

Summary of Water Management in Utah Lake, Deer Creek and Jordanelle

When the Pioneers settled Utah, five main canals were used to divert water from Utah Lake. After years of drought, the canal companies were fighting over the use of the Utah Lake Water. In 1901, Judge Morse issued his judgement, known as the Morse Decree, which defined the water rights of each company. These are known as Primary Rights. Between 1903 and 1911, junior rights referred to as Secondary Rights (not to be confused with secondary/irrigation water) were defined. There was not enough water this year to meet the Secondary Rights.

Due to flooding in the early 1980s, the Utah Lake Landowner's Association filed a class action lawsuit to get damages and relief from flooding of lands adjacent to the lake. The result of the lawsuit was a compromise that set the maximum elevation of the lake before flood releases occur and required a new outlet structure to Utah Lake and modifications to five water control diversion structures. The compromise elevation effectively caps the amount of storage in Utah Lake at about 870,000 AF.

Types of storage in Utah Lake –

- 1- 160,000 AF - Inactive Storage: This is below the capacity of the pumps to divert. It is possible to go after this water, but it would take extraordinary measures.
- 2- 125,000 AF – Primary Storage: Morse Decree water rights
- 3- 585,000 AF – Active Storage: Water above that available for the other uses described above. 70,000 AF of this is Central Utah Water from return flows and Import Water for fish flows.

In a Water Task Force Meeting on August 31, staff from the State Engineer's office explained some general principles they use for water management:

- 1- When there are multiple reservoirs in a system, it is best to store water in the highest one possible. Then if filling happens
- 2- Account for the water and make sure that you know who it belongs to. Some water stored in a higher reservoir belongs to users in the lower basin.
- 3- Deliver the water to the owner

Deer Creek was completed in 1941, and tension existed between Utah Lake and Deer Creek Users. Deer Creek does store some Provo River water but also imports water in from Weber and Duchesne, which would not have been available to Utah Lake previously. The majority of water in Deer Creek is imported.

Jordanelle was completed in 1993 and filled in 1993. Ways that water can be stored in Jordanelle:

- 1- If Utah Lake is above the conversion line, water can be stored above. Otherwise, it would just spill from Utah Lake and would go to the Great Salt Lake. This water is not considered system water for Utah Lake because it would have been lost to the system.
- 2- If the lake is below the conversion line, system water can be stored in Jordanelle that will eventually be delivered to Utah Lake. Central Utah has water rights in Utah Lake that they store in Jordanelle. Some of these are primary rights and some are secondary.
- 3- Jordanelle can store water transferred from other basins or replace water by delivering it from other areas. This year water was brought in from Strawberry Reservoir to the Utah Lake system.

The conversion line is the level where the Utah Lake should be at a given time of year that is considered full. The lake has not been above the conversion line since 2013.

Hot, dry weather increases evaporation from the lake, and this year evaporation was the largest water user. In June of 2016, nearly 2000 AF/day was evaporating off of Utah Lake. To put this into perspective, total use from Utah Lake at that time was 1000 AF/day. Provo uses about 170 AF on a peak day. Due to

its large surface area in relation to its depth, Utah Lake has a higher evaporation rate per unit volume than the upper reservoirs.

UTAH LAKE, DEER CREEK AND JORDANELLE RESERVOIR

Water Body	Jordanelle	Deer Creek	Utah Lake	Combined Total
Storage Level 9/1/16	228,635 AF	96,971 AF	316,375 AF	641,941 AF
Capacity	314,000 AF	152,570 AF	870,100 AF	1,366,700 AF
% full	72.81%	63.56%	36.36%	48%

Central Utah Water Conservancy District Data - http://data.cuwcd.com/data/reservoirs/index.htm#jump_public_dc

Note: The proposed “impairment” for harmful algal blooms on Utah Lake is for secondary recreation use. Deer Creek and Jordanelle Reservoirs are both highly used and desirable recreation areas. They are also used for drinking and irrigation water. It is absurd to even contemplate forcing Jordanelle and Deer Creek to release water to Utah Lake in dry years on the off chance that it may decrease harmful algal blooms when the highest and best uses of that water are already being met.