

**The Department of Water Resources utilizes various datasets to document water supplies and disposition of their uses within and between each sector use (*agricultural, urban, managed wetlands, instream flow requirement, wild and scenic flows*), including reuse and recycled water.**

**Supplies:**

- Surface Water Supply – by Sector Use
  - Collect data by point of diversion
  - Estimate Supply from water source mapping and crop data
  
- Mixed Water Source – by Sector Use
  - Represents potential use of both sources on a particular crop
  - Defined as a ratio of surface/ground water for a Detailed Analysis Unit (e.g., 60/40)
  - Change from year to year
  
- Groundwater Extraction – by Sector Use
  - Collect information where available
  - Utilize the Applied Water concept – GW extraction for a Detailed Analysis Unit is the summation of the applied groundwater on individual fields

**Agricultural Water Use:**

Monthly Applied Water and ETAW

- ETAW calculated by monthly Soil Moisture Balance
  - Soil Data
  - Crop Data and Management
  - Precipitation data (*aerial correction, infiltration curves*)
  
- Applied Water
  - Annual crop acreage - Land Use Survey and Projection of Land Use survey from Agricultural Commissioner reports.
  - Acreage by water source (*surface ground, mixed, or reclaimed/recycled water*).
  - Application Fractions (e.g. irrigation efficiencies)
  - Cultural Practices (*leaching, frost protection, pre-irrigation, rice flood-up/flow-thru water*)

### **Urban Water Use:**

- Population
- Groundwater Production
- GW by Urban Sector's – Single Family, Multi Family, Commercial, Industrial, Landscape Use, Energy Production
- Surface Water Production
- SW by Urban Sector's – Single Family, Multi Family, Commercial, Industrial, Landscape Use, Energy Production
- Develop Representative Per-Capita Water Use by Class – Residential, Industrial, Commercial, Landscape
- Calculate Interior/Exterior Use
- Evaluate Sewerage vs. Septic
- Calculate – Landscape Depletion (*ETAW*), Landscape Deep Percolation, Septic Deep Percolation
- Balance Components

### **Managed Wetlands Water Use:**

- Water Source – Surface, Ground, Mixed, Reclaimed/Recycled Water
- Habitat Types
  - Upland
  - Permanent Ponds
  - Seasonally Flooded Marsh
  - Summer Water
  - Watergrass Production
  - Rice/Millet
- Habitat Acreage
- Evaporation and Evapotranspiration of Applied Water (*ETAW*)
- Precipitation
- Flood-up/Storage
- Percolation
- Circulation Flows/Runoff

### **Consumptive Use of Applied Water (CUAW) by RE-USE:**

- Agricultural CUAW met by RE-USE
- Environmental CUAW met by RE-USE
- Urban CUAW met by RE-USE

### **Irrecoverable Losses:**

- Agricultural Conveyance System Evaporation
- Urban Conveyance System Evaporation
- Environmental Conveyance System Evaporation
- Riparian Evapotranspiration (ET)
- Miscellaneous Agricultural ET
- Drain water to a Salt Sink or Ocean
- Water to contaminated aquifer (salt water).

### **Outflow – Measurements/Estimates:**

- Conveyance System Spill and Seepage
- Agricultural, Environmental, and/or Urban Drainage
  - To other Detailed Analysis Units (DAU) within County
  - Out of County
  - Out of Planning Area (PA) or Planning Subareas (PSA)
- Wastewater
- Use gage readings to calibrate outflow
- Make estimates where no data are available

### **Deep Percolation – Groundwater (GW) Aquifer:**

- Conveyance Losses – Deep Percolation (DP)
- Agricultural – DP
- Urban – DP
- Environmental –DP
- Relationship to Applied water, Supply, etc.
- Differentiate between seepage and deep percolation

### **Change In Storage – GW Aquifer:**

- Groundwater Measurements – Monthly, Spring - Spring, Fall – Fall
- Annual Change In Storage Calculation - GW contouring
- Accretion to a Tributary – Outflow increases, when GW Aquifer is at full capacity or above.
- Depletion from a Tributary – Outflow decreases, when GW Aquifer is below full capacity.