This presentation premiered at WaterSmart Innovations

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INNOVATIONS

Utilizing a Water Credit Program to help Protect Groundwater Reserves

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Borrego Water District

Water Smart Innovations Conference
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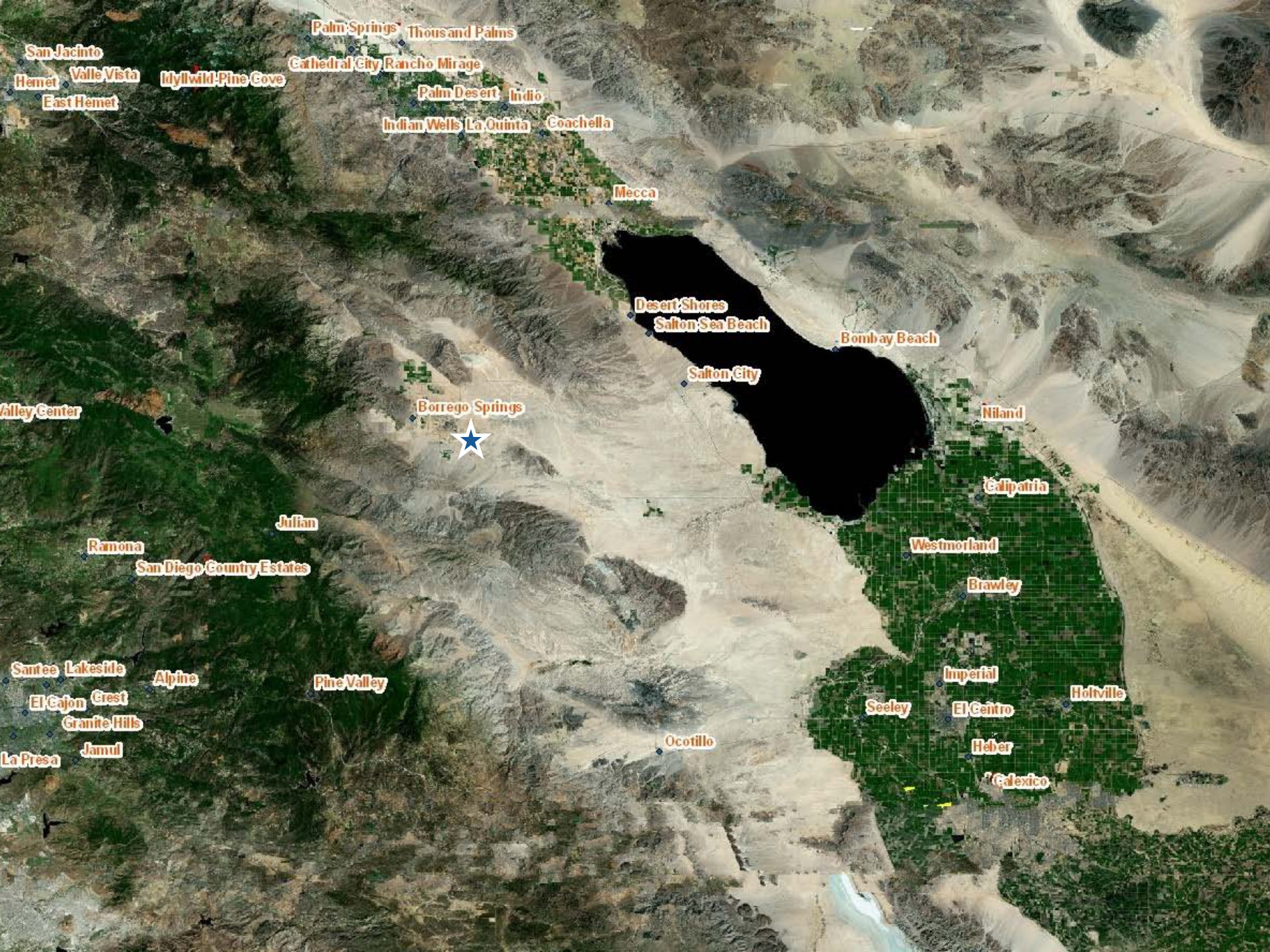
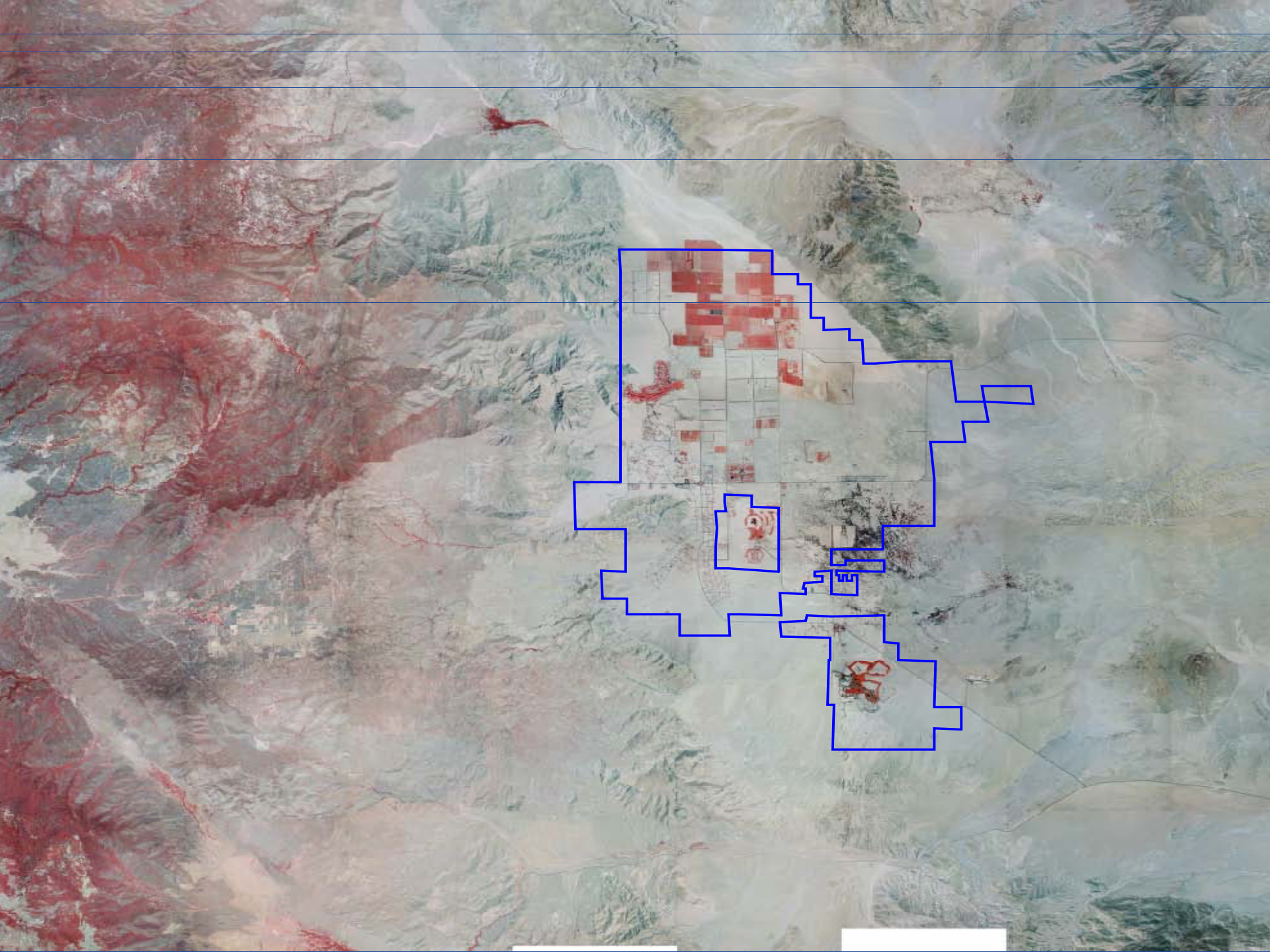
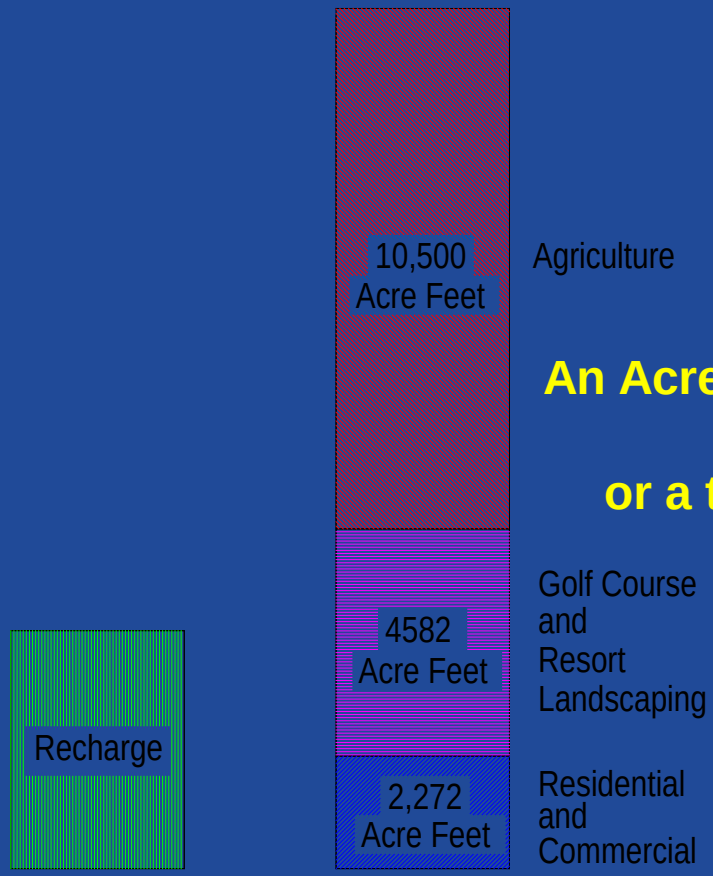

Palm Springs
Thousand Palms
San Jacinto
Cathedral City
Rancho Mirage
Valle Vista
Idyllwild-Pine Cove
Hemet
Palm Desert
Indio
East Hemet
Indian Wells
La Quinta
Coachella
Mecca
Desert Shores
Salton Sea Beach
Bombay Beach
Salton City
Valley Center
Borrego Springs
Niland
Calipatria
Julian
Ramona
Westmorland
San Diego Country Estates
Brawley
Santee
Lakeside
Alpine
Pine Valley
Imperial
El Cajon
Crest
Holtville
Seeley
El Centro
Granite Hills
Ocotillo
Heber
Jamul
La Presa
Calexico




PINK
GRAPEFRUIT

Problem:

- Groundwater is virtually the sole source of water supply in Borrego
- Annual groundwater pumping exceeds natural recharge by about three times
- Pumping has resulted in water levels dropping over two feet per year for the past twenty years
- Water-level declines in areas with significant clay deposits could result in land subsidence
- As the more permeable upper aquifer is dewatered, water-level declines may accelerate; water quality is expected to deteriorate; and land subsidence will occur.



ANNUAL
INFLOW
4,800 Acre Feet

ANNUAL
WATER USE
17,354 Acre Feet

BORREGO VALLEY WATER FACTS

An Acre Foot equals approximately 326,000 gallons
or one acre flooded one foot deep
or a typical family of four's usage for one year

Borrego Water District
Groundwater Management Study

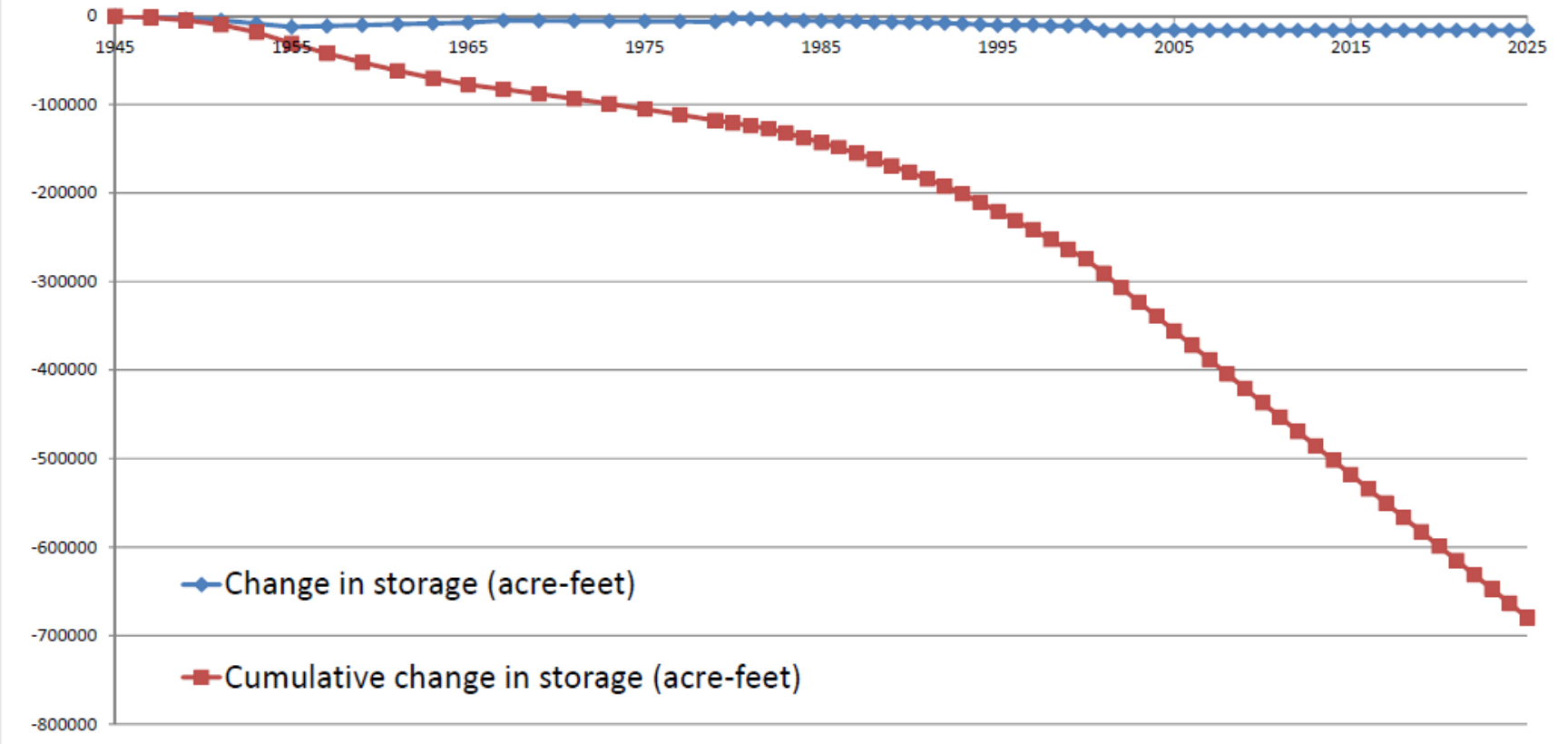
WATER USAGE GRAPH

San Diego County, California

Well	Average Change in Water Levels (feet per year)		
	1980's	1990 to 1997	Since 1998
AVERAGE OF ALL WELLS	**-1.2**	**-1.7**	**-2.4**

- Drawdown Increases approximately 35% when comparing data collected from the 1980's to data collected from 1990 to 1997.
- Drawdown increases approximately 45% when comparing data collected from 1990-1997 to data collected since 1998.
- Drawdown has increased approximately 100% when comparing data collected from the 1980's to data collected since 1998.

Change in storage through time



GROUNDWATER MANAGEMENT COMMITTEE

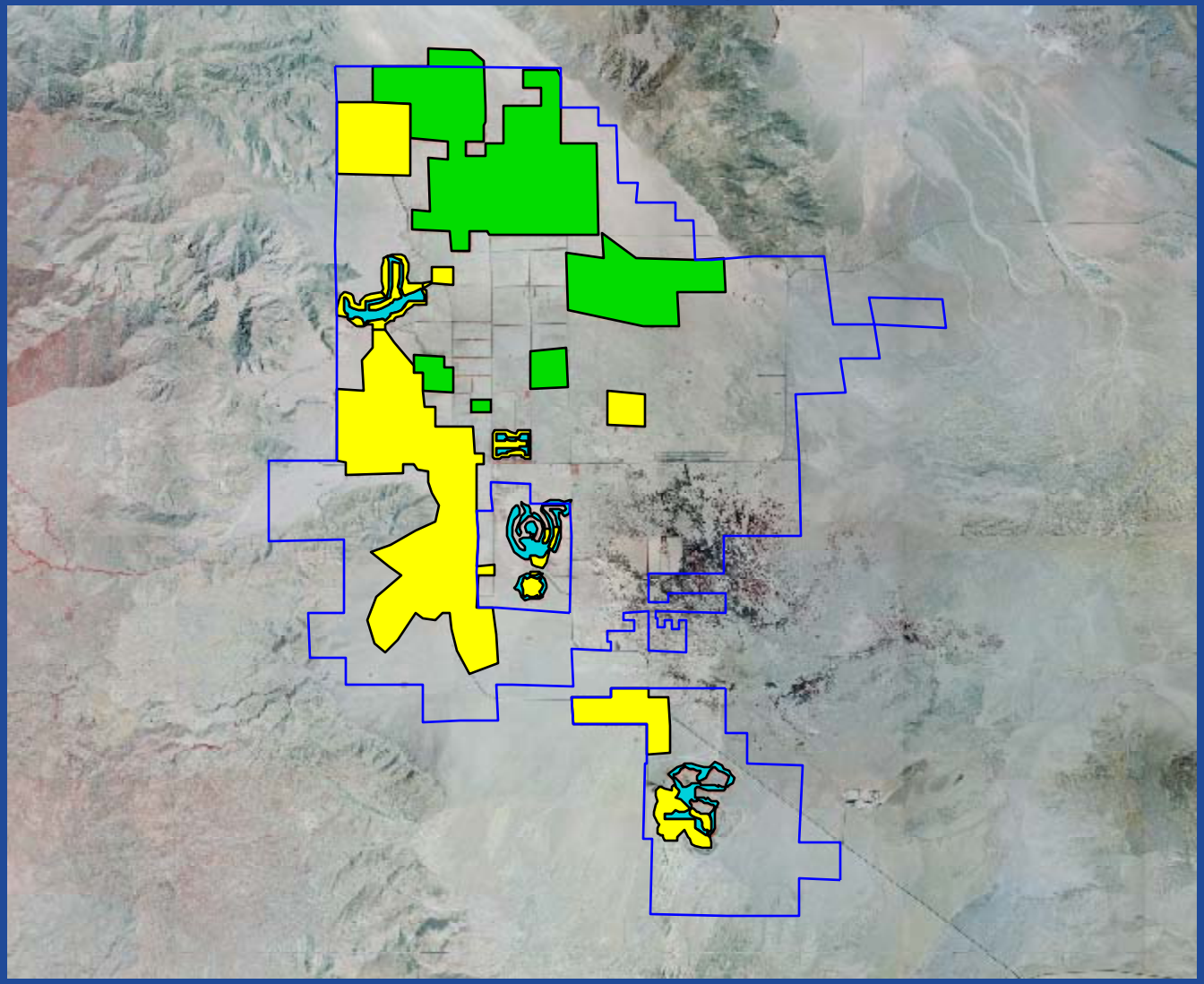

PUNITIVE??? OR…

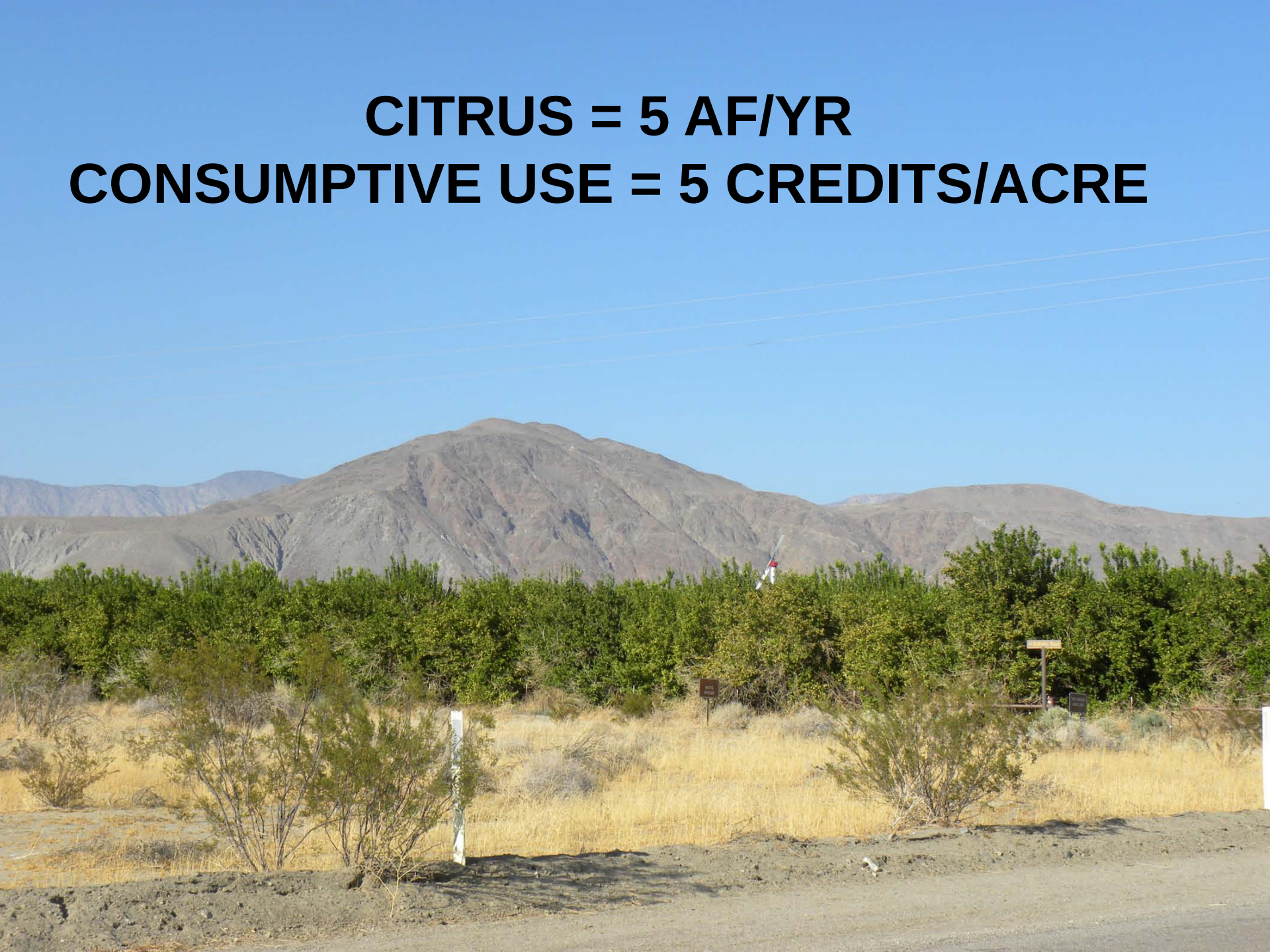

INCENTIVES??

Water Credit & Mitigation Program

- Encourage Intensive Water Users to Reduce or Eliminate Demand on the Aquifer
- Coupled with a Requirement that New Development must mitigate their water use through buying Credits to offset their use of the Aquifer on a 2:1 Ratio.
- One Water Credit is equal to one acre-foot of water use per year which is eliminated.
- A typical residence in the community places a demand of nearly 1 af/yr on the aquifer.
- Prices of Water Credits to be market driven.

BORREGO SPRINGS, CALIFORNIA WATER USAGE MAP




CITRUS = 5 AF/YR
CONSUMPTIVE USE = 5 CREDITS/ACRE


PALM NURSERIES = 6 CREDITS/ACRE


TURF = 8 CREDITS/ACRE

CLEARING AND MULCHING


FINISHED FALLOWED FIELD


PERMANENT WELL DISCONNECTION

ECONOMICS:

VALUE OF THE CREDITS:

- FALL, 2007 $4,850/credit
- FALL, 2008 $6,000/credit
- SUMMER, 2009 $8,000/credit
- FUTURE: $MARKET DRIVEN

GOAL: SUSTAINABLE WATER SUPPLY FOR FUTURE GENERATIONS

COME
SEE
THE
STARS AND
FLOWERS,
BUT
BRING
YOUR
OWN
WATER.

THANK YOU