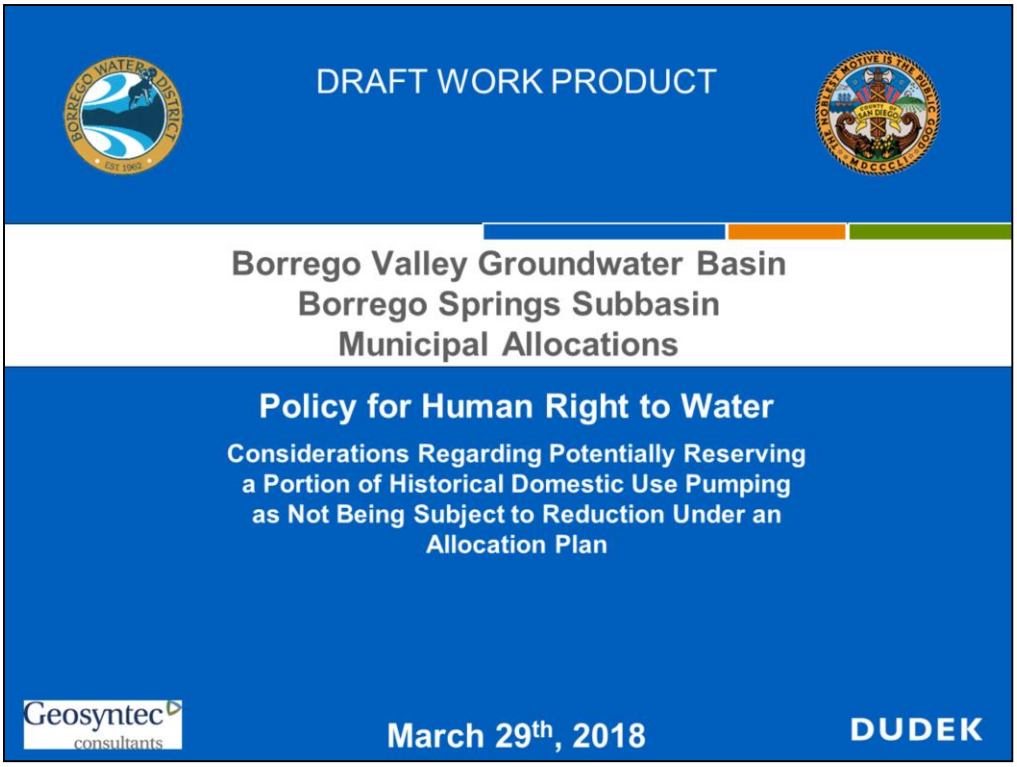


As per Agenda Packet Items II.A and II.B: Technical and Policy Issues this part of the presentation introduces the Recommendation for Considering Human Right to Water Use and Municipal Allocations.

SGMA Allocation Plan

- Under the Sustainable Groundwater Management Act (SGMA), a Groundwater Sustainability Agency (GSA) has the authority to adopt an allocation plan, but no authority to determine water rights (Water Code Sections 10726.4 and 10726.8).
- An allocation plan is a proposal to reduce groundwater production to sustainable levels over time. In composing a draft allocation plan, the GSA is attempting to respect water rights priorities to the greatest extent feasible, but with the understanding that the GSA is afforded discretion in proposing allocations and the GSA has the duty to follow established State policy.
- In Borrego, discussions have occurred to set base production rights as the highest year of pumping between 2010 and 2015. In turn, it is expected that an approximate 70% reduction would be needed to return pumping levels to the basin safe yield of approximately 5,700 acre feet per year.

DUDEK

Domestic Use

- The Basin provides water for domestic, irrigation and other uses.
- The California Legislature has set several relevant priorities that overlay the GSA's preparation of an allocation plan. These priorities include:
  - (1) Domestic use is the highest use of water, followed by irrigation use. (Water Code, section 106)
  - (2) "It is hereby declared to be the established policy of this State that the right of a municipality to acquire and hold rights to the use of water should be protected to the fullest extent necessary for existing and future uses." (Water Code, section 106.5)
  - (3) Most recently, the Legislature has formally established a human right to water. (Water Code, section 106.3)

DUDEK

Human Right to Water

Assembly Bill (AB) 685 (2012)

- California became the first state in the nation to legally recognize the human right to water with the adoption of AB 685 that was signed into law by Governor Jerry Brown on September 25, 2012.
- AB 685 creates an ongoing obligation for state agencies to explicitly consider the human right to water in every relevant agency decision and activity.
- The California Water Code requires all relevant state agencies, specifically Department of Water Resources, the State Water Recourses Control Board, and California Department of Public Health, to "consider" how state actions impact the human right to water.

DUDEK

Human Right to Water

California Water Code

California Water Code 106.3 (a)

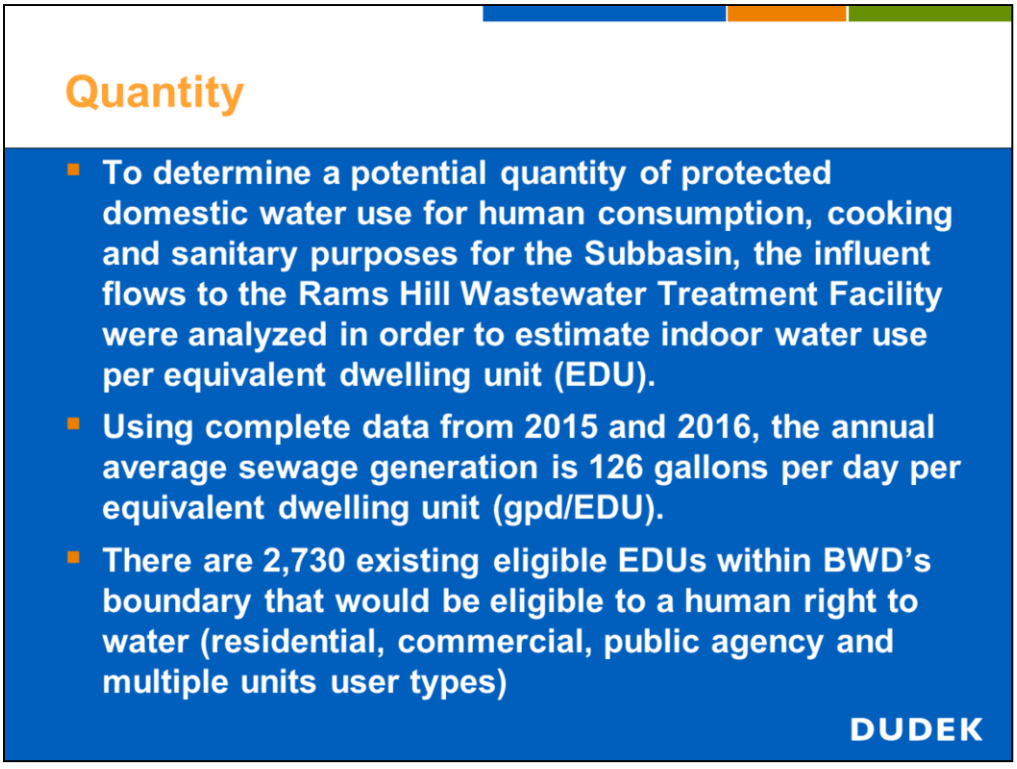
- "It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes."
- Domestic Use
  - **Quantity**
  - **Quality**
  - **Affordability**
  - **Accessibility**

DUDEK

Domestic Use Allocations

- With the previously discussed declarations of State policy in mind, and with the discretion provided to the GSA under SGMA, the GSA is exploring various options regarding the protection of existing domestic water use within the Borrego Springs Subbasin.
- One option under consideration in the draft allocation plan is whether a portion of historical domestic pumping, both that conducted by the Borrego Water District and by other pumpers (e.g. Small Water Systems), should be exempted from any reductions over time.

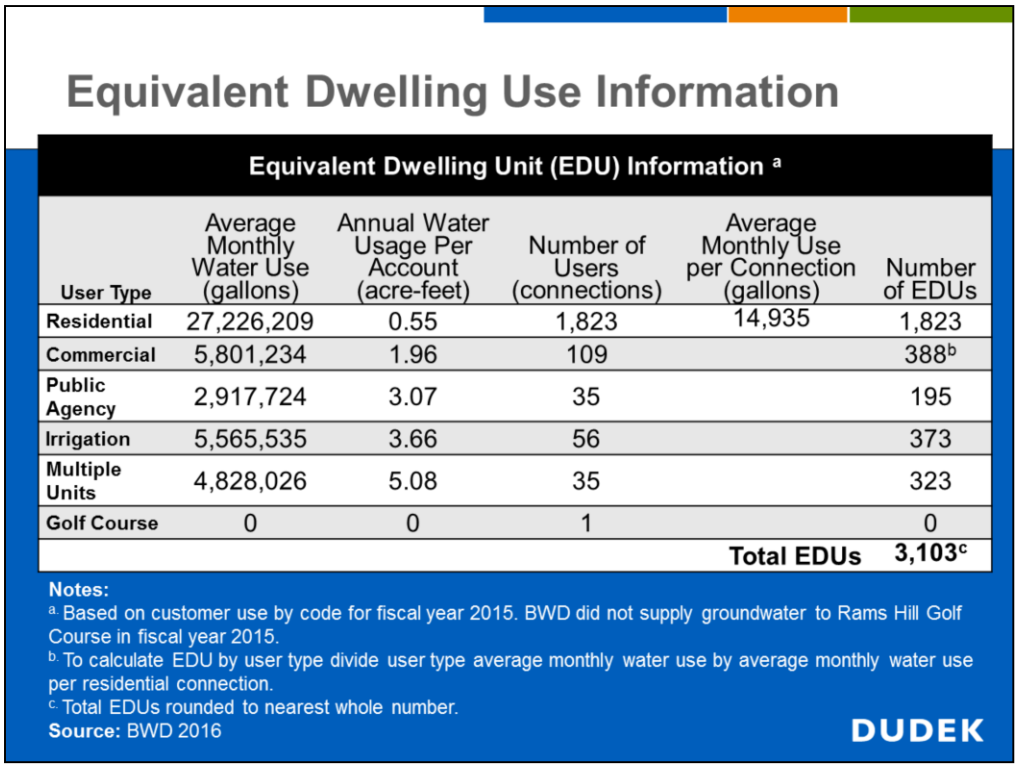
DUDEK



Dudek reviewed the influent flows to the Rams Hill Wastewater Treatment Facility in order to estimate indoor water use as a proxy to develop an estimate of the daily water quantity specific to the Subbasin for the human right to water. Using complete data from 2015 and 2016, the annual average sewage generation per equivalent dwelling unit (EDU) is 126 gallons per day per equivalent dwelling unit (gpd/EDU). Assuming 2.2 residents per dwelling unit, this works out to 57.3 gallons per capita per day (gpcd). For comparison, the State of California efficient indoor water use is 55 gpcd.

There are 2,730 existing eligible EDUs out of a total 3,103 EDUs within the District boundary. 373 existing EDUs were excluded from the calculation of human right to water as they are irrigation accounts.

As per request of the Advisory Committee (AC), the next slide presents District-wide Equivalent Dwelling Unit Information.



Question: *Members of the Advisory Committee (AC) requested clarification at the March 29, 2018 AC meeting regarding the number of equivalent dwelling units (EDUs) that were allocated water use for human right to water. A response is provided as follows:*

EDU calculations have been prepared for municipal water use during the 2015 fiscal year. The annual water use per residential account is 0.55 acre-feet with a total of 1,823 residential EDUs. The total EDUs currently served by the BWD, including residential, commercial, public agency, irrigation, and multiple units, is 3,103.

There are 2,730 existing eligible EDUs within BWD's boundary that were allocated a human right to water (residential, commercial, public agency and multiple units user types). The 373 EDUs for irrigation were not included in the calculation of the human right to water.

Quantity

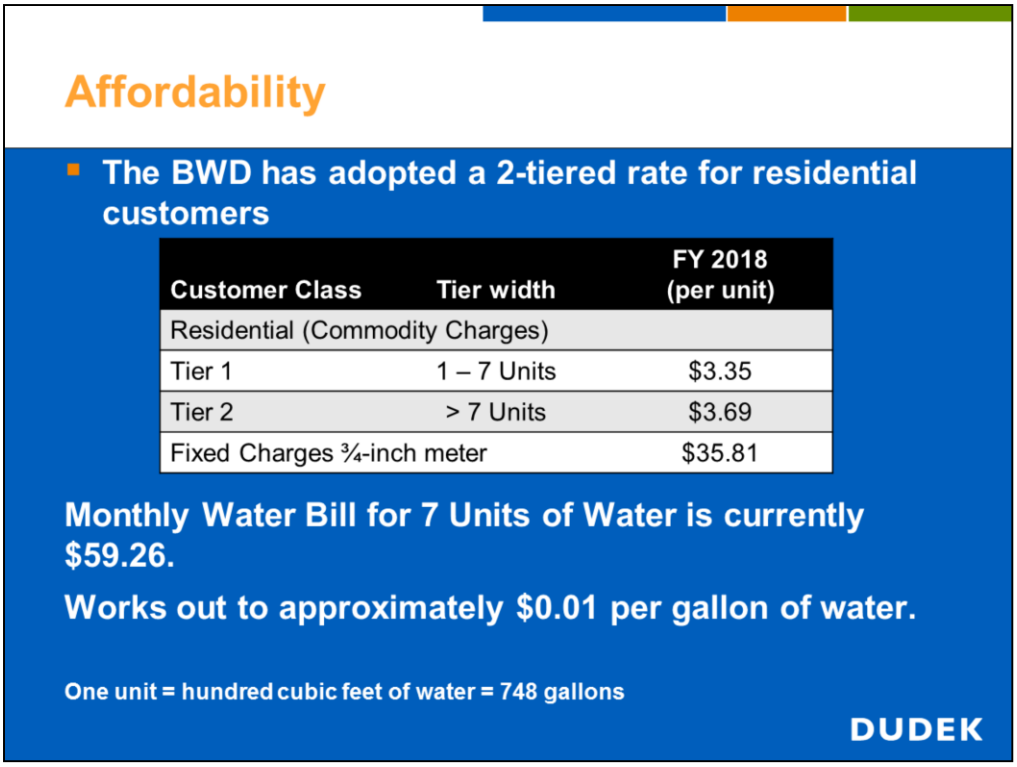
- Multiplying the existing eligible EDUs types by the average annual sewage generation per EDU results in a estimated BWD-wide human right to water of 385 AFY (2,730 EDU * 126 gpd/EDU = 343,980 gpd = 385 AFY).
- 385 acre-feet is the volume of water that would not require any pumping curtailment were this proposal to move forward. This represents about 2% of the estimated current annual groundwater withdrawals in the Subbasin, which are about 19,600 acre-feet; about 7% of the estimated sustainable yield of 5,700 acre-feet; and about 25% of the current annual BWD pumping.

DUDEK

Quality

- BWD well water currently meets all state and federal drinking water standards without treatment.
- The District continuously monitors groundwater quality to ensure access to safe and clean water.
- Implementation of the Groundwater Sustainability Plan (GSP) explicitly requires ongoing evaluation of water quality and avoidance of undesirable water quality conditions.
- Further evaluation is ongoing to determine the probability of the need for future water treatment due to both natural and anthropogenic sources of contaminants of concern (e.g. arsenic and nitrate).

DUDEK



The Borrego Water District (BWD) has adopted a two-tiered rate for residential customers. Tier 1 is based on the existing State of California efficiency target of 55 gallons per person per day (gpcd) for indoor use multiplied by the average family size in the Borrego Springs, which was rounded up to 3 persons per household. Using an average month of 30.5 days this works out to 5,033 gallons per month. The District bills in units of hundred cubic feet (hcf). There are 748 gallons in a hundred cubic feet. 7 hcf or 7 units represents the District's existing Tier 1 allotment.

A ratepayers current water bill for 7 units of water is currently $59.26, which includes fixed charges for a ¾-inch meter of 35.81 plus the commodity charge of $3.35 per unit. This works out to about 1 cent per gallon of water.

Affordability

BWD Annual Water Bill as Percent of Household Income (FY 2018)

Income Range	Essential 7 units	Efficient 11 units	Target Average 15 units
Less than $10,000	6.5%	8.0%	9.6%
$10,000 to $14,999	5.2%	6.4%	7.7%
$15,000 to $24,999	3.2%	4.0%	4.8%
$25,000 to $34,999	2.2%	2.7%	3.2%
$35,000 to $49,999	1.5%	1.9%	2.3%
$50,000 to $74,999	1.0%	1.3%	1.5%
$75,000 to $99,999	0.7%	0.9%	1.1%
$100,000 to $149,999	0.5%	0.6%	0.8%
$150,000 to $199,999	0.4%	0.5%	0.5%
$200,000 or more	0.3%	0.4%	0.5%
Median income (dollars)	2.0%	2.5%	3.0%
20th Percentile	3.8%	4.7%	5.6%
Poverty Level (3 person household)	3.2%	3.9%	4.7%

The table illustrates the percentage of 2018 annual household income which goes towards water service at various levels of use, essential, efficient and target average. The essential category corresponds to the District's residential Tier 1 rate of 7 hundred cubic feet or 175 gallons per day per connection.

Colors in the red spectrum represent a higher percentage of income towards water service. Colors in the green spectrum represent lower percentages.

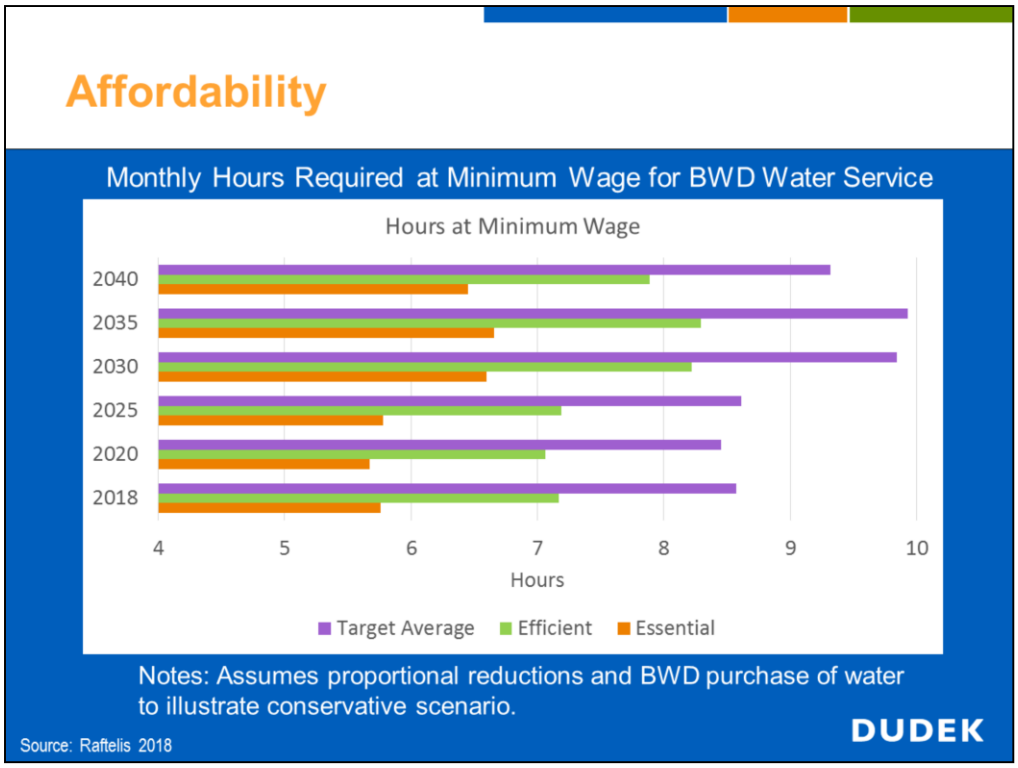
An affordability standard of 2.5% and 2% of national median household income for water and sewer bills respectively was selected based on U.S. Environmental Protection Agency (EPA) guidelines for water quality standards and Combined Sewer Overflow (CSO) compliance.

The 2.5 percent threshold has never been formalized by EPA and, though arbitrary, use of %MHI in assessing affordability has become the standard.[1]

Those at the median income pay 2 percent for essential water use, 2.5 percent for efficient water use, and 3 percent for target average water use in FY 2018. Those at the 20th percentile and those at the poverty level spend between 3.2 and 3.8 percent of their income solely for essential water needs.

This analysis indicates that water rates are not currently affordable for many residents and emphasizes the need to insulate the SDAC community from rate increases.

1. Borrego Springs median household income is $36,583.

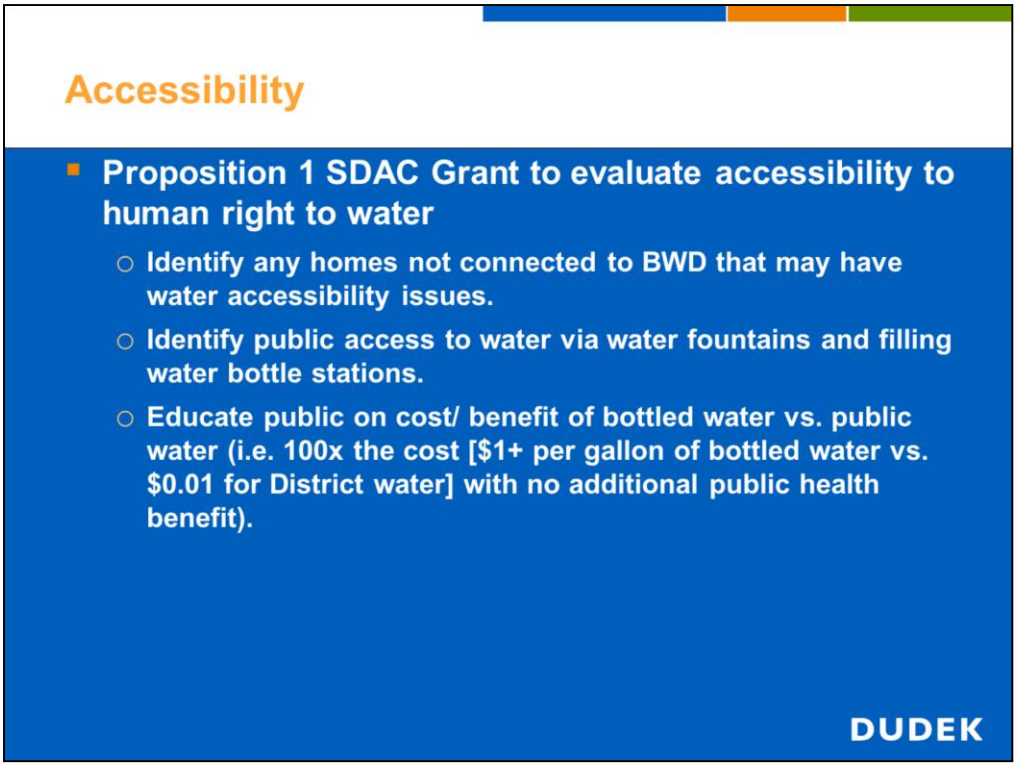


Another metric for evaluating affordability is to determine how many hours at minimum wage it takes a household to pay for their water service. Utilizing the current minimum wage, adopted minimum wage increases through 2022, and future consumer price index (CPI) adjustments, Raftelis estimated the number of hours required at minimum wage to pay for water service at the three levels of use.

At the existing minimum wage of $10.50 per hour a household using only 7 units per month for essential needs, one must work for 5.8 hours to pay for essential water service. The same household using the target average of 15 units per month would have to work 8.6 hours, or approximately one day's labor per month to pay for water service. The hours required dips slightly in FY 2020 as gains in the minimum wage outpace increases in costs for water service.

An eight hour rule has been suggested for combined water and sewer service which represents eight hours of labor at minimum wage for a monthly bill. In many outcomes the eight hour rule is surpassed for water service alone.

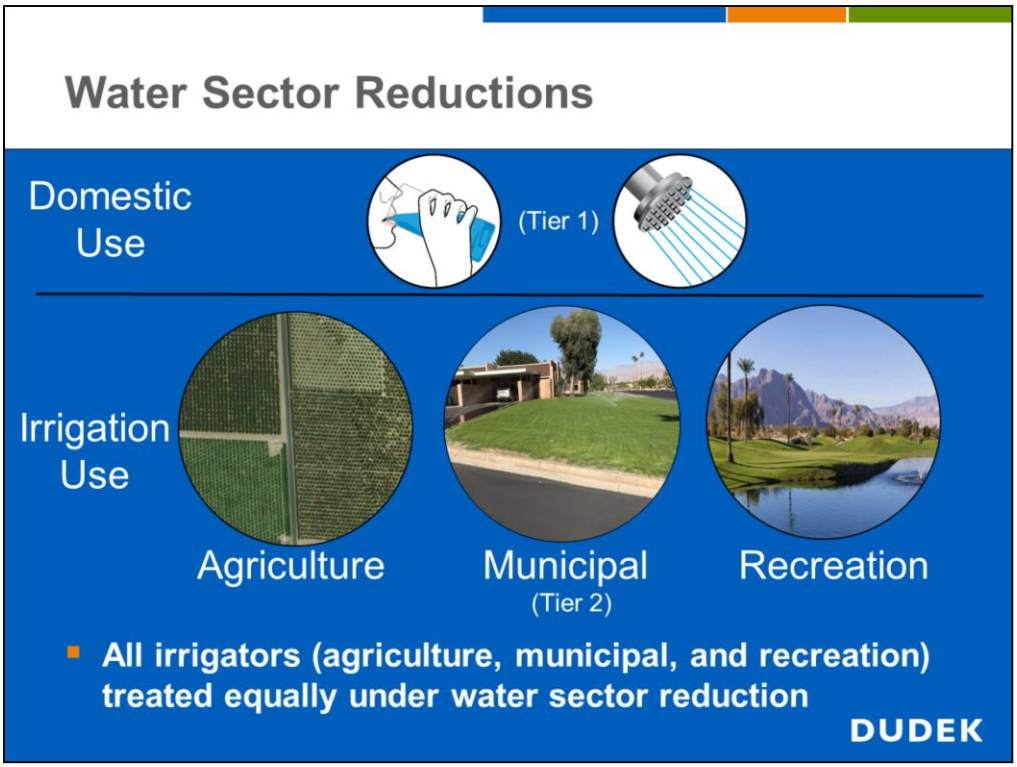
This analysis supports the conclusion that the SDAC community should be insulated from cost increases due to SGMA compliance.



The Proposition 1 SDAC grant will evaluate accessibility to water including identifying homes not currently connected to the Borrego Water District (BWD) that have water accessibility issues. For instance, the Groundwater Sustainability Agency (GSA) has already identified homes that are required to haul water to their properties or have domestic wells that are impacted by elevated nitrates that are just below California drinking water maximum contaminant levels (MCLs).

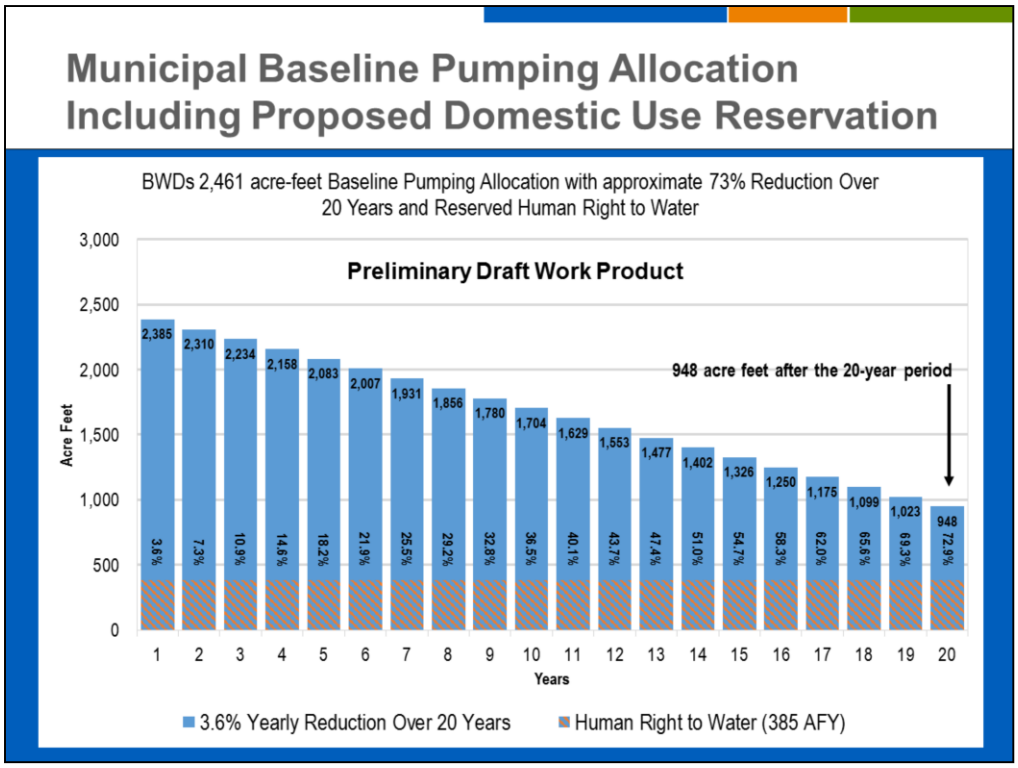
The Proposition 1 SDAC grant will evaluate public access to BWD supplied water via fountains and make recommendations for need to increase access, if necessary.

Also the GSA, plans to educate the public and SDAC community on the cost/benefit of bottled water versus BWD water as there is often a misperception that bottled water is better. Bottled water costs 100 times more than BWD water with no additional health benefit. Bottled water often derives from a municipal source or from “spring” sources that are not as highly regulated as municipal drinking water systems.



California Water Code (CWC) § 106 states, “It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation”. Domestic use is water adequate for human consumption, cooking, and sanitary purposes. Domestic use does not include water for outdoor irrigation. All irrigators (agriculture, municipal, and recreation treated equally under water sector reduction).

All irrigators (agriculture, municipal and recreation) are treated equally under the proposed water sector reductions.

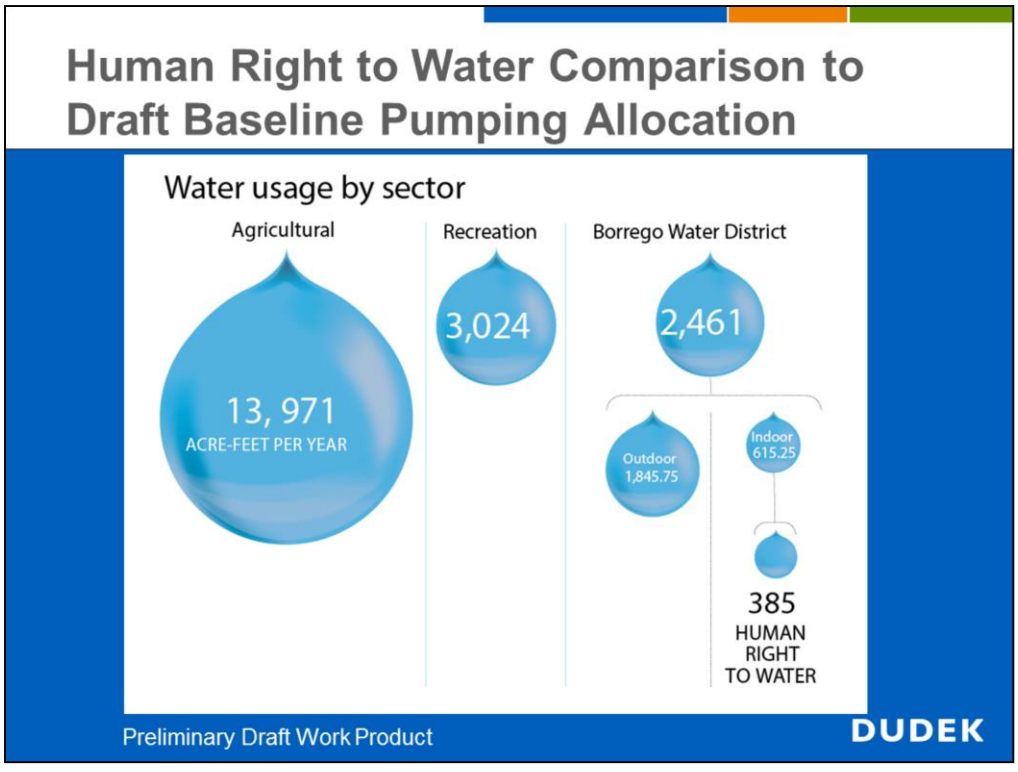


This graph represents the working draft baseline pumping allocation for the Borrego Water District (BWD). Over the 20-year implementation period, the human right to water remains static for existing domestic use at 385 acre-feet per year. The human right to quantity is subtracted from the BWD's maximum baseline pumping allocation of 2,461 acre-feet per year (AFY) that was assigned based on the 5-year period January 1, 2010 to December 31, 2014 (2,461 AFY – 385 AFY = 2,076 AFY).

The municipal allocation not reserved for human right to water incurs proportional reduction over the 20-year SGMA implementation period to achieve Subbasin sustainability. Based on a linear reduction over 20 years, the reduction rate is 3.65% per year or about 73% over 20 years. The unreserved portion of the municipal pumping allocation reduces from 2,076 AFY to 563 AFY. Adding in the reserved Human Right to Water of 385 AFY results in a sustainable municipal pumping allocation of 948 AFY.

For comparison, the BWD pumped 1,568 acre-feet in 2017. Thus, the proposed sustainable municipal allocation is about 62% of the current BWD groundwater production.

The BWD will not necessarily need to physically reduce annual groundwater production. The BWD could either implement end use efficiency/ conservation measures such as turf replacement or acquire additional pumping allocation from a proposed land fallowing and water transfer program.



This graphic illustrates that the Human Right to Water represents a small drop of total Borrego Springs Subbasin production. The Human Right to Water amounts to 2% of the estimated current total Subbasin production.

Reserving an allocation of 385 AFY for the Human Right to Water results in an increased proportional reduction of about 3% for all sectors (Agriculture, Municipal and Recreation).