

# San Pasqual Band of Kumeyaay Indians

---

RTOC Summer Meeting  
July 31, 2014

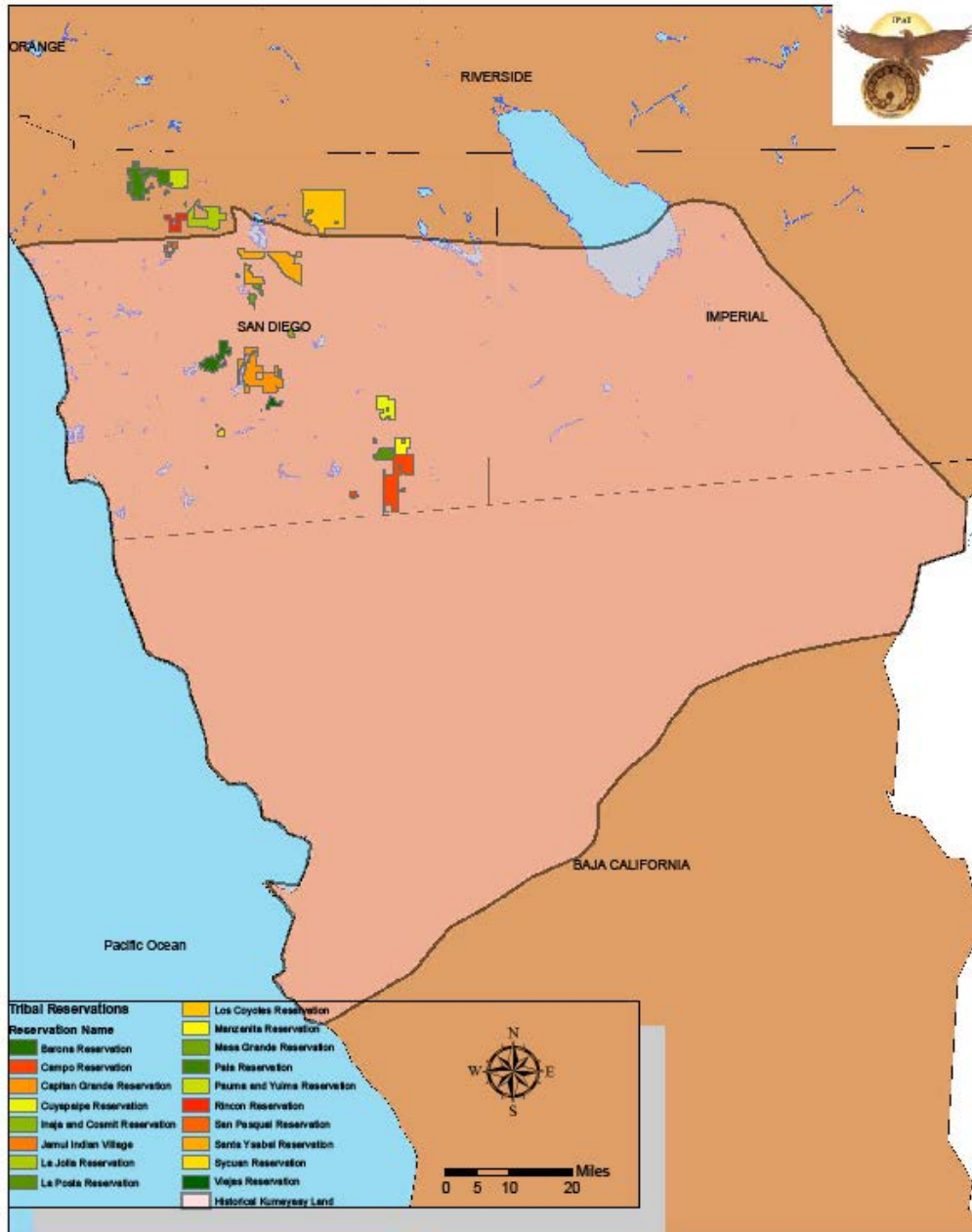


# Background Information

---



# Historical Kumeyaay Land Boundary



## Historical Land Boundary

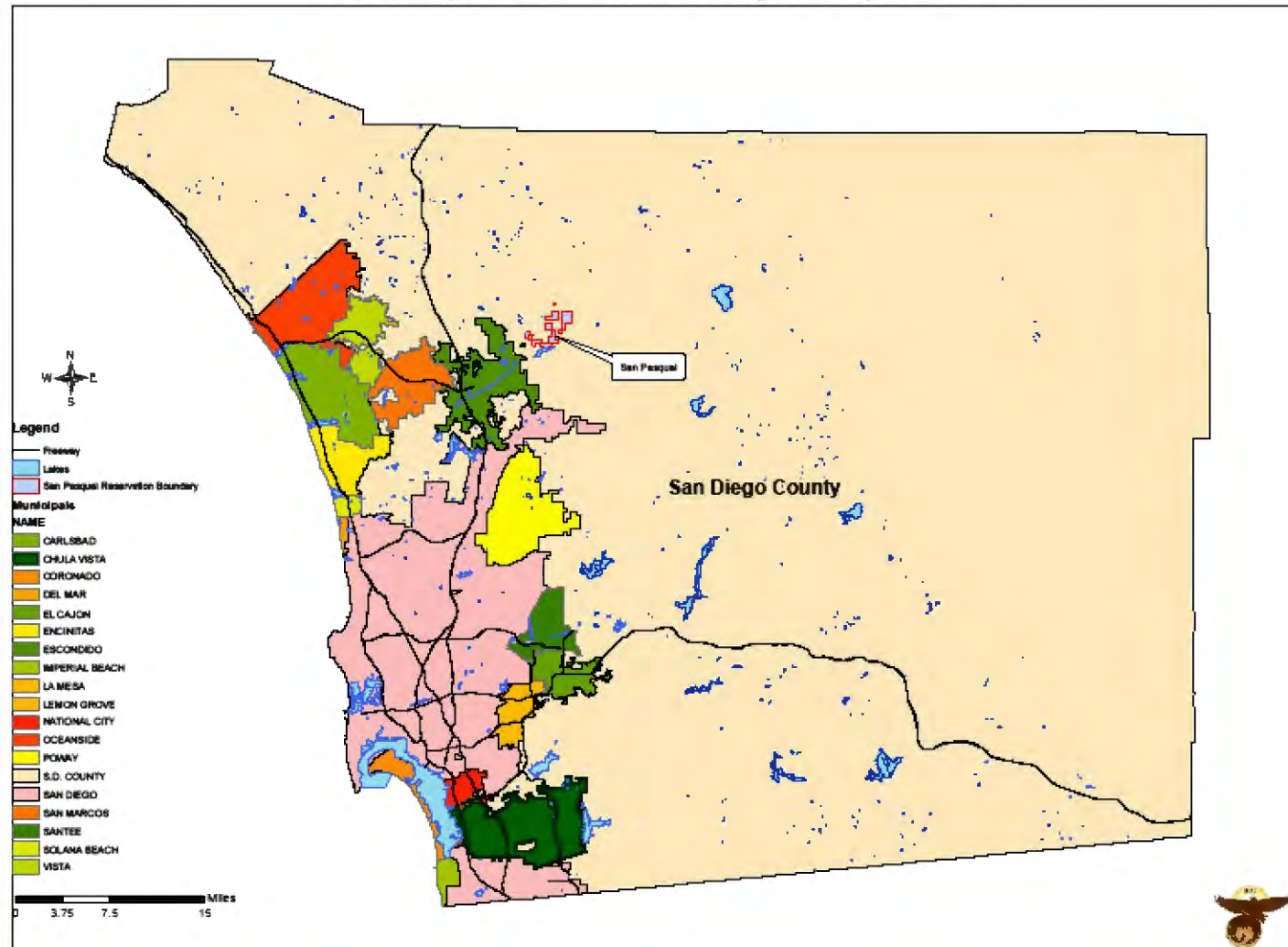
# San Pasqual General Information

- San Pasqual Indian Reservation was established by Presidential decree in 1910.
- The San Pasqual Indian Reservation is located in northeastern San Diego County, California, near Valley Center.
- The San Pasqual Indian Reservation is two miles north of the Rincon Band of Mission Indians, and is nearby several other Indian Reservations including Pauma, Pala, La Jolla, Santa Ysabel, Mesa Grande, Los Coyotes, and Pechanga among others.



# San Pasqual Reservation in San Diego

San Pasqual in Relation to San Diego County & Cities

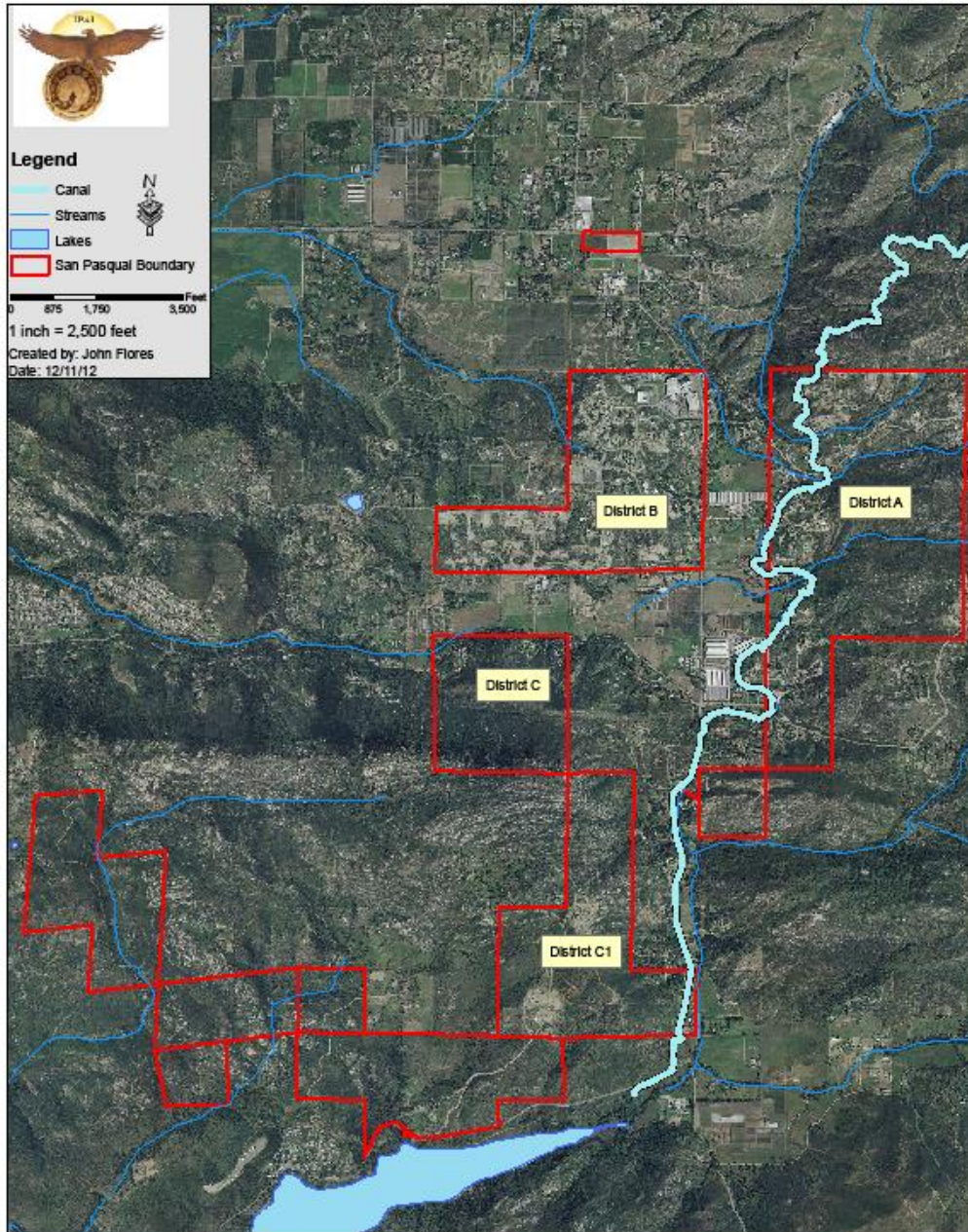


# San Pasqual Land and Acreage

- The Reservation encompasses approximately 2,656 acres
- Approximately 1,500 acres of trust land and 1,156 of fee land
- San Pasqual is considered a “checkerboard” Reservation, as it does not occupy one contiguous land mass.
- The San Pasqual Reservation is divided into three Districts: A, B, and District C.



## San Pasqual Reservation



Current  
Reservation  
(Trust Only)



# Demographics & the Districts

---

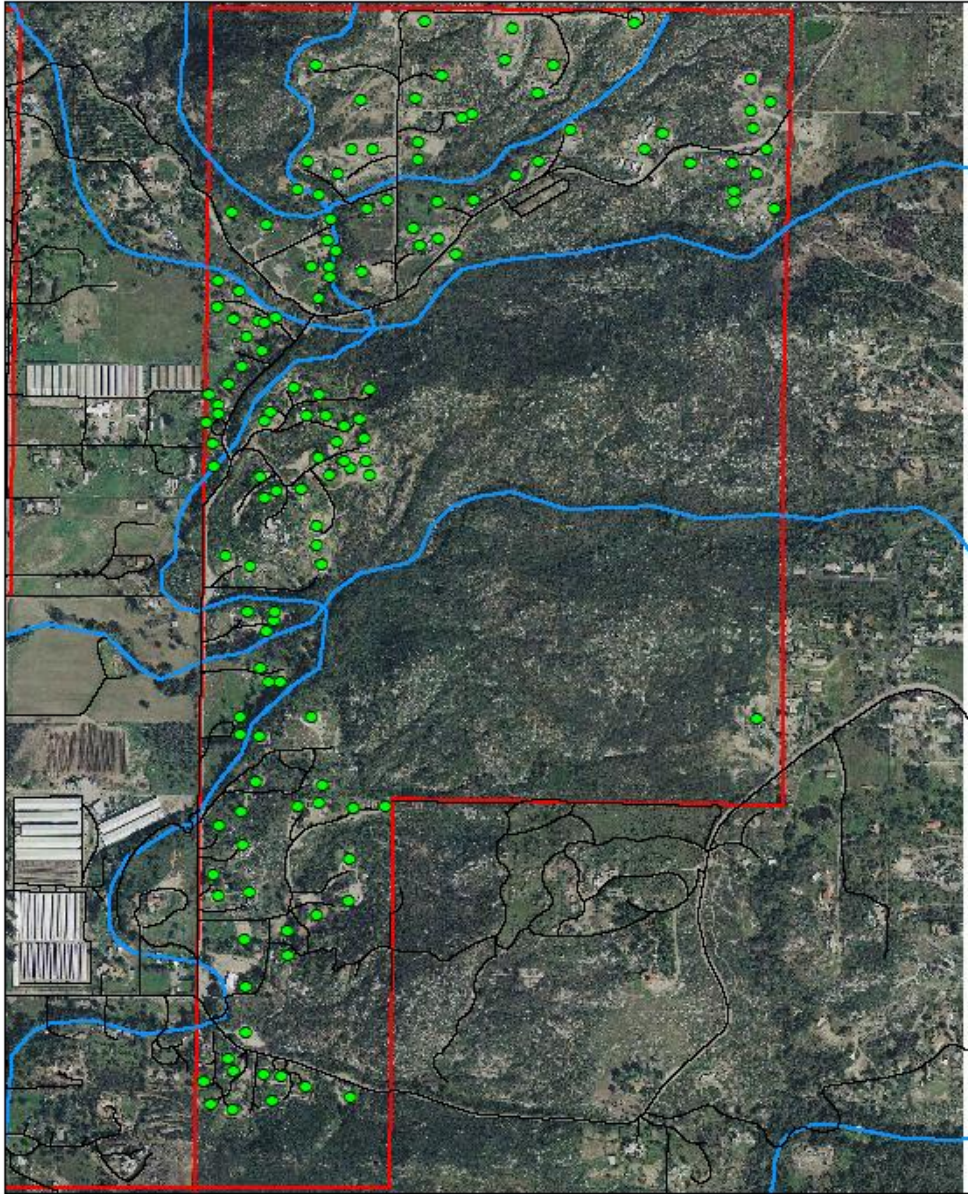


# Tribal Demographics

- Current enrolled Tribal Membership consists of approximately 250 Tribal members and over 1,200 lineal descendants.
- The Reservation population is between 1200 - 1300 total residents, occupying about 310 homes.
- The majority of homes and residents on the Reservation currently reside in Districts A and B, with a small population and clusters of homes on District C.



## District A Homes



**Legend**

- Homes
- Roads
- Streams
- Current San Pasqual Boundary



139 homes in District A

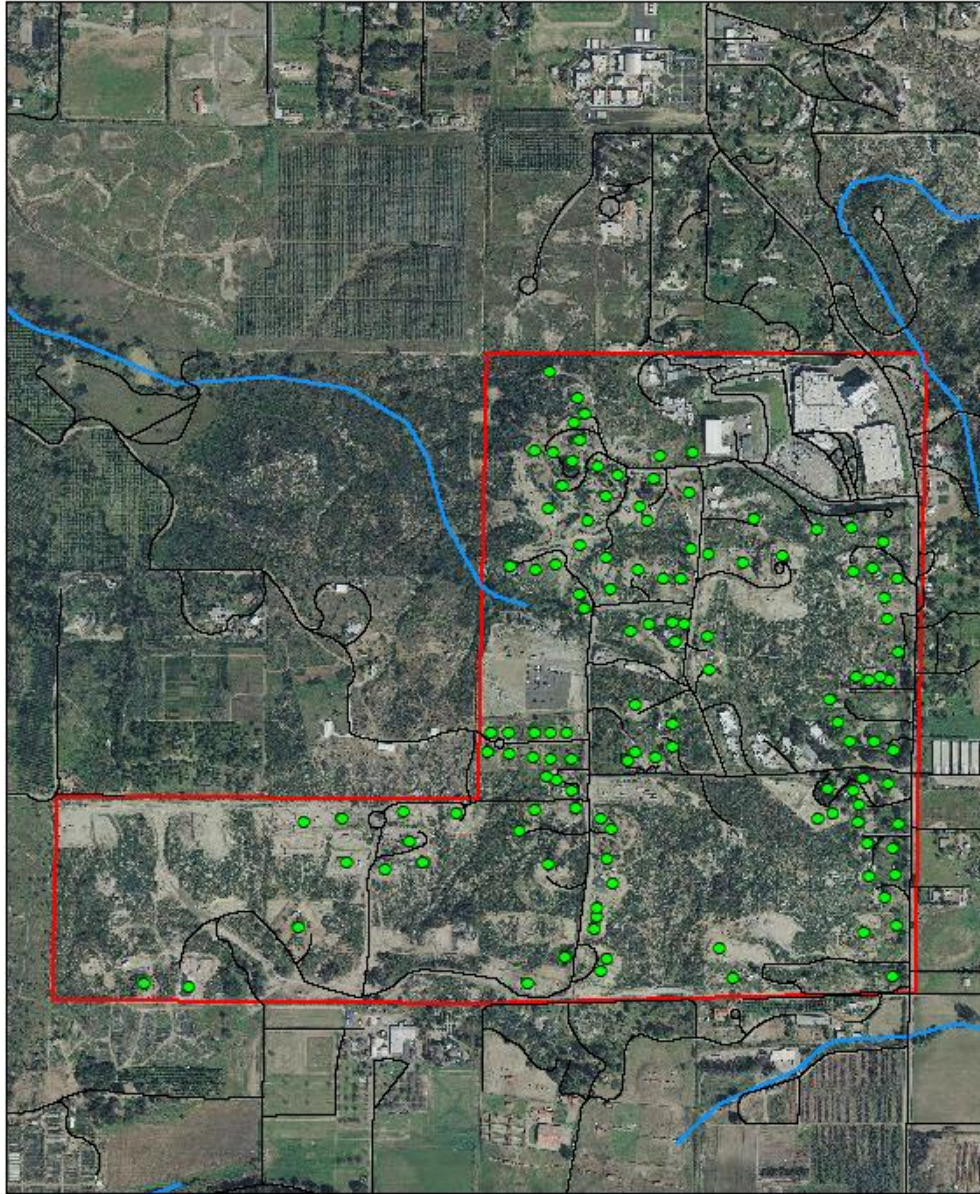
0 250 500 1,120 Feet



San Pasqual -  
District A (140  
homes)



## District B Homes



Legend

- Homes
- Roads
- Streams
- Current San Pasqual Boundary



125 homes in District B

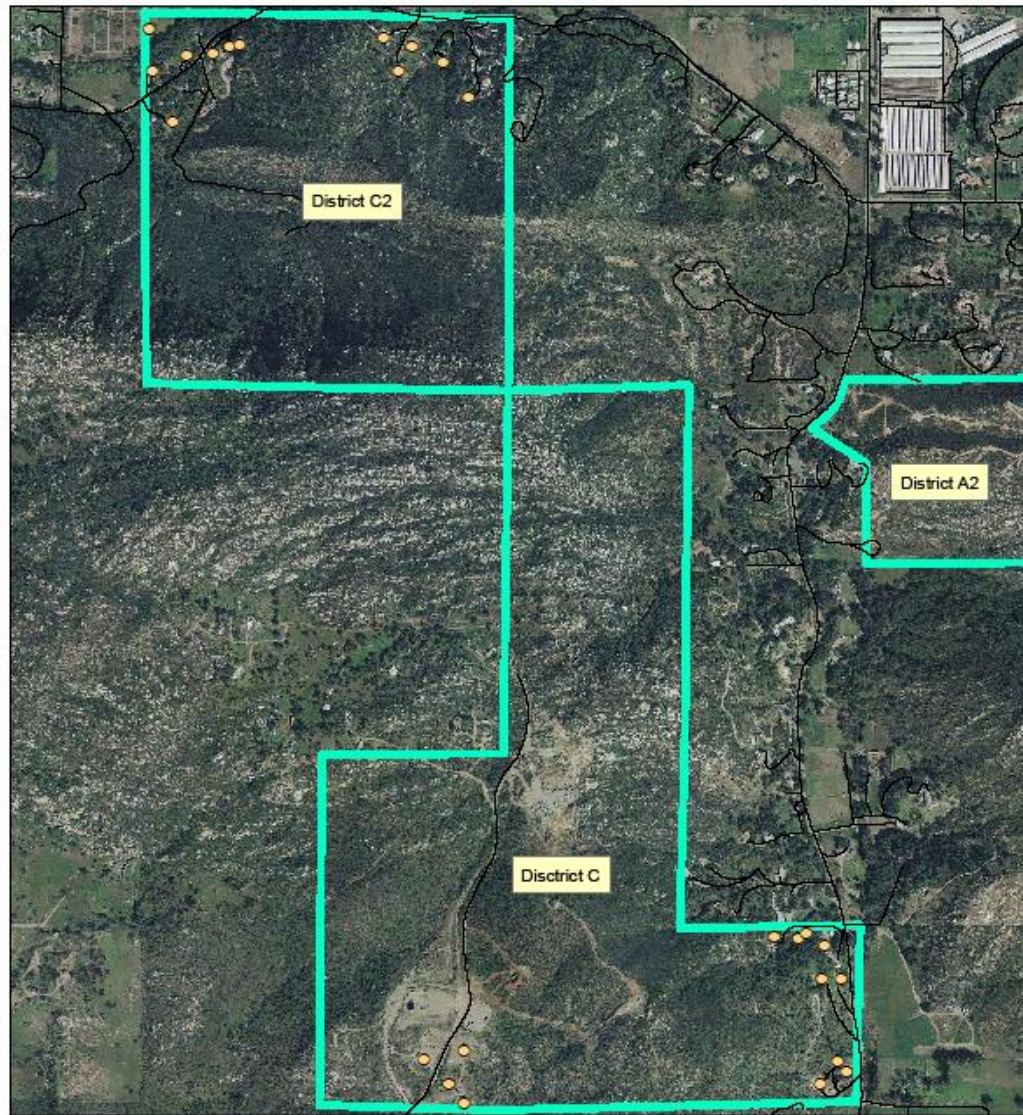
0 200 500 1,040 Feet



San Pasqual -  
District B (125  
homes)

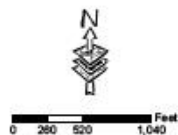


## San Pasqual District C: Homes



### Legend

Features	Homes
Name	
Yellow circle	District C
Yellow circle	Casino
Red circle	Fire Station
Blue circle	Tribal Hall
Cyan line	Reservation Boundary
Black line	Roads



Total Homes in District C = 25

Created by: John Flores  
Created on: 05/10/12



San Pasqual –  
District C (45  
homes)

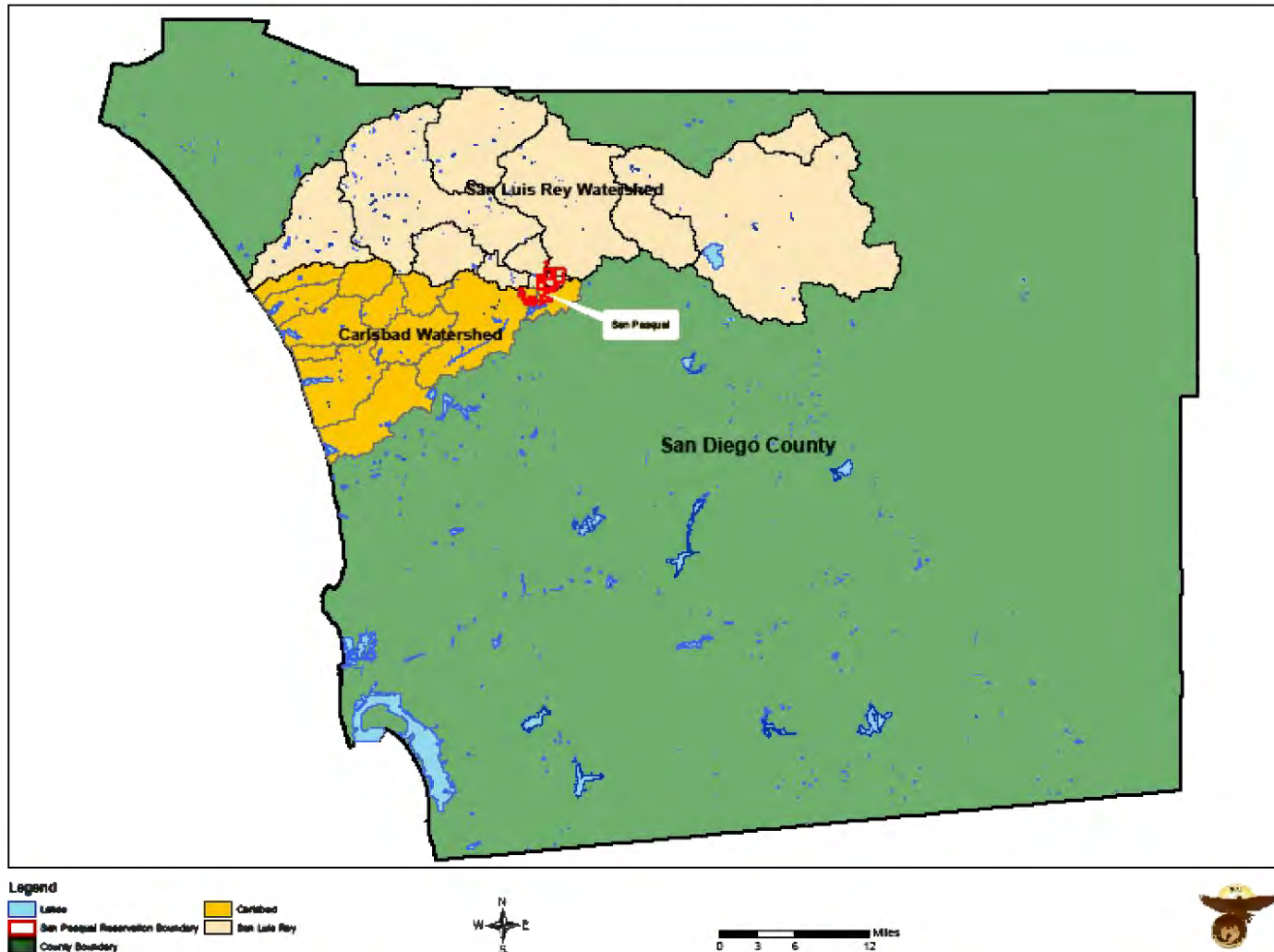


# General Information

- The topography consists of steep slopes and few irrigable lands and the average annual rainfall varies from 10 – 20 inches a year.
- The land is very rocky with lots of granite
- The soils are mostly clay or decomposed granite
- Wastewater is handled through individual home septic systems
- The Reservation is divided between the San Luis Rey and Carlsbad Watersheds
- Only two “major” creeks on the Reservation: Paradise and Woods Valley Creek
- Very little surface water in Districts B & C

# Carlsbad & San Luis Rey Watershed

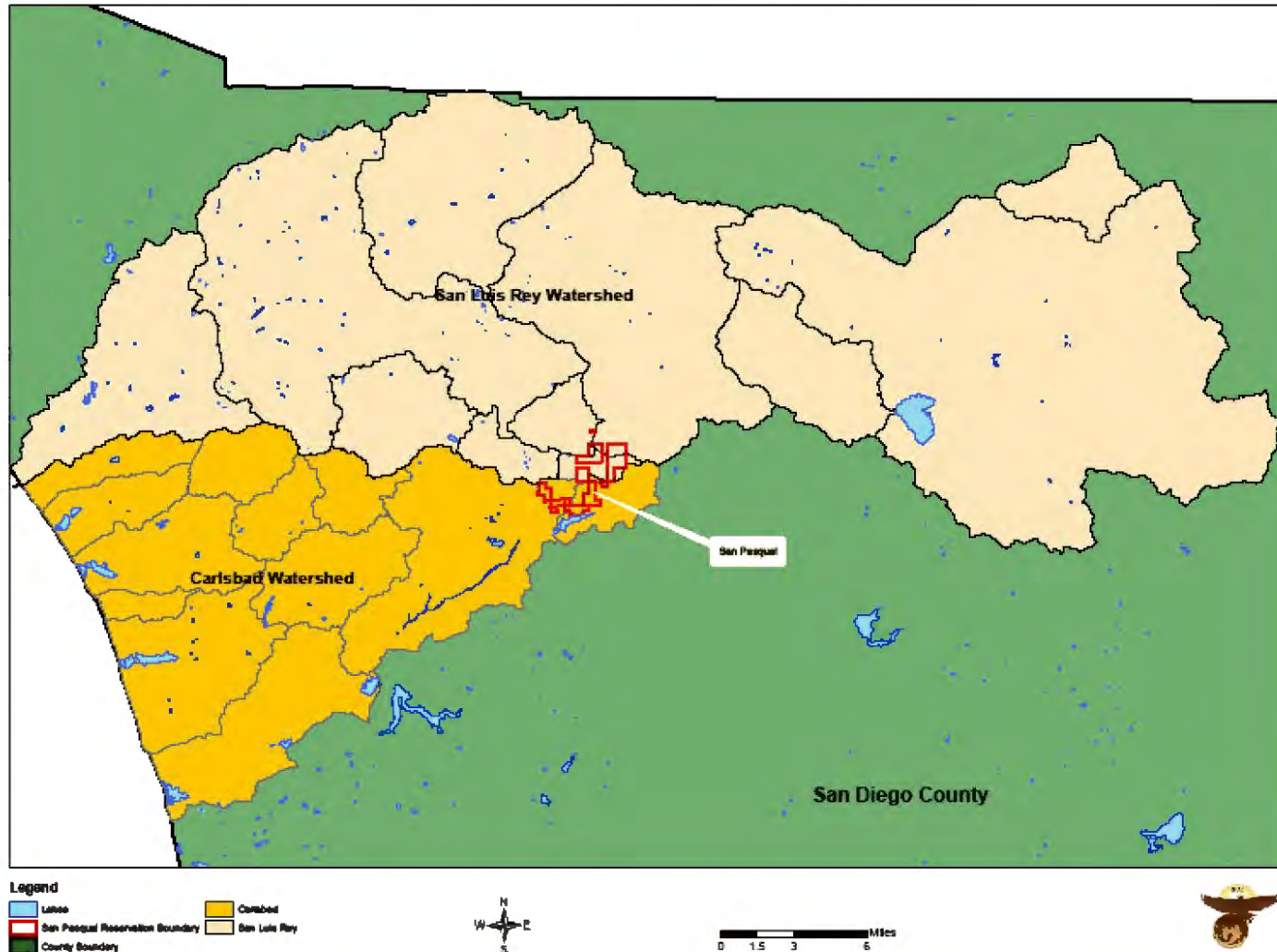
San Pasqual in Relation to Watersheds





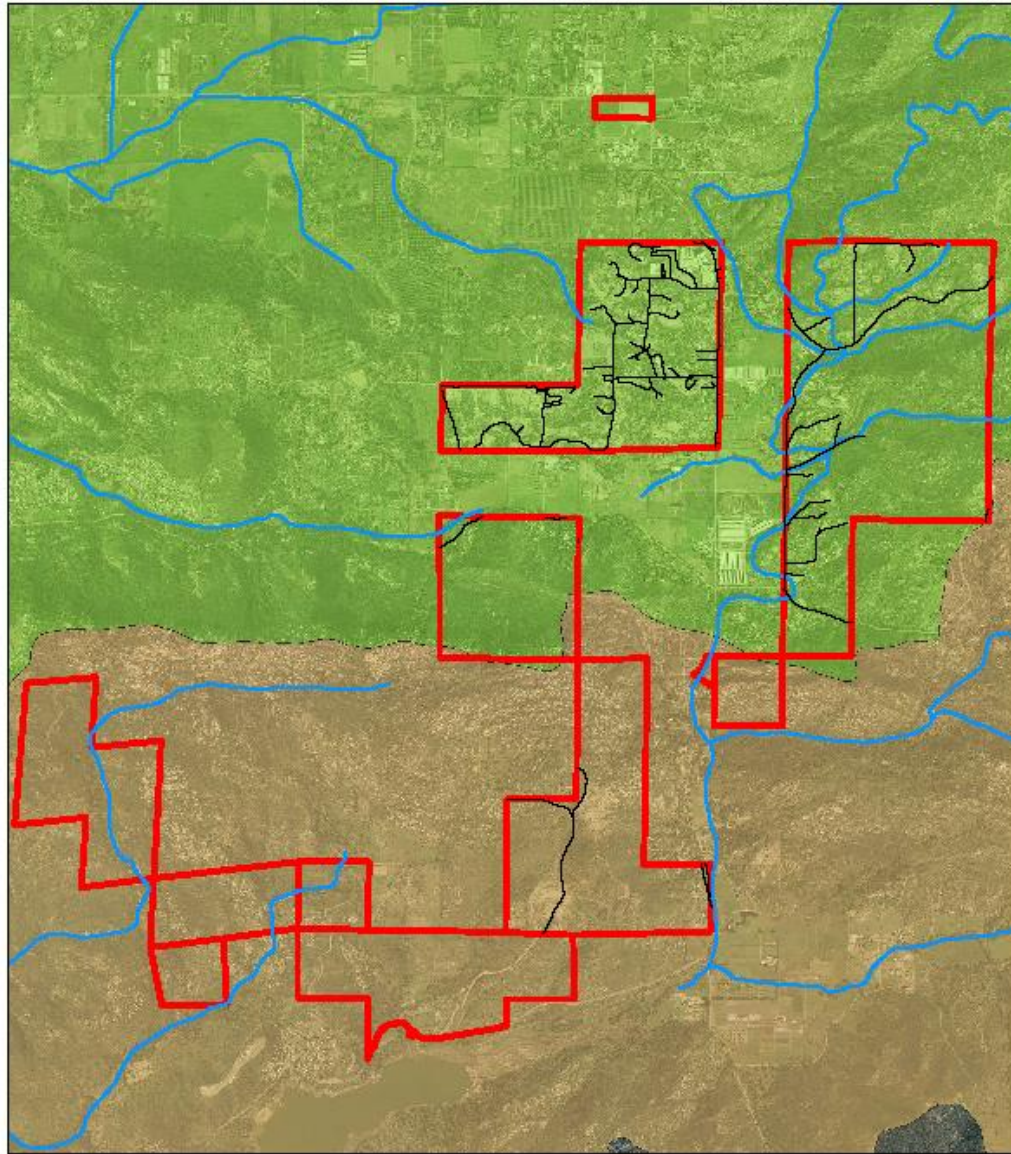
# Carlsbad & San Luis Rey Watershed

San Pasqual in Relation to Watersheds



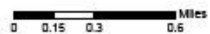


## San Pasqual in Relation to Watersheds



### Legend

Roads	<b>Watersheds</b>
Streams	<b>NAME</b>
San Pasqual Boundary	CARLSBAD
	SAN LUIS REY



San Pasqual within  
the two watersheds



# Water System

---

# Domestic Water System

- The Tribe operates a Public Water System serving the Tribal communities in Districts A and B.
- District C is a mix of one private well and the rest of the homes served via the local municipal water district; its water usage and water lines are not managed or maintained by the SP Domestic Water Department
- All homes and Tribal Government building have water metered, meters are read monthly and are billed each month
- If bills are not paid we send off “Shut-Off Notices”



# Water System District A

- 200,000 gallon water tank
- 1 domestic drinking water wells are operated by the Tribe
- Well #4 brought on line in 2006 and can sustain 75 GPM
- Also have an emergency connection to VCMWD

# Water System District B

- 100,000 gallon water tank
- No current domestic drinking water wells in operation
- All of District B domestic drinking water is supplied by VCMWD water connection
- A well was drilled in early 2000 to offset the need to be totally dependent on Valley Center water, 100 GPMS
- Unfortunately, this well could not meet drinking water standards, high in uranium.



# District C

- The majority homes have direct water connections to VCMWD
- One small well provides water to 5 homes
- Looking for more water sources in District C

# Current Drought Conditions in the West

---



# Sierra Nevada Mountains - A Tale of Two Winters: January 2013 vs. January 2014



# Lake Mead Drought Facts

- Lake Mead is currently just 39% full
- This is the lowest level since 1937, when water began backing up to form Lake Mead after the dam was completed.
- The level of the lake fell this month to just over 1,081 feet above sea level, 139 feet below the nearly 1,220-foot capacity.
- Lake Powell is down to 52% of its capacity
- The Colorado River system has just over half the water it is capable of holding this summer



# Lake Mead

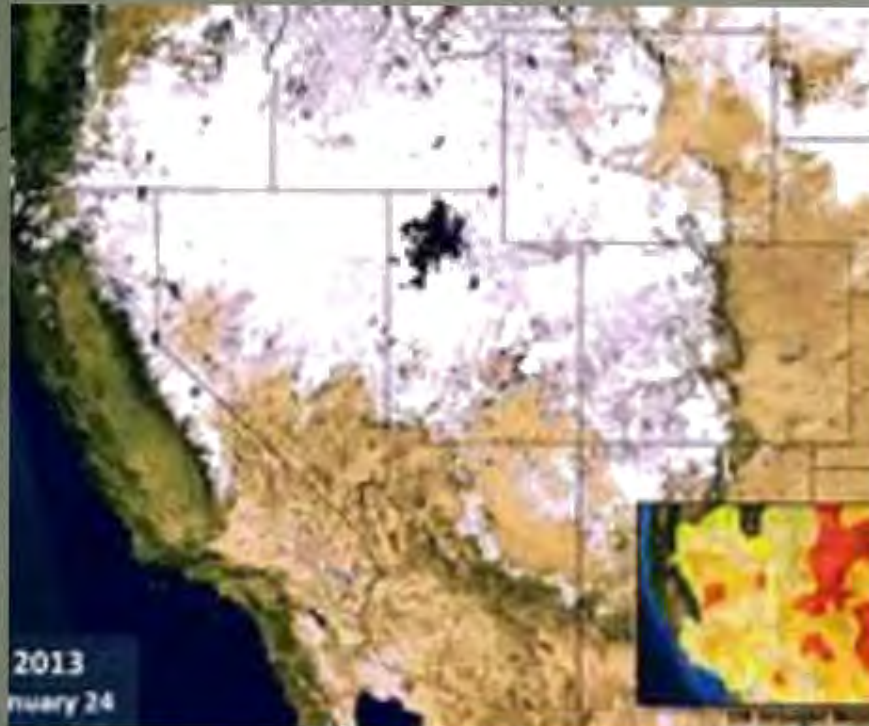


# Colorado River

- Colorado River is diverted from Lake Mead to provide drinking water to Southern California, Las Vegas and parts of Arizona.
- It is estimated that Colorado River supplies water to 40 million people and 4 million acres of farm land
- Bureau of Reclamation estimates that there is about a 23% chance that Lake Mead's water levels could fall below 1,075 feet, the point at which water distributions to some agencies may have to be reduced, next year.
- By 2017, the BOR says the risk is 50%
- The rapid rate of depletion of groundwater far exceeds the rate of depletion of Lakes Powell and Mead



# Colorado River Basin- A Tale of Two Winters: February 2013 vs. February 2014



# Groundwater Depletion During Drought Threatens Future Water Security of the Colorado River Basin

- Researchers at the University of California, Irvine, and NASA analyzed data from a satellite that measures underground water reserves to calculate that the Colorado River Basin has lost 65 cubic kilometers—that's 17.3 *trillion* gallons—of water between December 2004 and November 2013
- That represents twice the capacity of the United States' largest reservoir, Lake Mead in Nevada
- The data indicates that farmers and cities are pumping far more groundwater than can be replenished

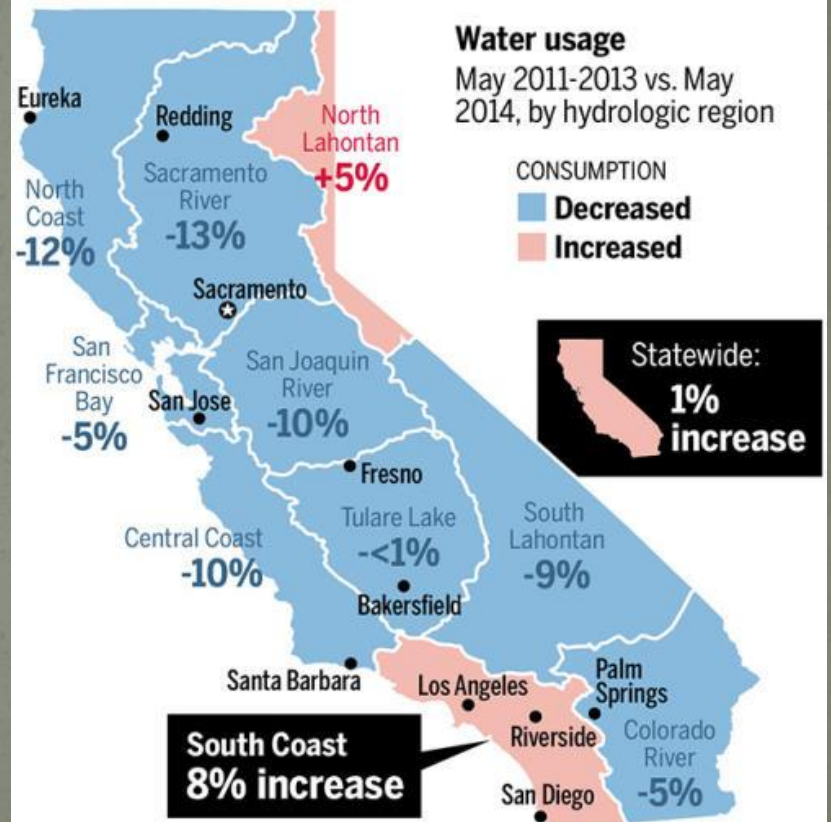


# Water Consumption Increases

- Statewide water consumption was higher in May 2014 than in May of 2011, 2012 or 2013
- This was mostly due to Coastal Southern California

## Who saved, who didn't

Although most regions reduced consumption this year, California as a whole consumed 1 percent more than the average May over the past three years, mainly because of usage in Southern California.



Source: State Water Resources Control Board

BAY AREA NEWS GROUP

# Water Conservation Efforts at San Pasqual

---



# Water is Life

- Life Grows Where Clean Water Flows
- What is land without water?



# San Pasqual: Water Insecure

- San Pasqual is water insecure (especially District A)
- Relies too much on VCMWD
- The water supply is at further risk due to:
  - Climate change
  - Population growth
  - Invasive plants
  - Water waste
  - Water leaks



# What is the solution!?!?

- Dig more wells!!
  - May not hit water or usable water
- Rain water harvesting
  - Little to no rain in the summer months or during drought
- Reclaimed water from the casino for irrigation
  - Negative public perception
- Promote native and drought resistant plants
- Water Efficiency Efforts



# Water Efficiency Efforts

- Promoting and offering high efficiency shower heads at no cost to home owners
- Reading meters – helps identify leaks
  - Transition to smart meters
- Aggressively finding and fixing leaks





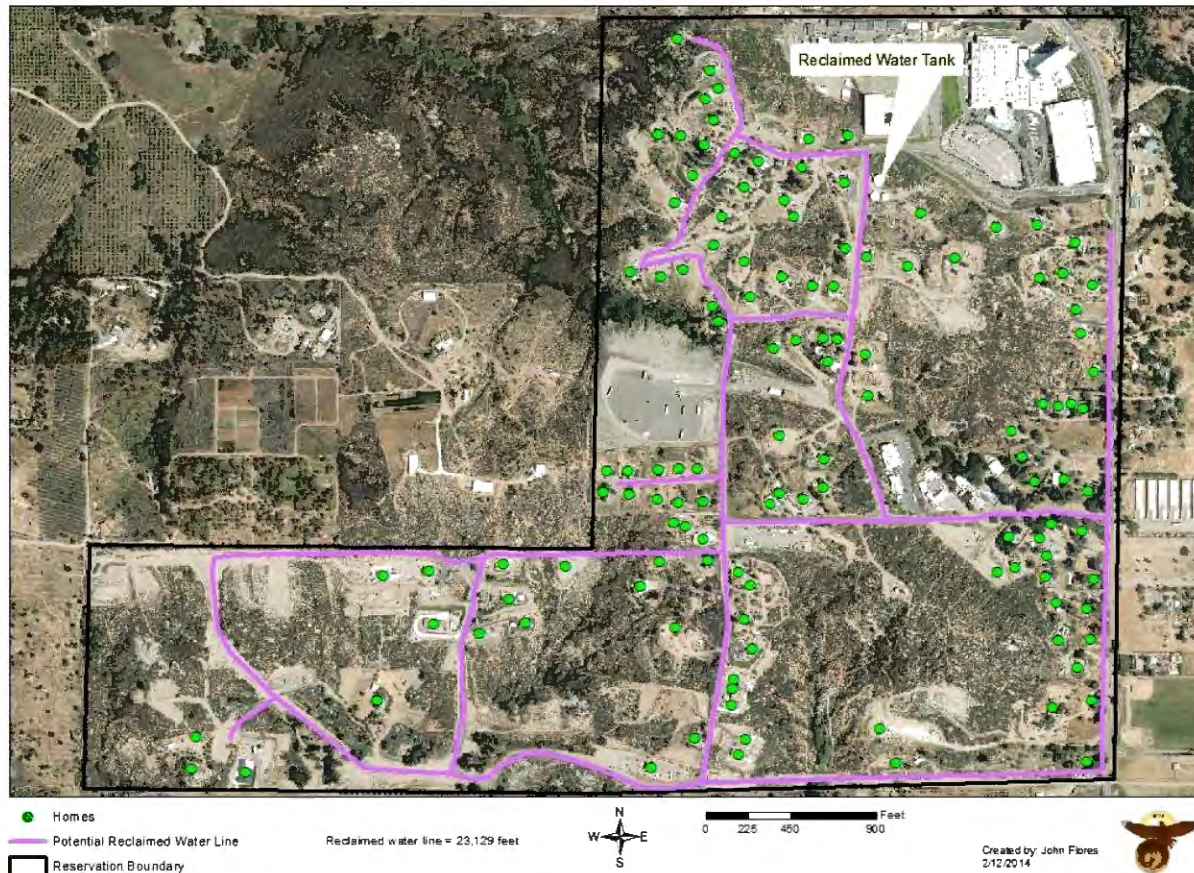
# Maximizing Resources

- San Pasqual is a gaming Tribe with a 108 room hotel. Valley View Casino treats all of its waste water and uses it for landscaping and irrigation around the casino grounds
- The Tribe wanted to use the excess reclaimed water from the Valley View for irrigation on the Reservation
- San Pasqual, in partnership with RCAC applied for IRWMP and received funding for the creation of a reclaimed water system to be used for irrigation
- Funds will pass through RCAC to the Tribe



# Proposed Reclaimed Water Project

Potential Reclaimed Water Line Route - District B





# A Group Effort

- Multi-partner and multi-funding approach: San Pasqual, RCAC, BIA, IRWMP, and Valley View Casino



# Partner Contributions and Roles

- BIA
  - Tribal Water Resources Grant: Funded the engineering and survey work of the project
- RCAC
  - Partnered with San Pasqual to assist with the IRWMP application and submittal process
- Valley View Casino
  - Providing the reclaimed water and funding the tap into their existing reclaimed water tank and connection to new reclaimed water main line
- IRWMP
  - Provided the funds



# Project Details

- Valley View Casino produces over 30,000+ gallons of excess treated water per day
- Estimated 23,129 feet of purple pipe and one booster pump to be installed
- Funded for Phase II & Phase III of IRWMP
- Plan (HOPE) to break ground in November 2014 and complete by April 2015
- Plan to complete all work with Tribal labor and expertise

# Benefits

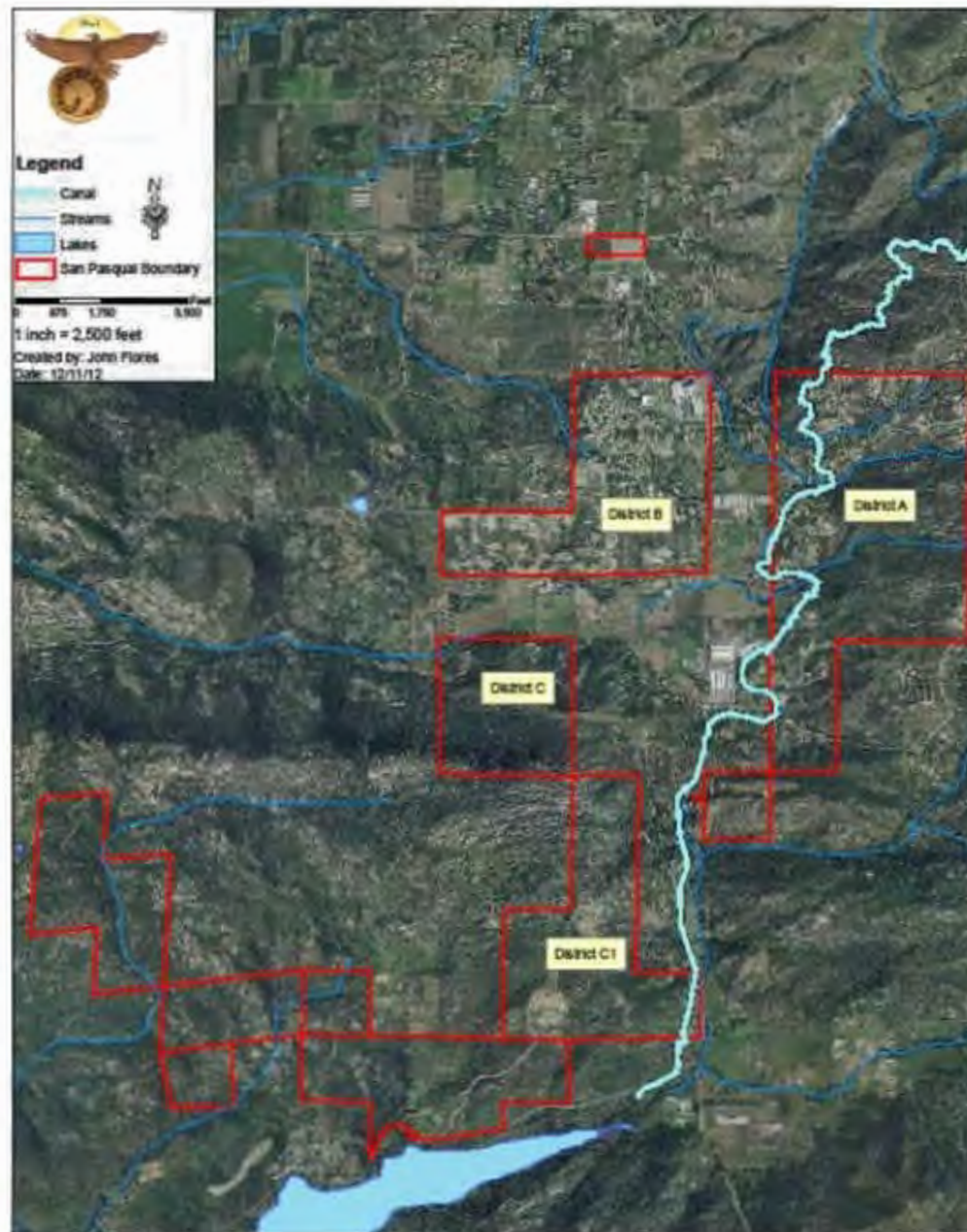
- Conserve potable water from being wasted on landscapes and yards
- Financial benefit for homeowners
- Water source for construction projects
- Fire suppression water source



# Long Term Goals

- Outreach and education to homeowners in District B
- Get homes in District B connected to the reclaimed system for home irrigation
- Want to extend and offer reclaimed water to residents of District A
- Extend and use the reclaimed water for the Tribal ball field

# San Pasqual Reservation





# What Does the Future Hold?

---

# Water Stresses

- Estimates vary, but each person uses about 80-100 gallons of water per day (according to the USGS)
  - Drinking
  - Toilets
  - Dishes
  - Lawns
- Colorado River supplies water to roughly 40 million people throughout Southern California, Nevada, and parts of Arizona
- Equates to 3,200,000,000 to 4,000,000,000 gallons of water needed daily for just human consumption



Robert Malthus: February 13, 1766 –  
December 23, 1834



“The power of  
population is  
indefinitely greater  
than the power in the  
earth to produce  
subsistence for man”.  
- Robert Malthus

# Headed for a Malthusian Crisis or Collapse?

- Thomas Malthus was an 18 & 19 century philosopher
- Most well known for his “Essay on the Principle of Population” in 1798
- If people were given enough food and time the population would keep on increasing until it could not support itself
- Eventually, the productivity of the land could not produce enough food/calories to feed everyone
- Malthusian Limit – the maximum point in which the earth or land can sustain the maximum human population



# Malthusian Limit and Line

- Malthusian Limit – the maximum point in which the earth or land can sustain the maximum human population
- Malthusian Line can and has been moved up over time due to technology improvements and efficiency
- However far you moved this line up the population will always compensate and catch up to this limit
- Malthus only looked at food productivity and irritable land when developing his theory

# Malthusian Water Limit and Line

- Does a Malthusian Water limit and line exist?
- If so, has the Western US hit it?
- Does water conservation only raise the Malthusian Water line and lead to more development?
- Technology, water distribution infrastructure, and water conservation has increased vast amounts of water available to the West resulting in:
  - More agricultural development
  - Housing development
  - Business development
  - Water waste cultural (green lawns, fountains)



# Water Conservation a Double Edged Sword?

- Climate change means a dryer climate so less rain water and snow pack to replenish rivers and lakes which leads to.....
- More wells and ground water pumping to make up for lack of rain fall but.....
- Development of new homes and businesses has not stopped which means more hardscaping so less ground water recharge so we put in place water conservation but.....
- Does water conservation only raise the Malthusian Water line and lead to more development?

# Thank you

---

Questions?

John Flores

[johnf@sanpasqualtribe.org](mailto:johnf@sanpasqualtribe.org)

760-310-6697