Water On The Mesa

Community Forum

August 23, 2011 / 6:30-8:30pm

Nipomo High School, Olympic Hall

Nipomo Community Services District
Board President Jim Harrison

- Welcome and Introductions
- NCSD Public Meeting - Call To Order
- Board Roll Call
- Pledge of Allegiance
- Meeting Overview

Meeting Overview & Process

- **Presentation** - A Series of Speakers
- Questions & Answers
- Public Comment Period
- NCSD Closing Remarks
- Adjourn by 8:30pm

IF YOU HAVE A QUESTION…

- Turn it in on a 3x5 card…
- We will address it during the Q&A Period.

Agenda

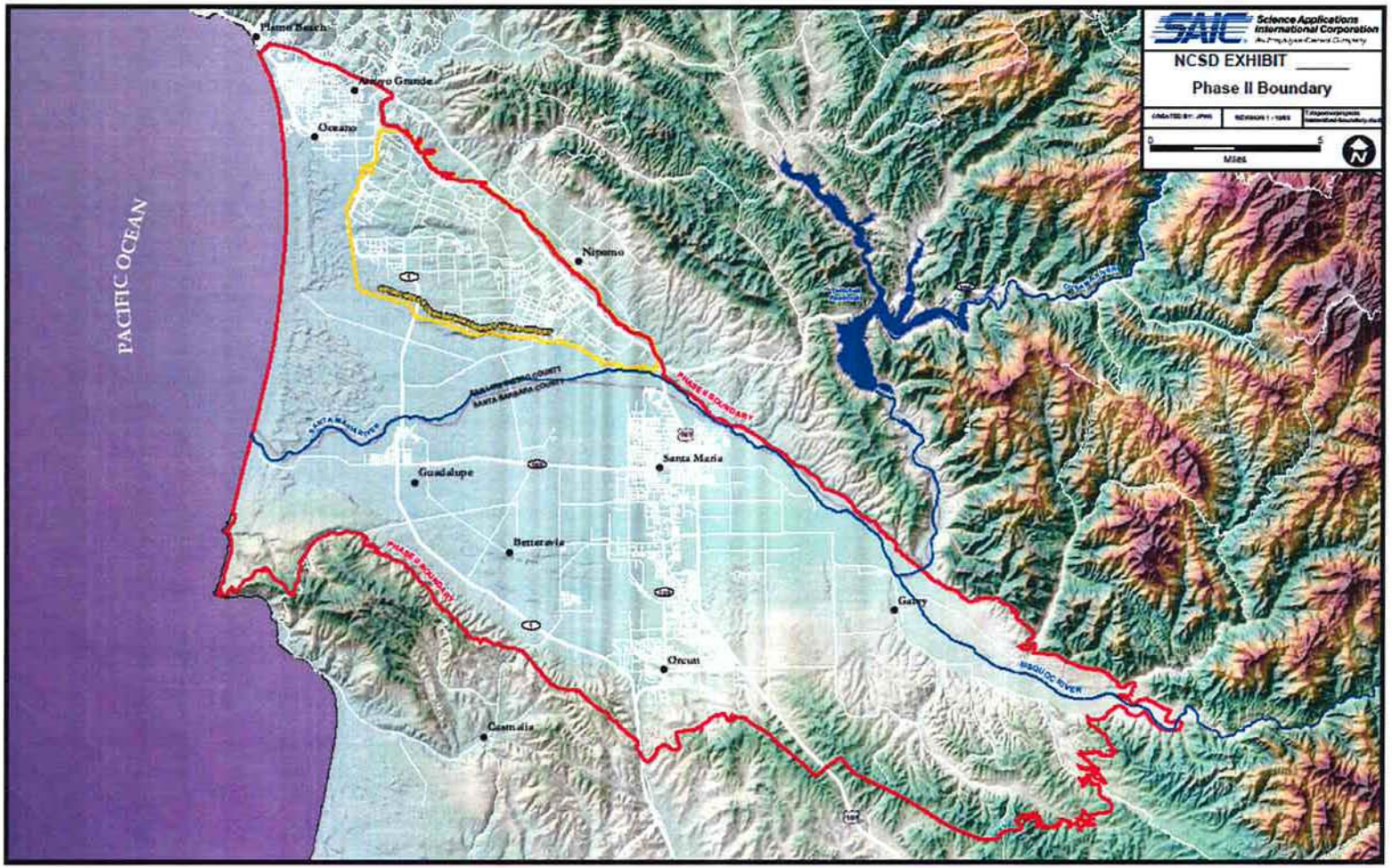
- Introduction - Context
- **Our Water Problem** on the Mesa
- History - How did we get here?
- Finding the Right Solution
- Where do we go from here?
- Questions & Answers
- Public Comment
- Closing Remarks

Introduction - Context

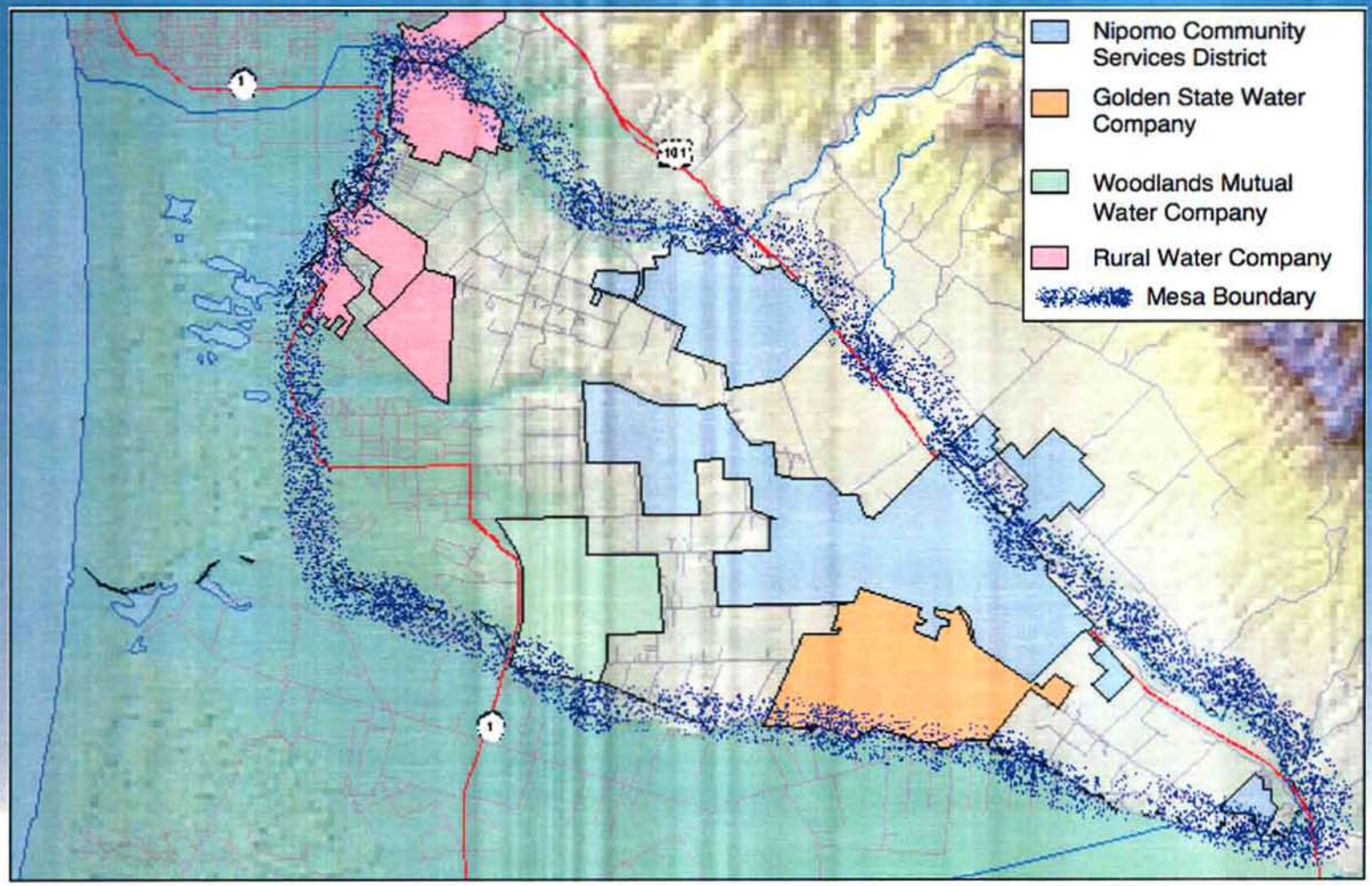
Michael LeBrun

NCSD General Manager

Santa Maria Groundwater Basin



Nipomo Mesa Water Purveyors



Our Water Problem

Ed Eby

NCSD Board Director

The Nipomo Mesa has only ONE source of water…

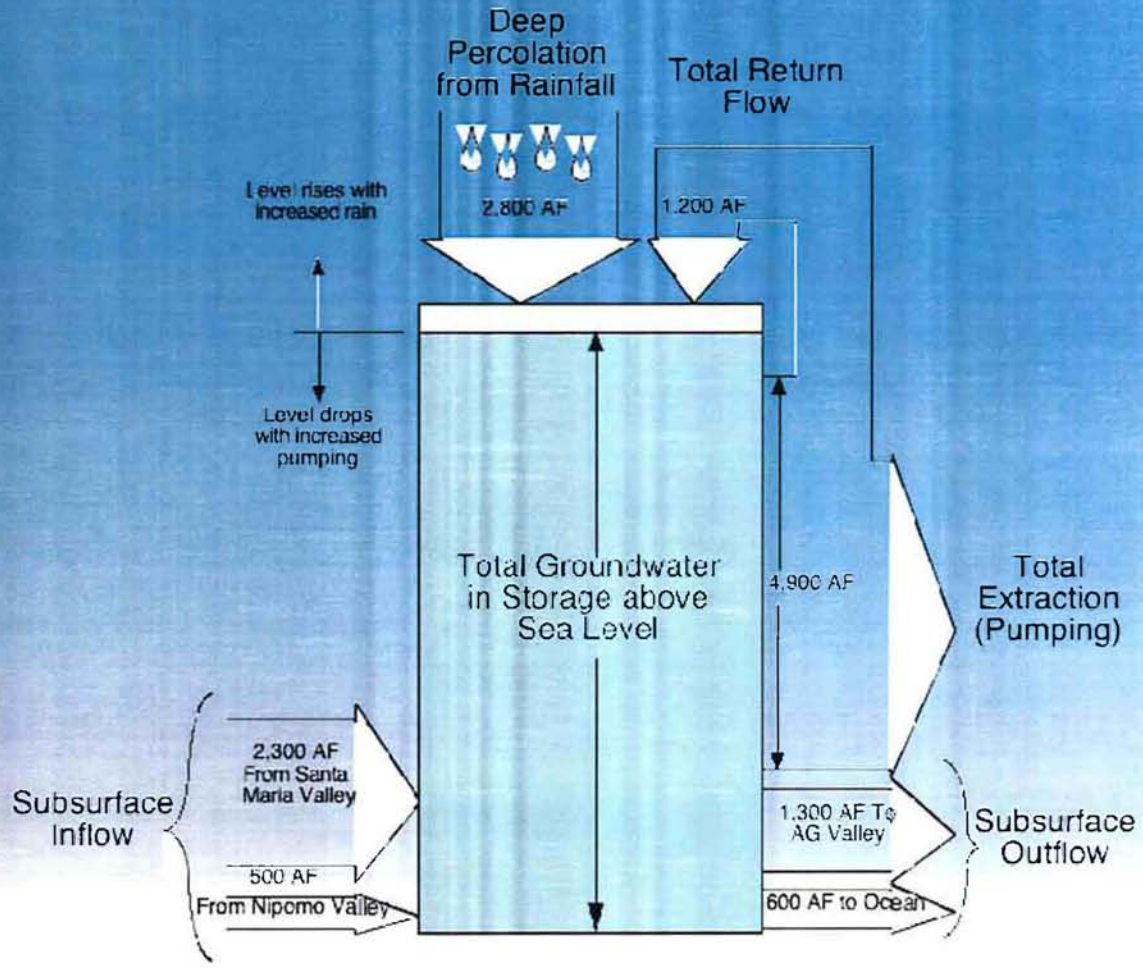
… it is groundwater pumped from beneath us.

Most communities have multiple sources of fresh water

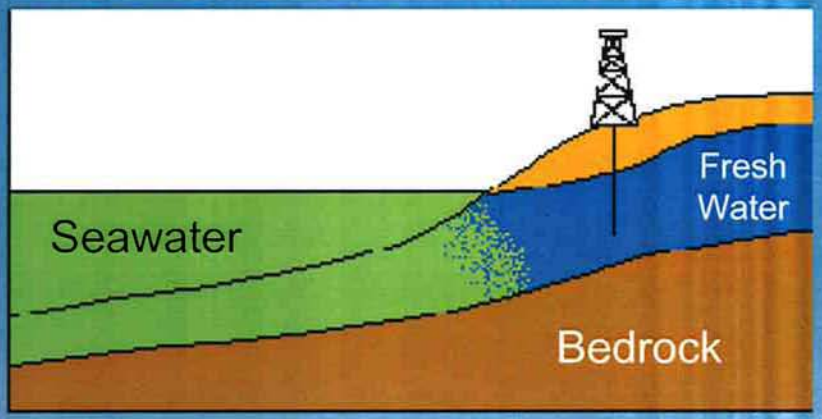
- Pismo, Arroyo Grande, Grover Beach, and Oceano have Lopez Lake, State Pipeline, and Groundwater
- Santa Maria has State Pipeline, Twitchell Reservoir and Groundwater
- San Luis Obispo has Nacimiento Lake, Santa Margarita Lake, Whale Rock Reservoir, State Pipeline, and Groundwater

Nipomo has only Groundwater as its single supply

A Complex View of Our Water Supply

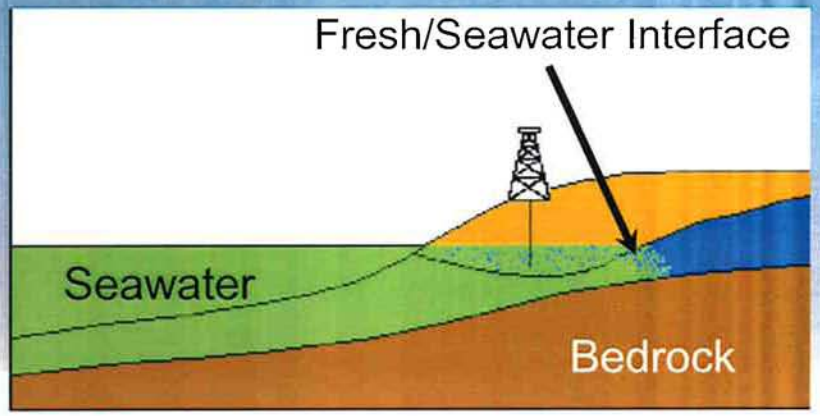


We share our aquifer with the Pacific Ocean



When fresh water table stays above sea level…

Seawater stays offshore.

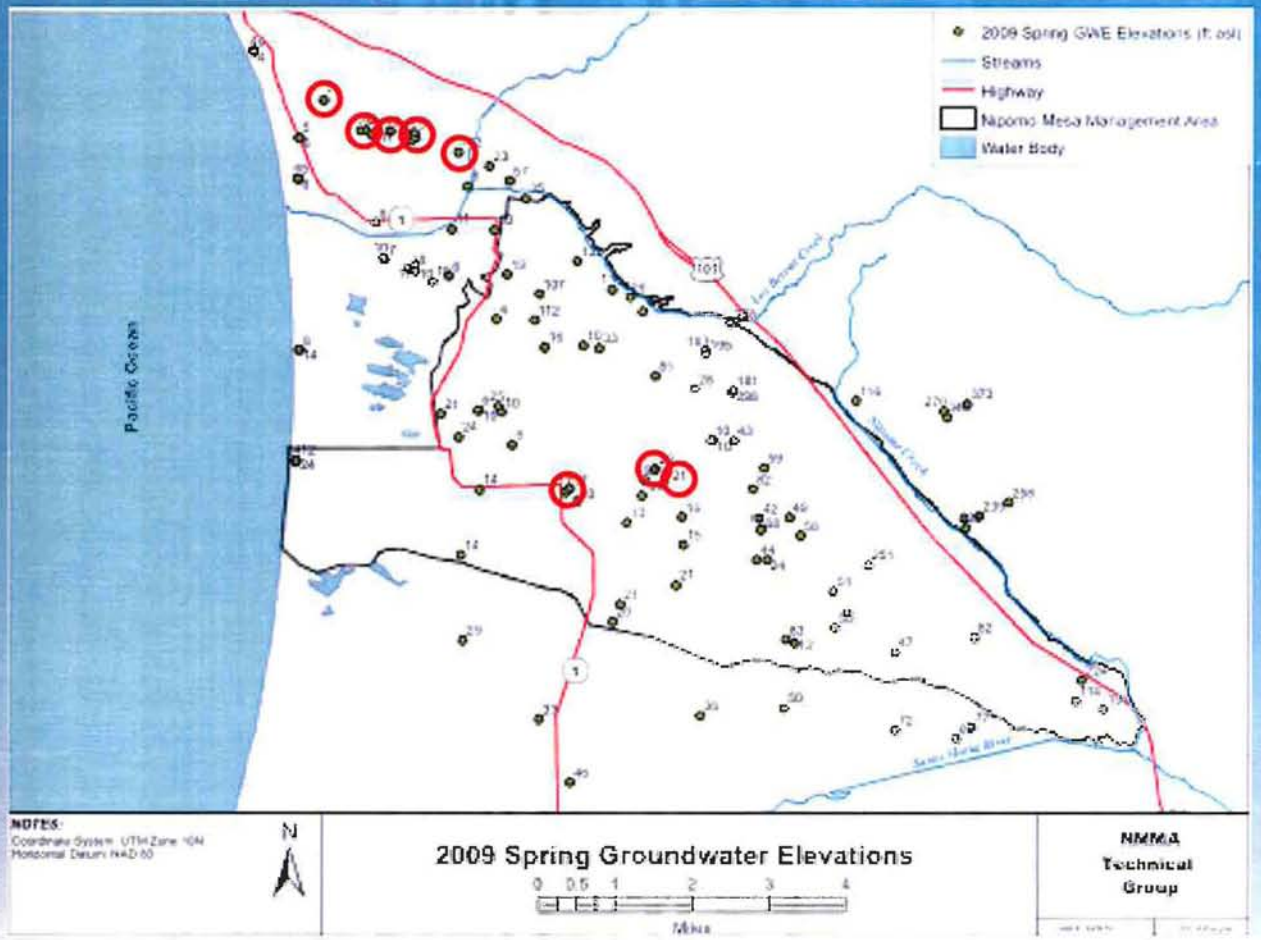


Too much pumping…

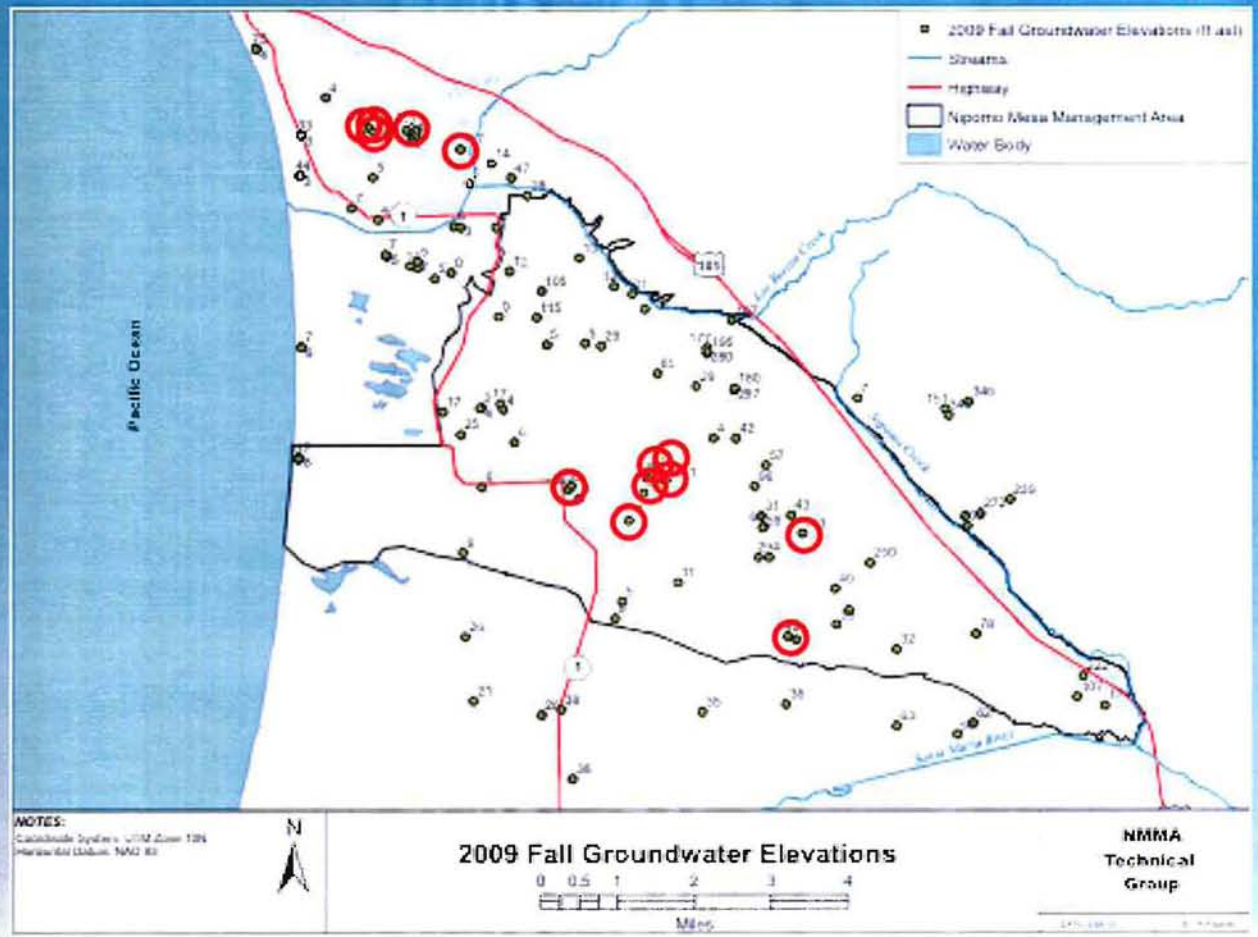
Can cause the fresh water table to fall below sea level…

Creating an invitation for seawater intrusion.

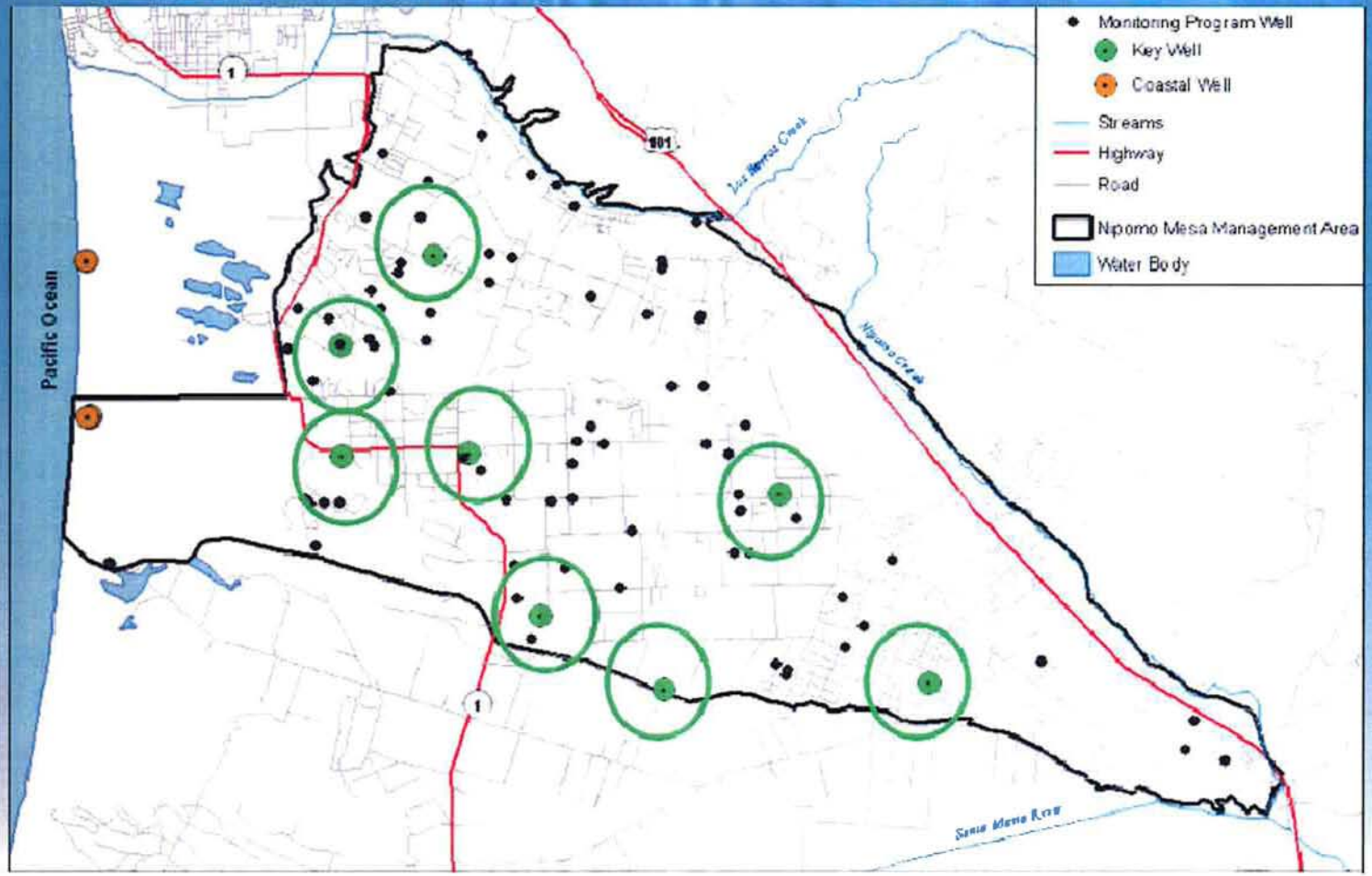
Below Sea Level Groundwater in 8 Wells



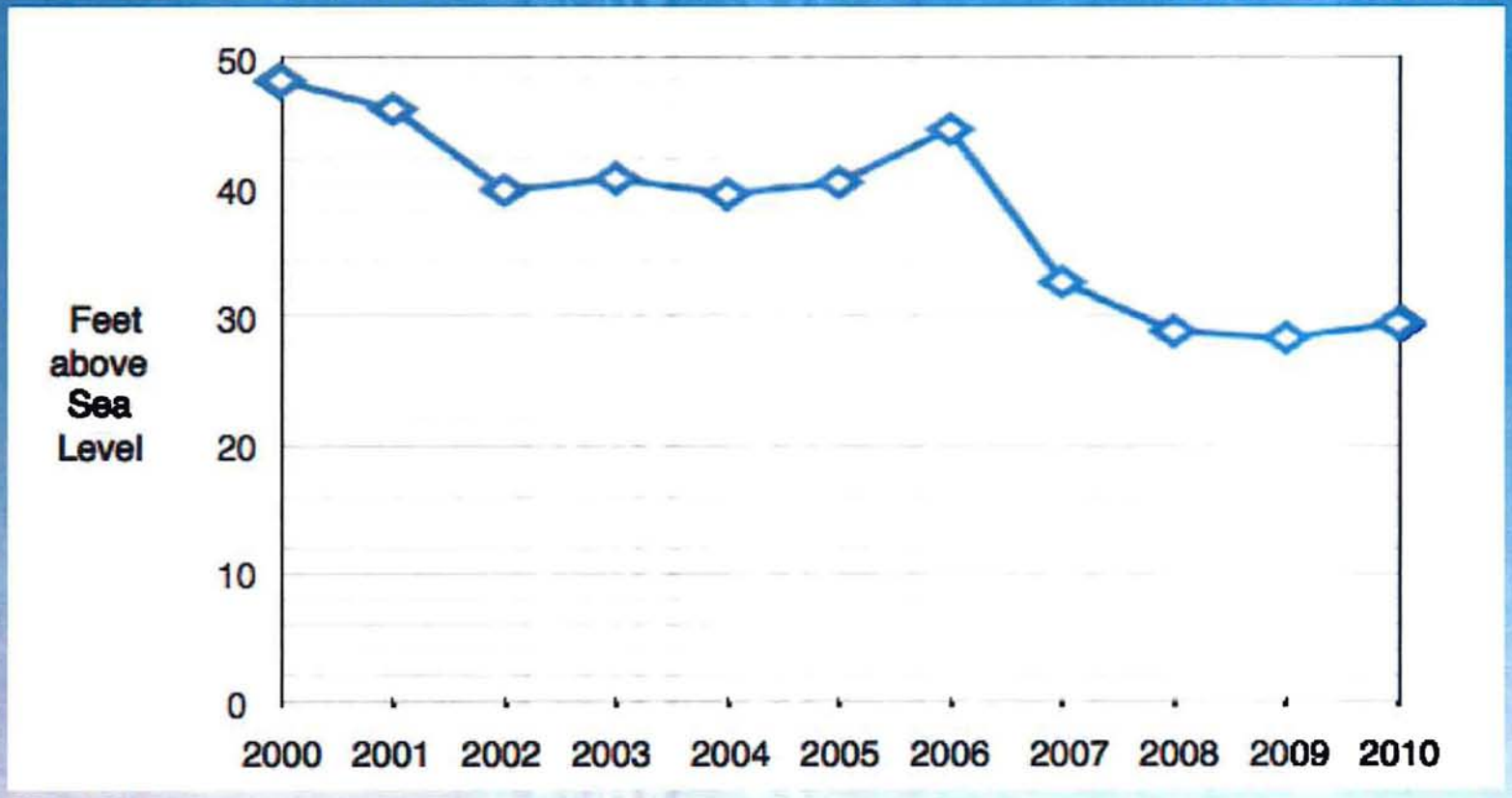
Below Sea Level Groundwater in 13 Wells



Inland or Key Wells



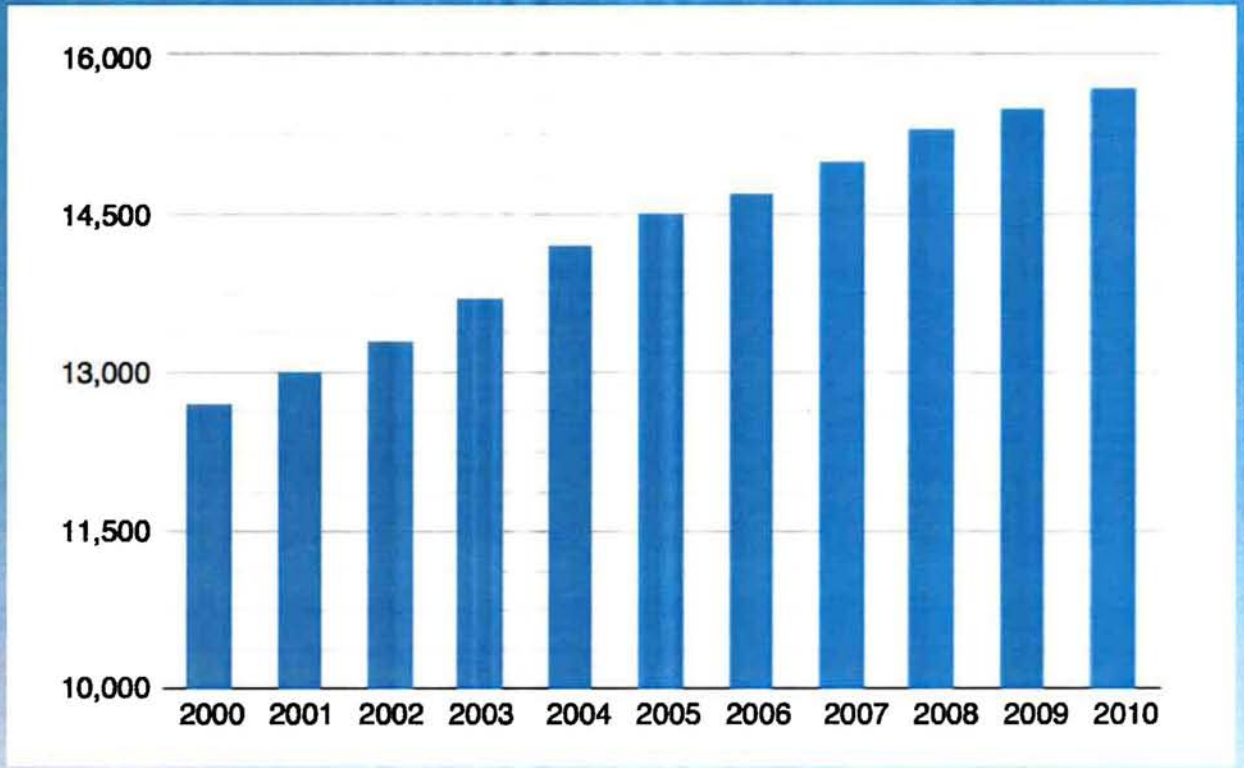
Average Water Levels in Key Wells



Key Well Index dropped 40% between 2000 and 2008

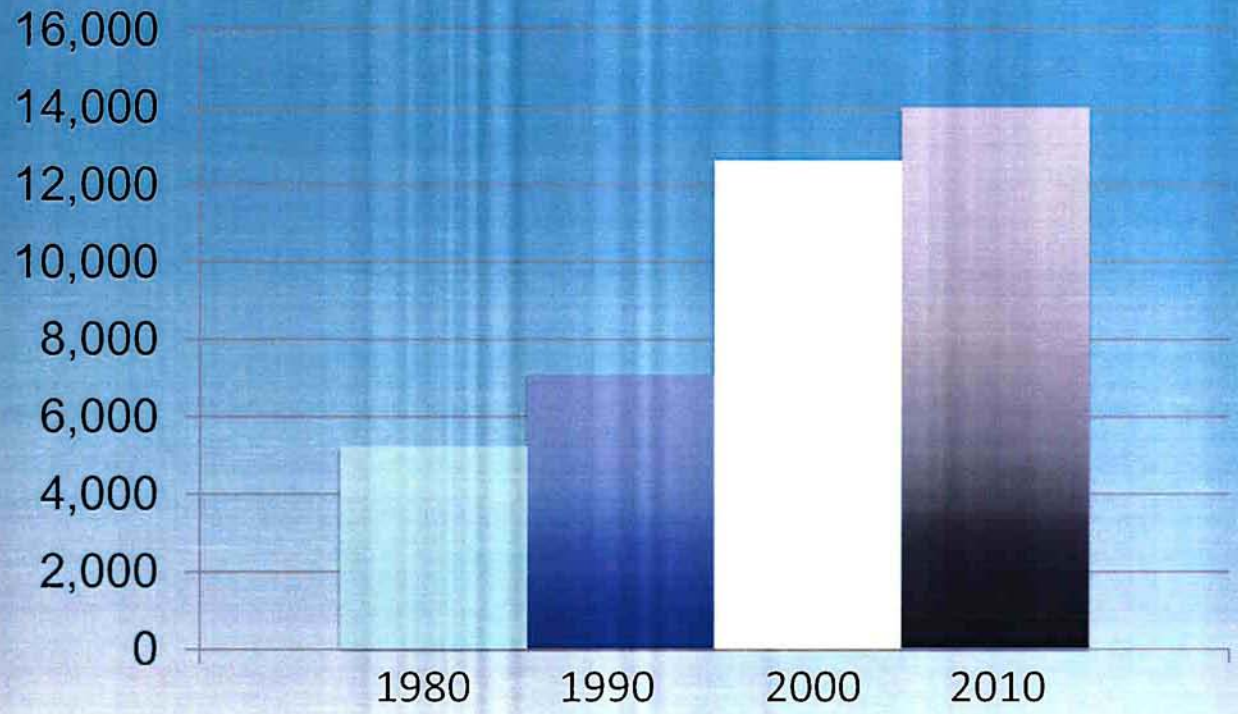
Why are groundwater levels dropping?

NCSD Population Growth



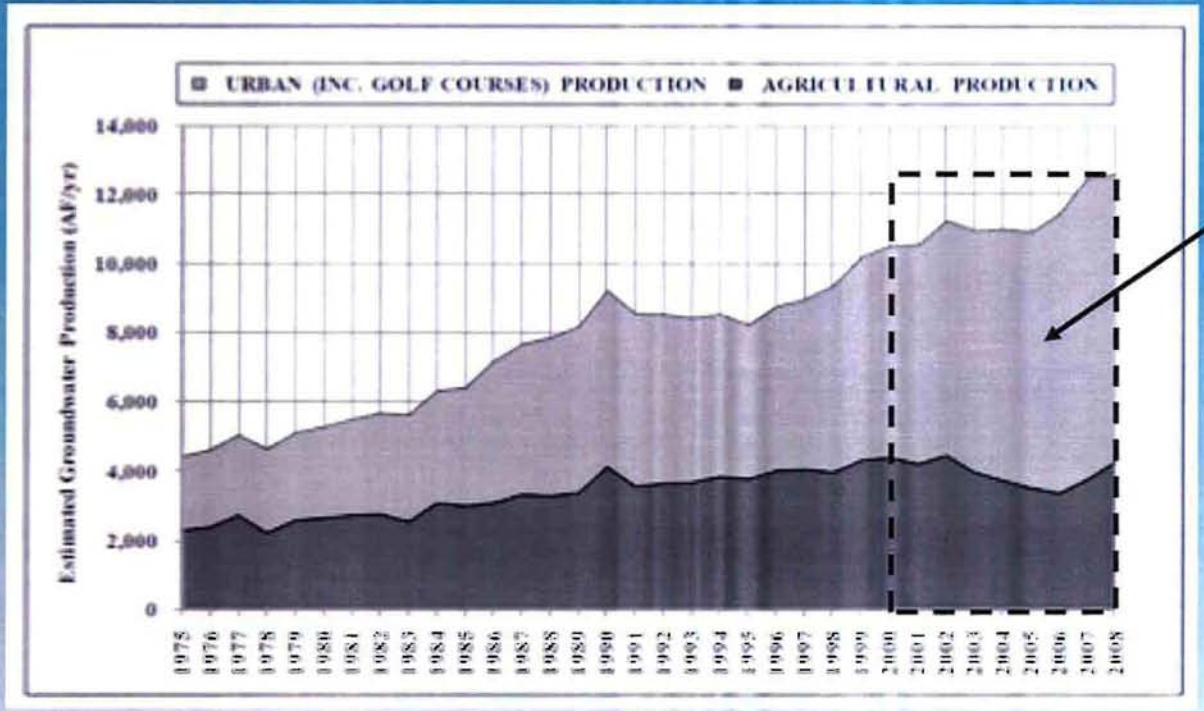
NCSD Population Grew 20% between 2000 and 2008

Nipomo Mesa Population Growth



Nipomo Mesa Population Grew 11% between 2000 and 2010

Nipomo Mesa Water Use Increase



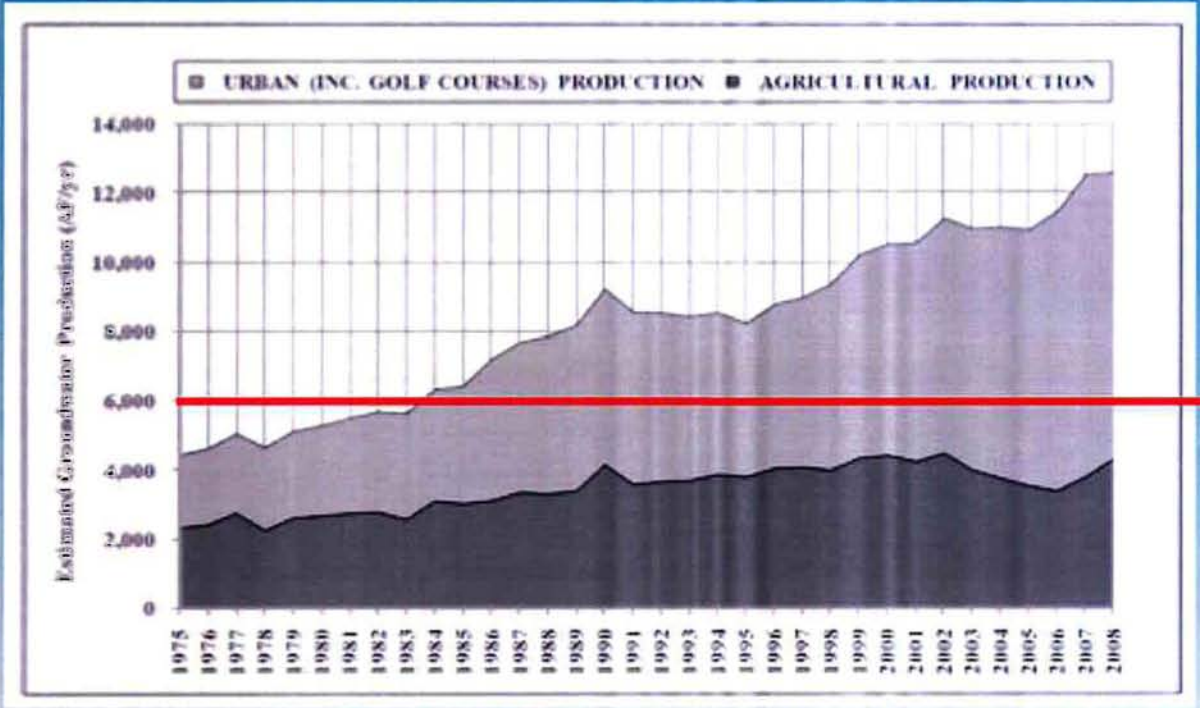
Urban water consumption increased 50% between 2000 and 2008

Is the increase in groundwater consumption and lowering of groundwater levels a problem?

Water experts use a term called "Dependable Yield"

- Average yearly amount of water than can safely be pumped without adverse effects
  - -Seawater intrusion
  - -Subsidence
  - -Permanently lowered groundwater levels
  - -Degraded water quality
- Dependable Yield for Nipomo Mesa – no more than 6,000 acre-feet per year
- Since ~1984 we have been pumping more than the dependable yield

We are pumping twice the dependable yield



Dependable Yield

Since we are next to the Pacific Ocean we are concerned that exceeding the dependable yield will invite seawater intrusion.

When will seawater intrusion occur on the Nipomo Mesa?

- **An exact date is impossible to predict…**

AND…

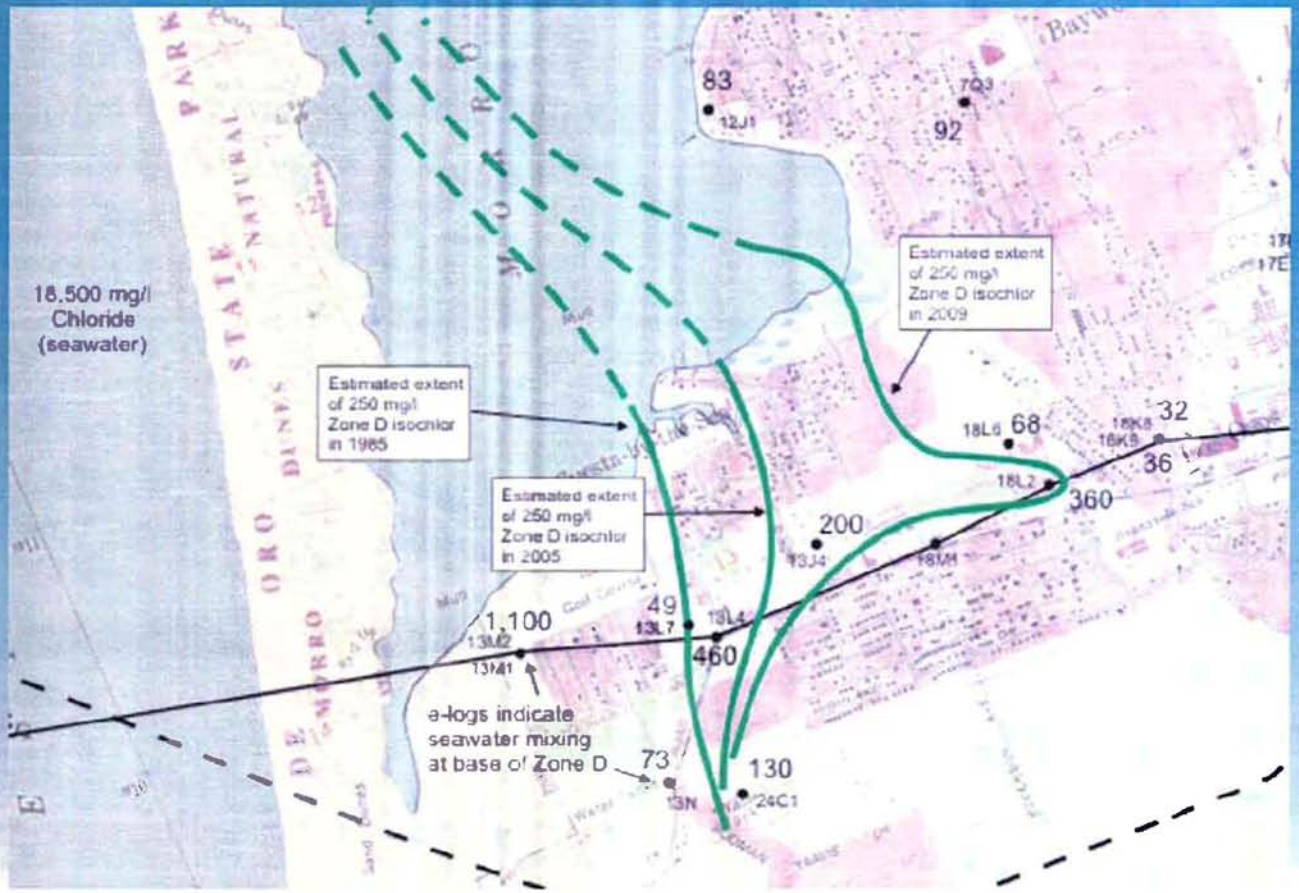
- **<u>ALL</u> cases of seawater intrusion elsewhere started with:**
  - Pumping aquifers beyond the dependable yield
  - Consistent dropping of water levels in wells
  - Well levels falling below sea level

Why the concern now?
Has seawater intrusion happened before?

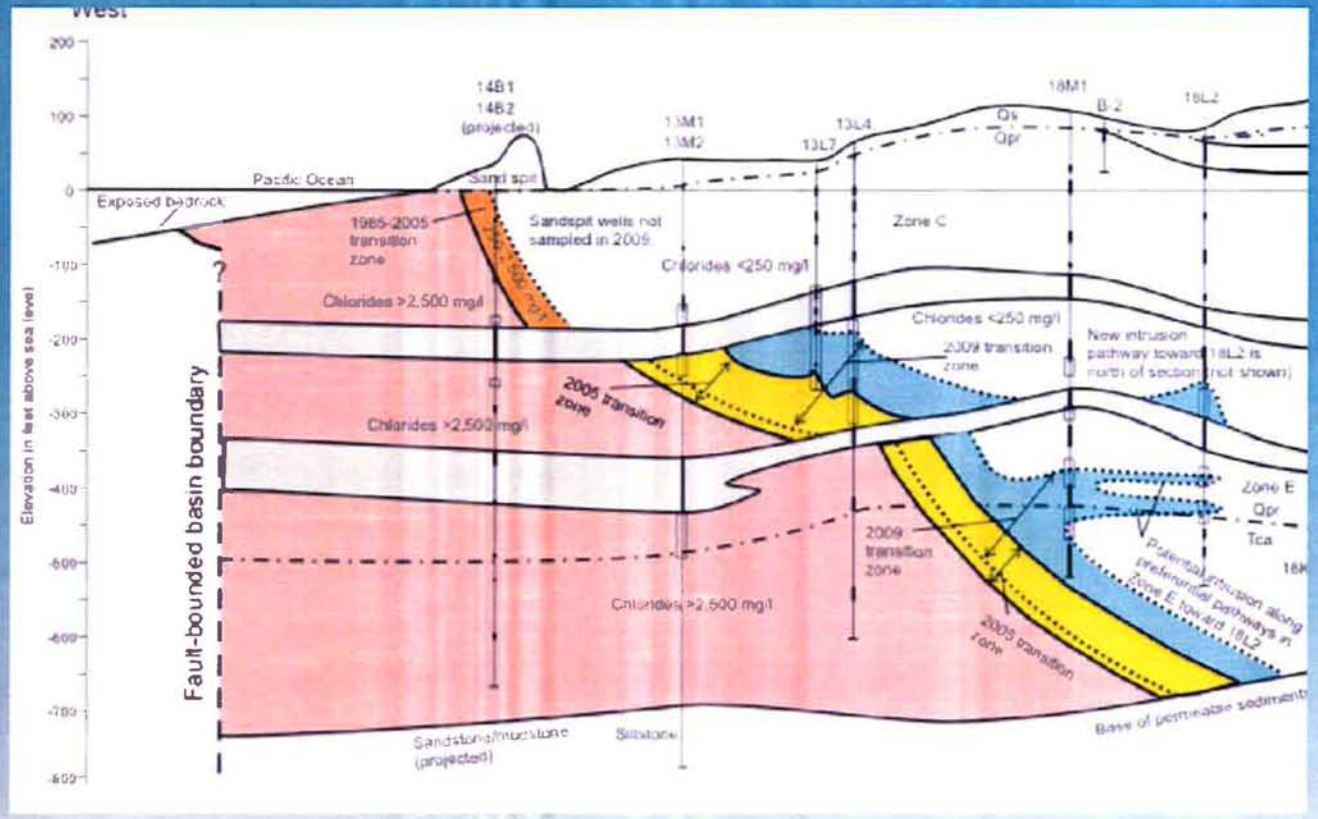
- Seawater intrusion has been experienced all along the West Coast.
- Serious seawater intrusion has been documented in **Los Osos** since before 1985.
- **Oceano** had its first recent episode of seawater intrusion in 2009.

The threat of seawater intrusion is real.

Los Osos Seawater Intrusion



Los Osos Seawater Intrusion



2 Miles

Oceano Seawater Intrusion

Pier Avenue Sentry Well
1/2 Mile Inland

- Oceano had a recent episode of seawater intrusion in 2009
- August and October 2009 measurements in sentry wells showed seawater intrusion
- Preceded by two years of well levels as much as 10 feet below sea level
- Reduced groundwater pumping by up to 90% and used alternate supplies
- Long term solution is to get access to more State Pipeline water and pump less groundwater

The Nipomo Mesa has only ONE source of water…

… it is groundwater pumped from beneath us.

History

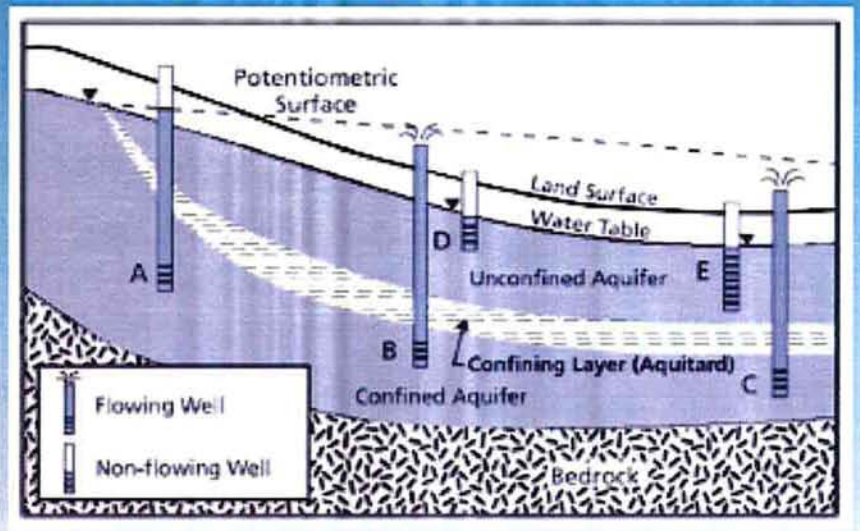
How did we get in this predicament?

Mike Winn

NCSD Board Director

Once the Mesa had plenty of water

- Unlimited growth (but few wanted to live here)
- New wells were often artesian



Planning Paradigms

Old (pre-2000) Model:

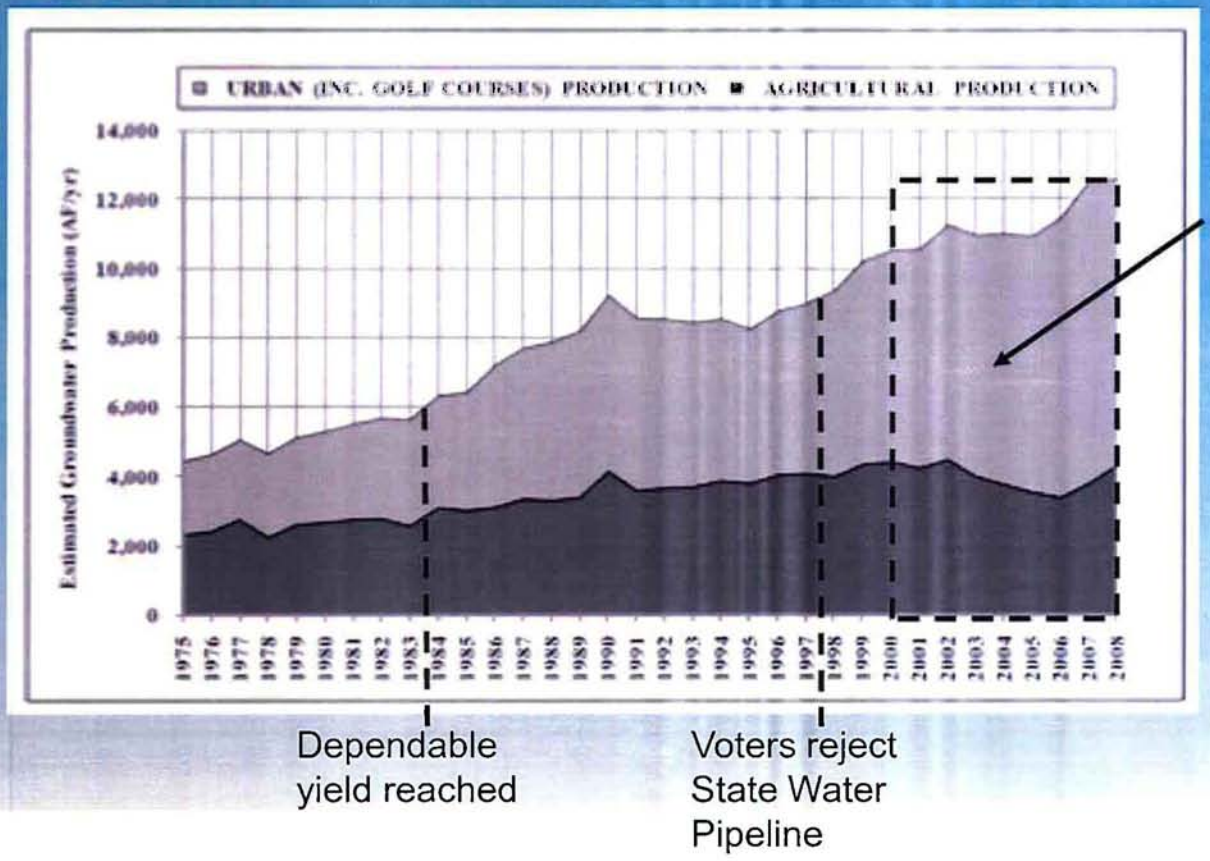
"The County does the planning: CSDs must provide whatever resources are required."

[CSDs, by State law, do not have planning powers.]

New Model (as of ~2000):

"The County does the planning within the resources a CSD can provide (and must rely on the CSD's UWMP for resource facts)."

Nipomo Mesa Water Use



Urban water consumption increased 50% between 2000 and 2008

Dependable yield reached

Voters reject State Water Pipeline

Summary: Water Studies of the Nipomo Mesa

Published	Source	Area	Conclusions
1979	DWR	Nipomo Mesa Subarea	Evidence of overdraft
1990	DWR	Nipomo Mesa Subarea	Evidence of overdraft
June 1990	SLO County	Nipomo Mesa Subarea	~350 AF/yr overdraft
October 1993	Lawrence, Fisk & McFarland	Nipomo Mesa Subarea "within AG Groundwater Basin"	1,200 AF/yr overdraft
1993	WPA-6	Nipomo Mesa Subarea	Urban development has negligible effect on basin
April 1994	SB County Water Agency	SM River Valley	Usable volume = 10M AF Nipomo 1991 volume = 250K AF Total recharge in good rain year
June 1997	SM Valley Water Cons. Dist.	SM River Valley	Basin not in overdraft South and central Nipomo Mesa recover completely in wet years No seawater intrusion

Summary: Water Studies of the Nipomo Mesa Area (2)

Published	Source	Area	Conclusions
June 1999	DWR	Nipomo Mesa Subarea	Perhaps in overdraft, but overdraft 3K AF/yr by 2020
January 2000 (draft)	DWR	AG-Nipomo Mesa Area	800 AF/yr now, 2K AF/yr overdraft by 2020
April 2002	DWR	AG-Nipomo Mesa Area	Water budget shows overdraft, safe yield analysis shows none at present
2004	SO County Metastudy (Papadopulos)	Nipomo Mesa Water Conservation Area	Overdrafted and consistent with SLO County LoS III Severity
January 2005	Santa Clara Court (final ruling)	Nipomo Mesa Management Area	SM Basin is one basin, but NMMA has significant pumping depressions "a physical solution is necessary" "... a reasonable likelihood that drought and overdraft conditions will occur in the Basin in the foreseeable future."

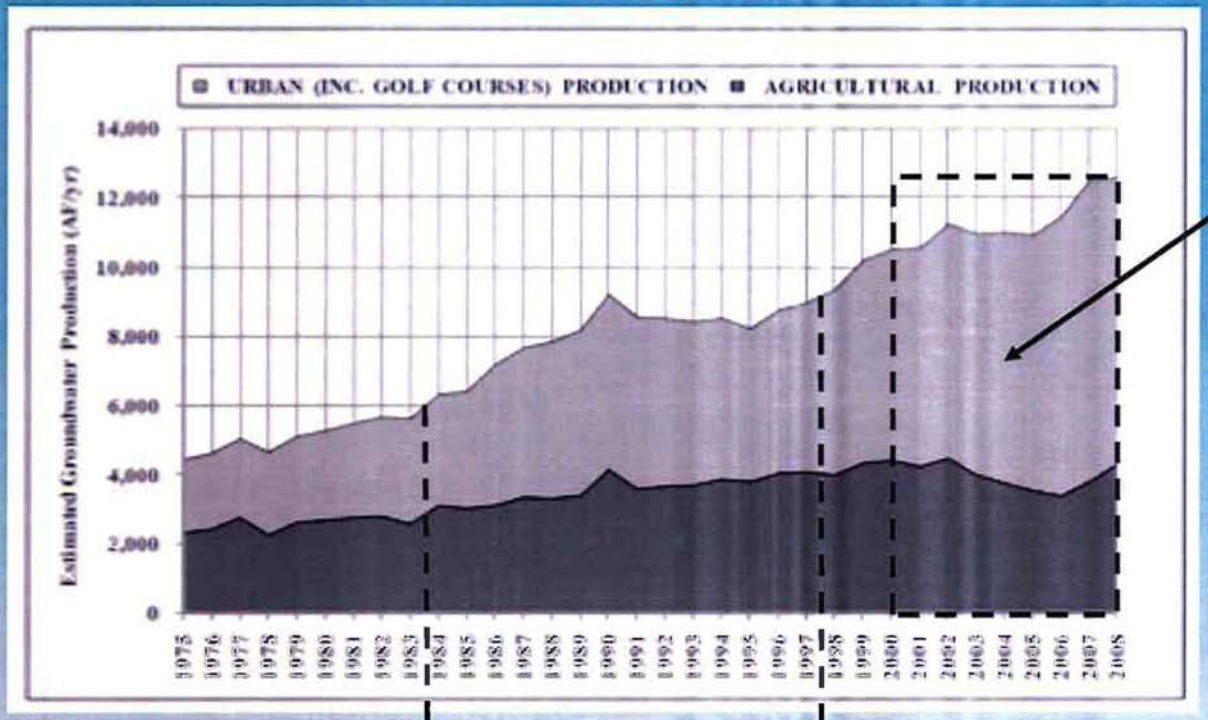
Convergence of Legislation & Legal Decisions Result in More Local Control

- *Stanislaus Natural Heritage v. County of Stanislaus 1996*
- *County of Amador v. El Dorado County Water Agency 1999*

  [CEQA must evaluate long-term water supply]

- Urban Water Management Plans 2001
- LAFCO requirements
- OPR 2002 General Plan Guidelines : Water Element
- State Water Plan 2003
- Attorney General bill linked General Plans for water

Nipomo Mesa Water Use



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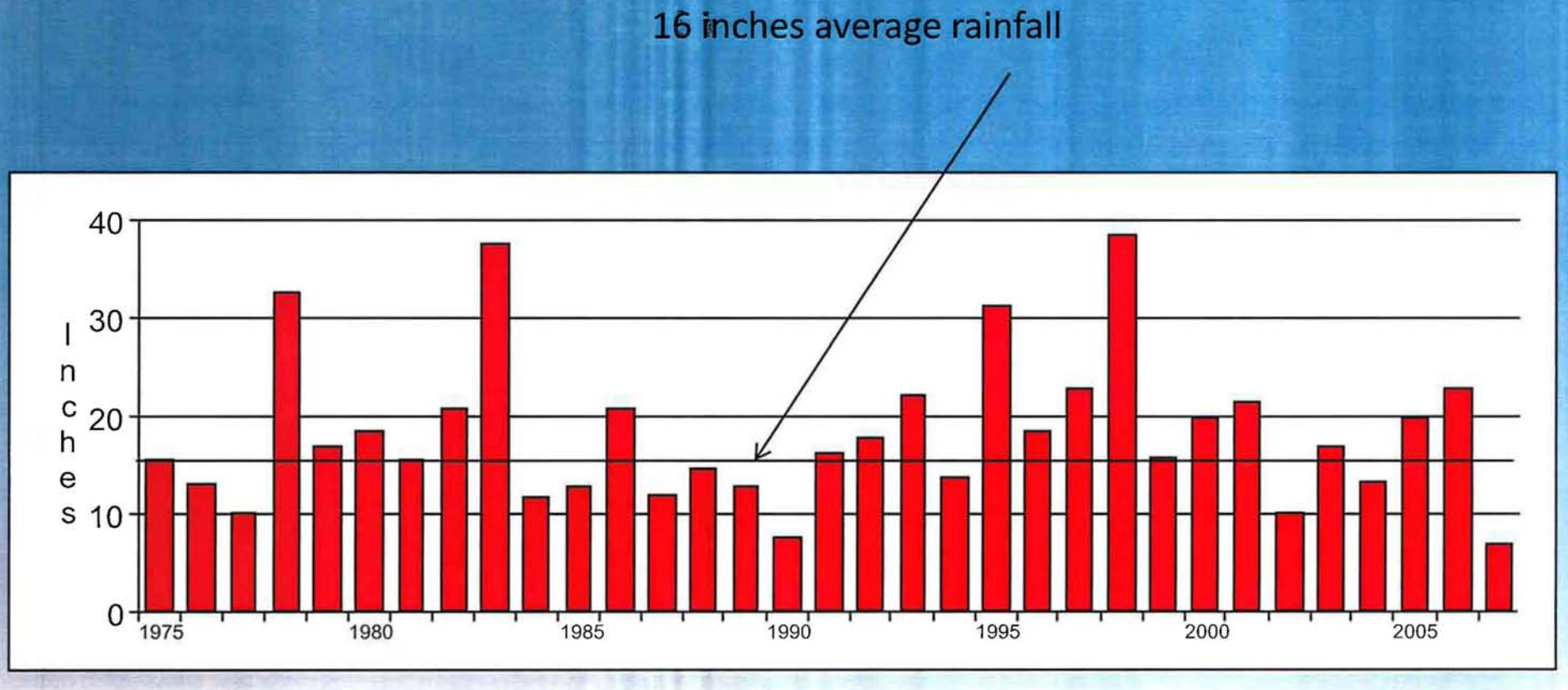
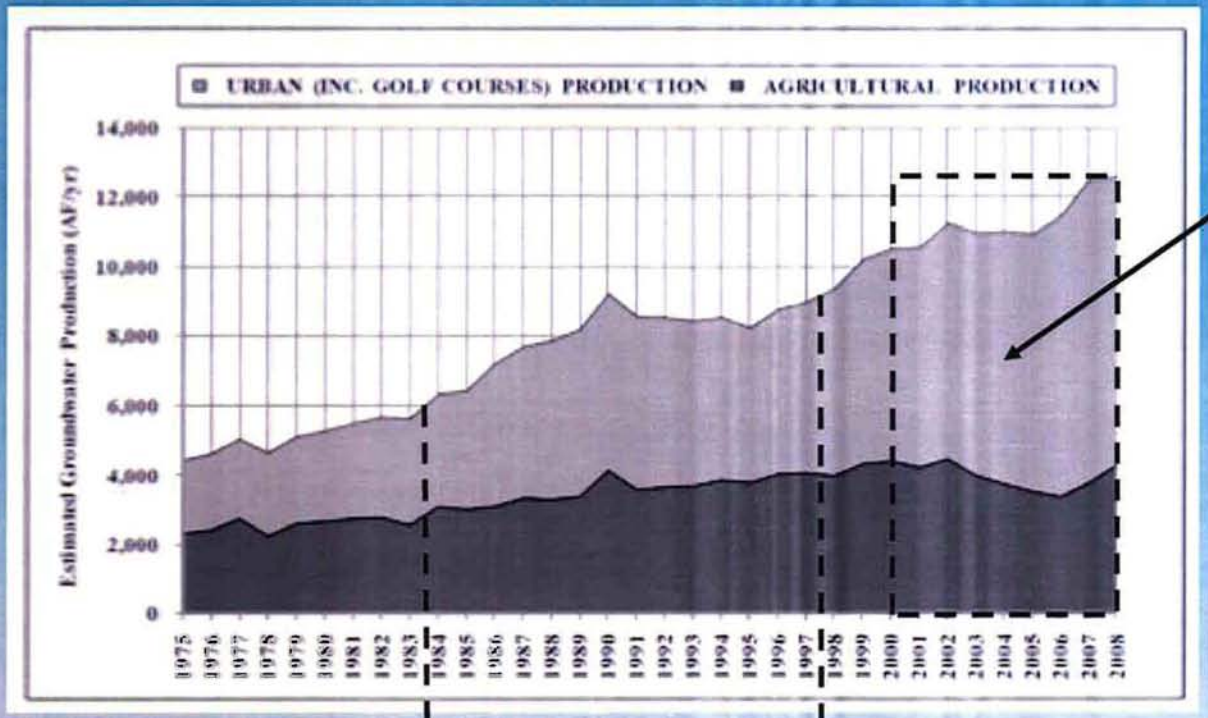
Nipomo Mesa Historical Rainfall



Nipomo Mesa Water Use



Urban water consumption increased 50% between 2000 and 2008

Dependable yield reached

Voters reject State Water Pipeline

Facts that cannot be changed:

1- Farmers and private well owners have first rights to the groundwater under the Mesa, with no obligation to reduce pumping (beyond “reasonable and beneficial use").

2- The CCWA ("State") pipeline was sized to carry no more water than what was originally contracted for.

3- Desal is our only long-term sustainable alternative source, but it will be MUCH more expensive and take as much as 15-20 years to get through enviro & regulatory hurdles.

Finding the Right Solution

Michael LeBrun

How can we avoid seawater intrusion?

We are using twice as much water as is being replaced by rainfall.

This cannot be sustained.

- Half the water used on the Mesa is residential.
- We have no legal rights to restrict the other half.

Importing water will allow reduced groundwater pumping for residential users.

What have we studied to solve the problem?

- Santa Maria Connection ------> Promising
- Conservation ----------> 100% urban reduction required
- Desalination ----------> $100M, 15-20 years
- State Water Pipeline ----------> Owners unwilling to sell water
- Other Pipelines ----------> $2M/mile, no supply nearby
- Building Moratorium ----------> Not THE solution…

A building moratorium would not solve the problem – only keep it from accelerating

- Existing water consumers on the Nipomo Mesa still use twice as much water as is being replaced.
- Stopping growth would not stop the decline in our fresh water supply - it would only keep it from accelerating.
- Our water supply would continue to decline with the existing population
- We would need to reduce population to the mid-1980s level to achieve a water balance

We are LISTENING...
Feedback – Your suggestions

- Desalinization
- Conservation
- State Water Pipeline
- Building Moratorium
- Santa Maria Pipeline
- Oceano Pipeline

- Stop sending expensive brochures/fancy paper
- Expensive lawyers and consultants
- Lower NCSD salaries
- Eliminate lawns (conservation)
- Rainwater harvesting
- Stop Twitchell releases

Buying water from Santa Maria is the best solution

- Exhaustive expert studies concluded this approach is best
- Adequate supply available (3,000-6,000 acre-feet per year)
- Pipeline could be built in under two years
- Pipeline design ~100% complete and ready for bid
- Construction costs ~$25M including $3M already spent for design and permits

What do the experts* recommend?

"The TG recommends that the Nipomo Supplemental Water Project be implemented ***as soon as possible***."
(2nd Annual Report, Calendar Year 2009)

"The TG recommends that the Nipomo Supplemental Water Project be implemented ***as soon as possible***."
(3rd Annual Report, Calendar Year 2010)

*Nipomo Mesa Management Area Technical Group (TG)

What's Next?

Financing Proposal

- Property Tax Assessment to Cover Capital
- Property Owners would vote via mail ballot
- More information is coming…

In Conclusion

- Our goal is to continue to provide a long-term reliable supply of water
- We only have **ONE** single source of water - AND - The threat to our water supply is REAL.
- We have a solution:
  - Responsible
  - Prudent / Lowest Cost
  - Near Term
  - Realistic - to protect our local quality of life on the Mesa
- Our commitment: keep the community informed.