) and their relative contribution to total ​nutrient ​loading will be calculated and​, if​ reductions​ are needed, they will be assigned to all identified sources. Starting in 2030, wasteload allocations will be developed for point sources, expressed as monthly or seasonal loads​ in permits​. Nonpoint sources will be reduced through voluntary, ​incentive based ​efforts with agricultural producers and federal land management agencies and stormwater inputs will be addressed through pollution reduction strategies in concert with the municipalities’ MS4 programs.​ DWQ has several mechanisms to help finance costs for water quality improvement and some flexibility regarding phasing projects in over time to address concerns related to economic impacts.​