***Lower Santa Cruz River Basin Study. Project Team Meeting #13, August 27, 2019***

***Compilation of Adaptation Objectives – Demand and Environmental Sub-Teams***

**Demand Sub-Team:** The Demand Sub-Team was formed to provide input on projected water demand for the municipal, agricultural and industrial sectors. Adaptation objectives are driven by the need to comply with Arizona's Assured Water Supply Rules and achieve safe-yield within the Tucson Active Management Area.

1. *Satisfaction of 100-year Assured Water Supply Criteria*
   Tucson AMA municipal water providers must demonstrate the continuous, physical availability of water of sufficient quality to meet standards. In addition, they must demonstrate consistency with the management goal of safe-yield.
2. *Minimize impacts of pumping to parts of the aquifer vulnerable to storage depletion, of insufficient saturated thickness and other conditions limiting water availability*
3. *Minimize impacts of pumping in areas prone to subsidence*
4. *Minimize new development in areas without demonstration of assured water supply (on exempt wells) and in areas with water quality issues that are difficult to treat.*
5. *Minimize impacts of over-pumping in aquifer regions connected to riparian areas*
6. *Minimize costs of new infrastructure*
   Adaptation strategies should seek to minimize capital and operations costs by maximizing the use of existing infrastructure. Deploying excess capacity, re-purposing or enlarging existing infrastructure, as well as the use of existing right-of-ways is generally preferred to developing new infrastructure.

**Environmental Sub-Team:** The overall objective of the Environmental Sub-Team is to support adaptation strategies that support the greater Tucson community efforts to protect and enhance environmental resources and maintain environmental quality of life. Key aspects of the environment include:

a) Groundwater-dependent ecosystems,
b) Effluent-dependent reaches of rivers, washes and streams,
c) Perennial, intermittent and ephemeral flows,
d) Urban vegetation, and
e) Riparian and aquatic systems

Adaptation objectives include the preservation, and if possible, the enhancement of areas with:

1. *High value habitat*
   This can include areas with mature trees, high aesthetic value, biodiversity, refugia, biological cores, rarity, and large landscape size.
2. *Landscape connectivity*
   Connectivity is considered within the context of wildlife species support, such as corridors for migration.
3. *Accessibility and recreational opportunities*
   Considered as areas that are accessible to visitors and/or provide recreational opportunities, including public lands.
4. *Areas with high vulnerability*
   Areas that are highly sensitive to change, or are at a high risk of loss such as aquatic habitat.
5. *Cultural /Heritage values*
   Consideration is given to human connections to landscape of regional inhabitants, including tribal concerns and heritage values, and ecosystem services related to cultural or spiritual connection to landscape.
6. *Use Adaptation Strategies with low opportunity cost*
   Strategies should avoid the risk of irreparable changes, changes that require significant investment to undo or involve loss of flexibility. Preferred strategies focus on preservation and restoration of floodplain function and ecosystem services.