

## Study Topic Evaluation

### Aquatic Resources

- Fish and freshwater mussels population assessment
- Effect of carp on habitat diversity, water quality, species variation, aquatic vegetation (i.e., Utah Lake)
- Effects and management plans for tamarisk, Russian olive, *Phragmites*, and other species

### Recreation and Land Use

- Analysis of the effect of pool elevation changes on recreation site access
- SR30 widening will alter Project Boundary - no other large-scale changes proposed
- Study current levels of invasive controls - step those up
- Reservoir mapping to promote fishery recreation

### Hydrologic Modeling/Sedimentation

- Fall 2019 LiDAR Survey
  - 3- to 4-week process of drawing down reservoir
  - Down 4 ft at Benson Marina
- Characterize existing core sediment in reservoir
- Concern with phosphorus exposure during drawdowns
- Coordinate with DEQ on monitoring sites
- Changes in inflow/flooding during next 30 to 50 year license period (in regard to climate change)
- Volume/location of silt and how it affects navigation and storage capacity
- Removal of Wheelon/other dredging – what happens to silt/phosphorus?
- Would dredging improve the system?
- Core sampling for reservoir bottom composition
- Effects of reservoir fluctuations on roads and bridges, spec. effects of repeated wet/dry of toe/earth embankment
- Sediment inputs from Preston down, can they be prevented from reaching Cutler?
- Hydraulic isolation modelling
- Shift from snow driven hydrology to rain driven hydrology
- Evaporation

### Wetland, Riparian, Shoreline

- Quantify littoral habitat, characterize emergent and aquatic vegetation, map invasive species.
- Why no temporal bug or bird studies? Fluctuations during nesting could be catastrophic
- Effect of fluctuating levels on existing erosion sites or cause of additional erosion
- Effects of rate of fluctuation on shoreline stability, vegetation, and existing erosion and stabilization measures

### Rare, Threatened, Endangered

- Ute ladies'-tresses orchid survey
  - Soil types of Mendon population compared to Cutler
  - Roshe Springs soil complex

### Cultural Resources

- Cultural Resources Inventory

### Wildlife and Botanical

- Analyze wider operating ranges' effect on shoreline aquatic habitat
- Increased level of predators at Project

### Water Quality

- Logan landfill effect on water quality in reservoir
- Effects of reservoir level changes on water quality both upstream and downstream of dam, specifically TSS and rate of fluctuation
- Validation of 2013 results for N.D. of phosphorus
- Effects of hydraulic isolation and stagnation on phosphorus release/WQ management

Green=formal study plan

Yellow= environmental analysis but not a standalone study

Red= no study or analysis