# Minimizing consumptive water use in Logan, UT

*Group Members: Joshua Ward*

Municipalities generally require a lot of daily water to meet the demand of their residents, and Logan is no exception. During the summer months (June – August), consumptive water use averages about 25 mgd, compared with about 9 mgd during the winter months. Outdoor recreation and lawn watering often make up that large difference in daily demand (Logan City Water 2019). This model would explore the effect of various strategies to minimize consumptive use in Logan.

There are many constraints and potential objectives to consider in minimizing consumptive water use. Constraints may include the time-variable demand on a given day, the disaggregated water demands for summer recreation, watering lawns, watering limits imposed by public policies, and the water available in city water storage, the operating costs of pumping water from city wells, the cost of operating the system of dams on the Logan River, and others. Potential objectives include not only minimizing consumptive use but also determining the optimal use of excess water saved through the conservation strategies to maximize financial benefits of the water.