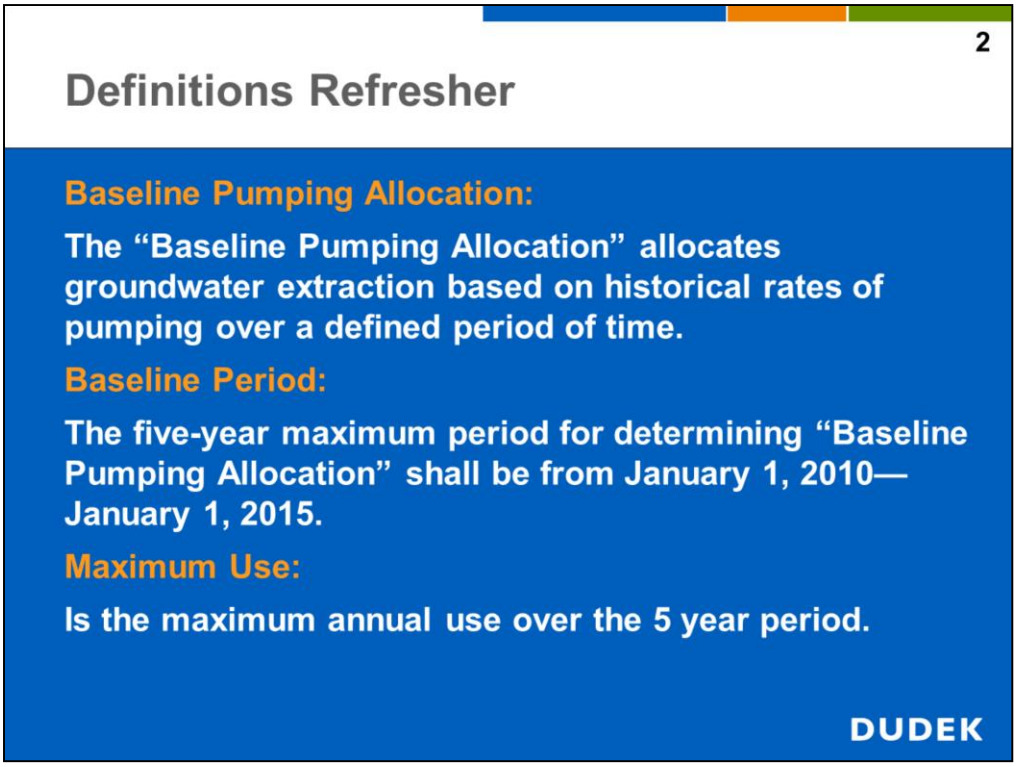
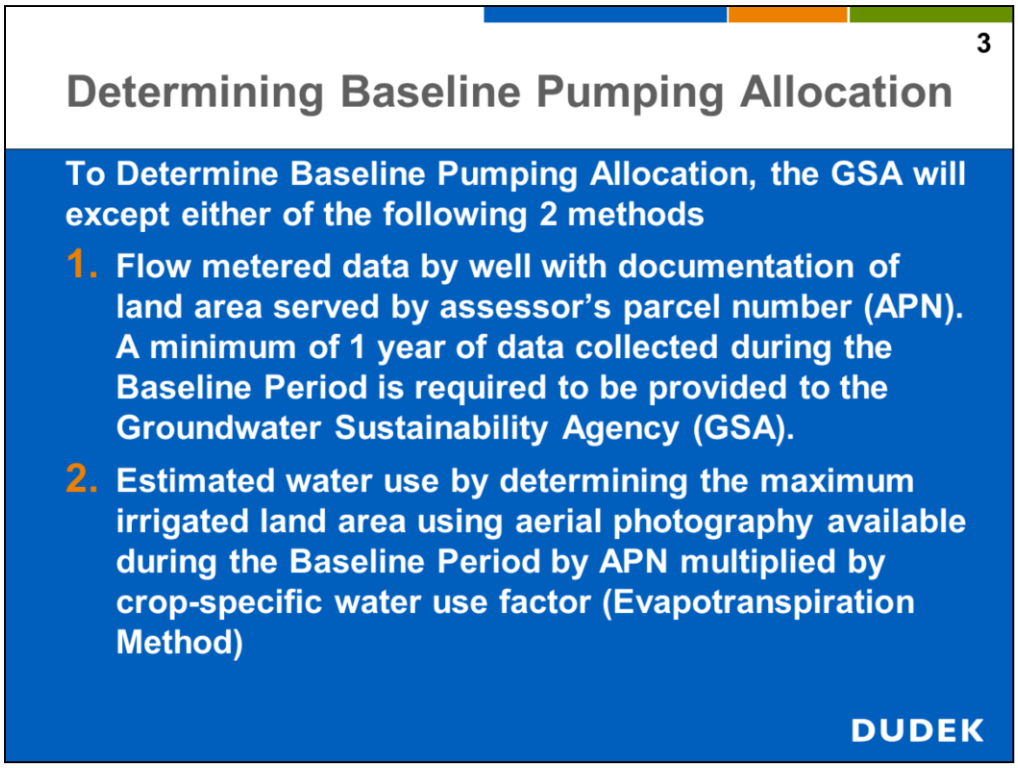
The Core Team is providing an update to the proposed Baseline Pumping Allocation to document methodology and next steps to finalize development of the Baseline Pumping Allocation for the Borrego Springs Groundwater Subbasin.



The "Baseline Pumping Allocation" allocates groundwater extraction based on historical rates of pumping over a defined period of time. The rate of pumping is based on the amount of groundwater actually pumped, which is typically based on documented flow meter data or, if flow meter data is unavailable, estimated based on water use by crop type.

The "Baseline Period" is the five-year maximum period for determining Baseline Pumping Allocation and shall be from January 1, 2010—January 1, 2015.

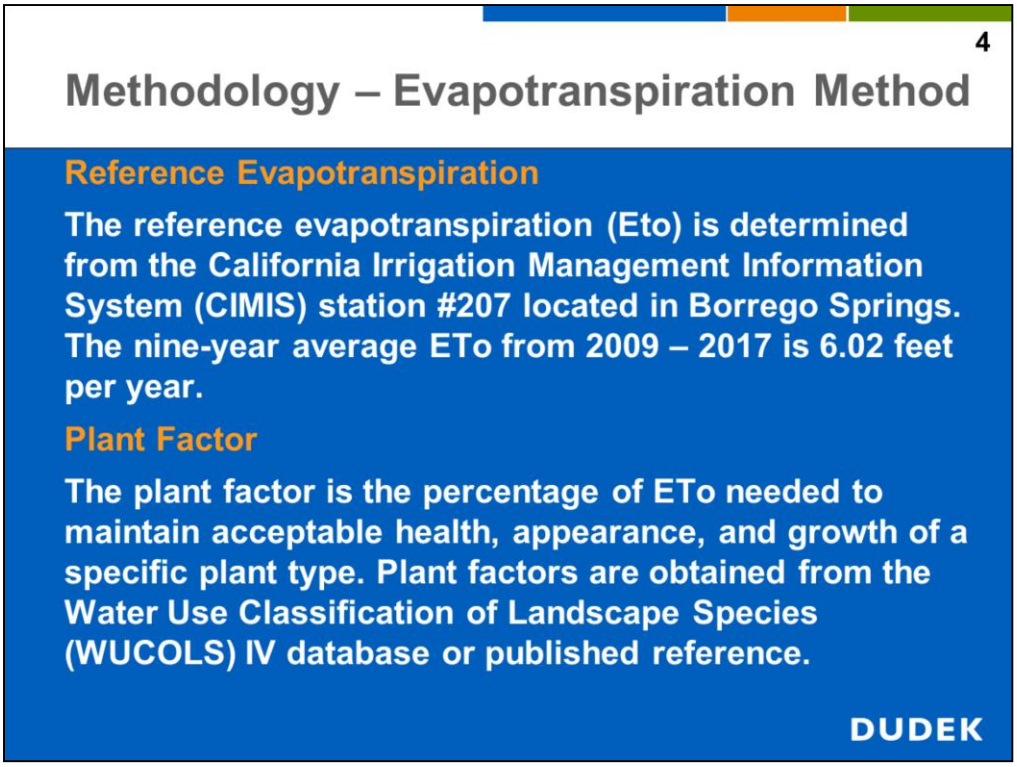
"Maximum Use" is the maximum annual use over the 5 year period. Maximum use in based on either metered production records or maximum irrigated area depending on the method used to estimate Baseline Pumping Allocation.



The GSA is applying two methods to determine Baseline Pumping Allocation:

The first method is validated flow metered data by production well and identification of land area served by assessor's parcel number (APN) in units acre-feet per year (AFY). A minimum of one (1) year of data collected during the Baseline Period is required to be provided to the Groundwater Sustainability Agency (GSA). The GSA will review all flow metered data submitted by well and verify APN(s) served and irrigated acreage and crop type(s) with the groundwater extractor. Data will be validated based on a check using the evapotranspiration method .

The Second method is know as the evapotranspiration method, which determines water use by maximum irrigated land area irrigated (acres) using aerial photography available during the Baseline Period multiplied by crop-specific water use factor(s) (feet per year) in units AFY.

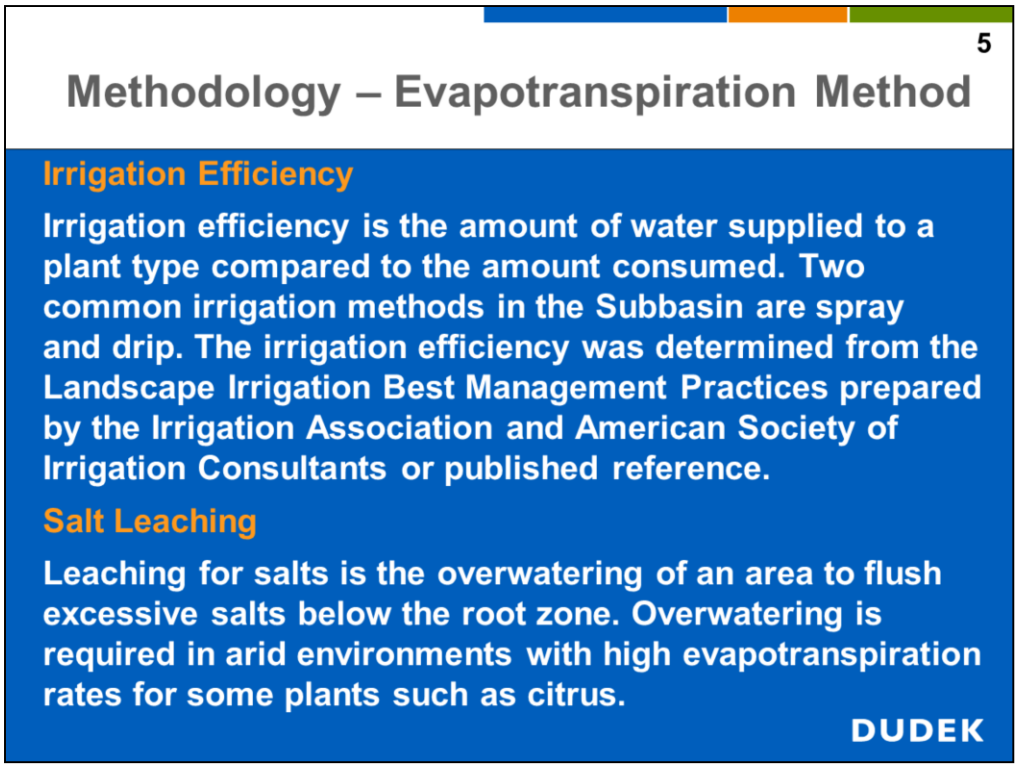


The reference evapotranspiration (Eto) is determined from the California Irrigation Management Information System (CIMIS) station #207 located in Borrego Springs. The nine-year average ETo from 2009 – 2017 is 6.02 feet per year. The CIMIS Station is located at the Springs at Borrego RV Resort on the driving range. The Global Positioning Coordinates (GPS) for CIMIS Station #207 are latitude: 33.268477, longitude -116.36505. Data is accessible from the CIMIS website: https://cimis.water.ca.gov

Eto = 6.02 feet will be used for all Evapotranspiration Calculations

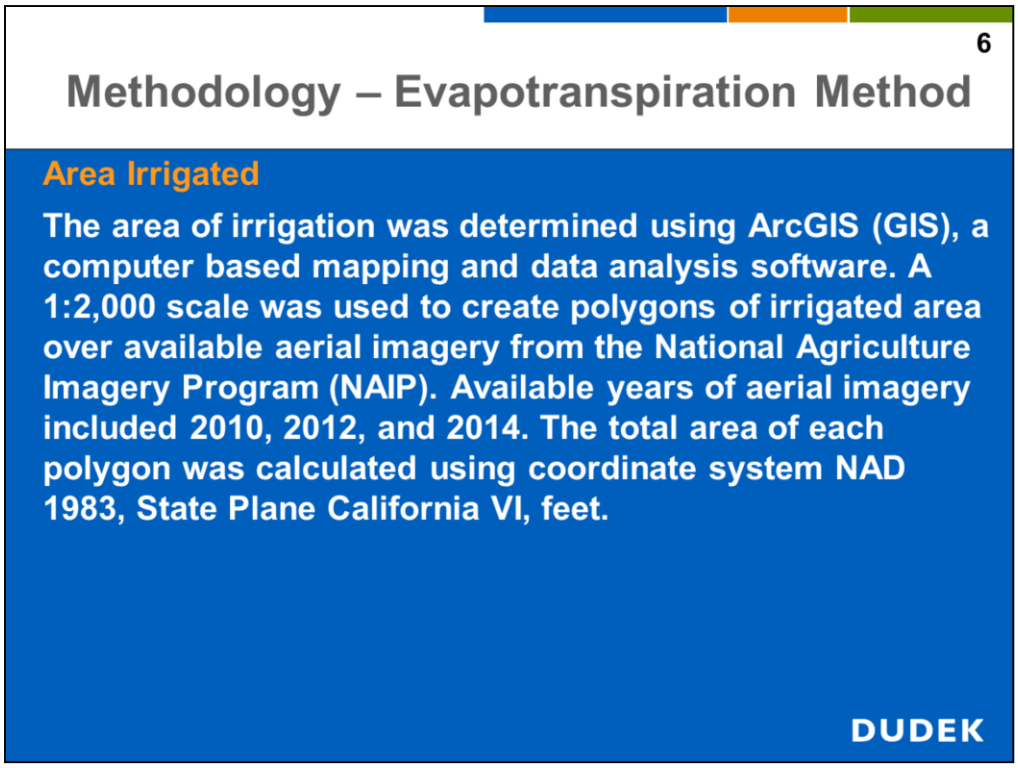
The annual ETo is based on potential evapotranspiration (ET) from turf grass/alfalfa crop, which assumes a continuous source of moisture and does not consider summer plant dormancy. Therefore, ETo is typically an overestimation of actual ET, which varies with the vegetation type since some plants consume significantly more water than others. Drought-tolerant plants and native crops have a crop coefficient or plant factor of approximately 0.3 or less in desert environments (DWR and UCCE 2000),

The Plant Factor is the percentage of ETo needed to maintain acceptable health, appearance, and growth of a specific plant type. Plant factors are obtained from the Water Use Classification of Landscape Species (WUCOLS) IV database http://ucanr.edu/sites/WUCOLS/ or published reference. The WUCOLS database is funded by the California Department of Water Resources (DWR) and developed by the University of California Cooperative Extension.

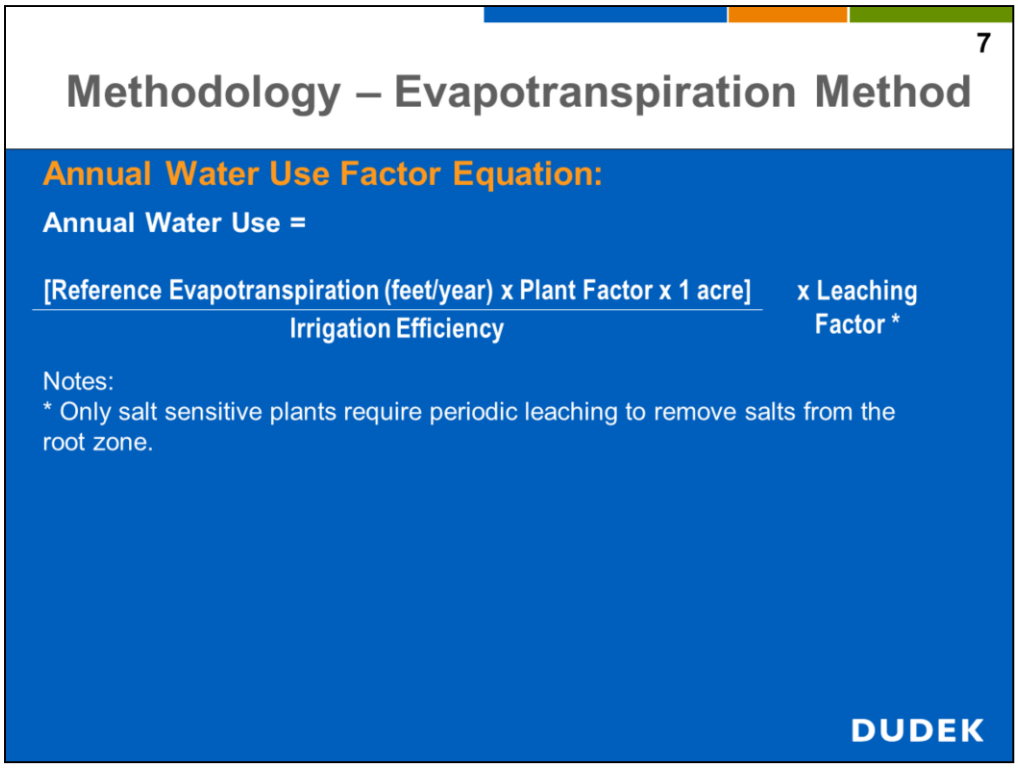


Irrigation efficiency is the amount of water supplied to a plant type compared to the amount consumed. Common irrigation methods in the Subbasin are micro spray, rotor spray and drip. The irrigation efficiency was determined from the Landscape Irrigation Best Management Practices prepared by the Irrigation Association and American Society of Irrigation Consultants or published reference.

Leaching for salts is the overwatering of an area to flush excessive salts below the root zone. Overwatering is required in arid environments with high evapotranspiration rates for some plants such as citrus. A leaching factor is applied only to crops that are salt sensitive and require overwatering to maintain plant health.

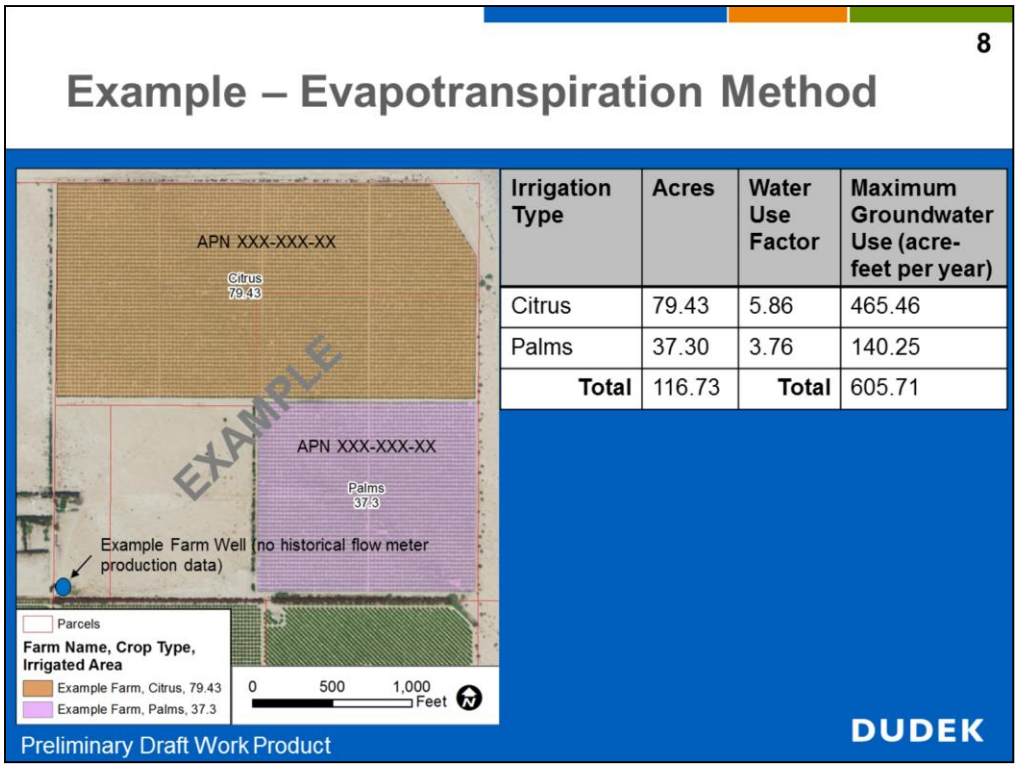


The area of irrigation was determined using ArcGIS (GIS), a computer based mapping and data analysis software. A 1:2,000 scale was used to create polygons of irrigated area over available aerial imagery from the National Agriculture Imagery Program (NAIP). Available years of aerial imagery included 2010, 2012, and 2014. The total area of each polygon was calculated using coordinate system NAD 1983, State Plane California VI, feet.



The Evapotranspiration Method will use the annual water use factor equation multiplied by the maximum irrigated acres during the period January 1, 2010 – January 1, 2015 to determine Baseline Pumping Allocation in the absence of metered data.

Note: The Annual Water Use Factor Equation is undergoing review and has not been finalized.



This example of the Evapotranspiration method is provide for illustrative purposes. For this example farm, 79.43 acres of maximum irrigated area for citrus was established based on review of aerial photography taken from January 1, 2010 – January 1, 2015. The preliminary water use factor for citrus is 5.86 feet per year, which takes into account an estimated leaching factor of 0.2 for citrus. A second crop, 37.30 acres of palms, was documented on the example farm based on review of aerial photography. The preliminary water use factor for palms is 3.76 feet per year. Each crop acreage is multiplied by the crop-specific water use factor to determine the maximum groundwater use per crop type area in acre-feet per year (AFY), which is 465.46 AFY for citrus and 140.25 AFY for palms.

A baseline Pumping Allocation of 605.71 AFY for the example farm based on the evapotranspiration method.

Note: Example Farm is for illustrative purposes only and does not represent an actual Baseline Pumping Allocation.