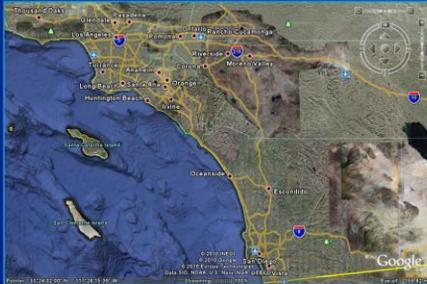


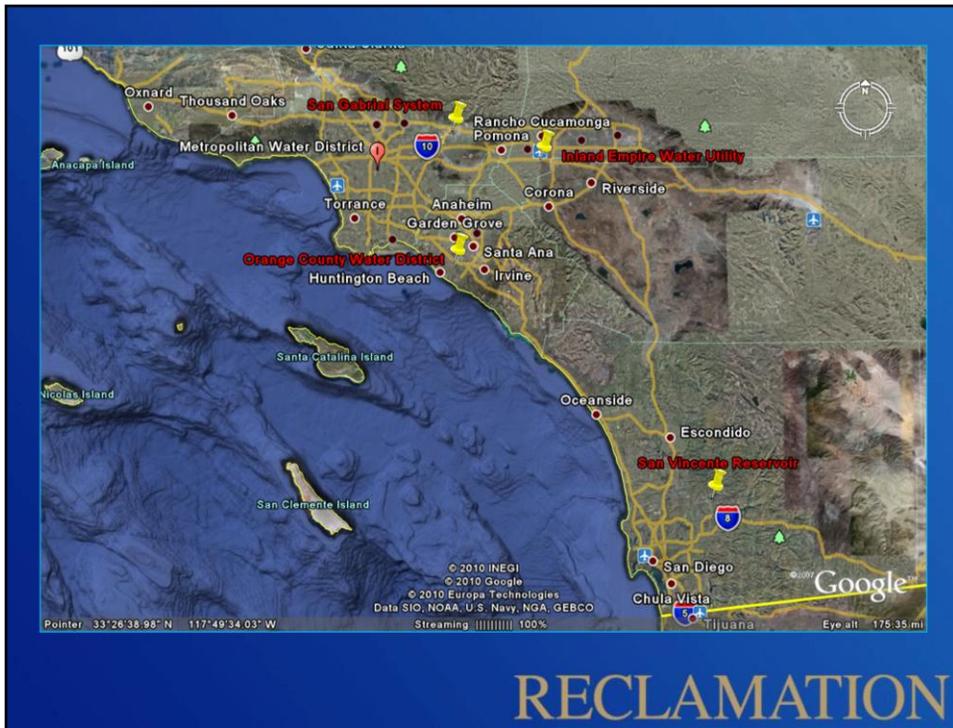
Public Perceptions

Water Recycling in Southern California



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RECLAMATION



Last week I spent a couple of days in S. California, talking to 4 different entities about their successful and unsuccessful water recycling projects....and the effect public perception had on their success or failure.

I met with the city of San Diego, The Orange County Water District, The Upper San Gabriel Municipal Water District, and the Inland Empire Utilities Agency...which is also a municipal water district.

I want to set the stage for you with a little bit of history..... Then I will go thru the experiences of each of the 4 districts....focusing on their interactions with the public.

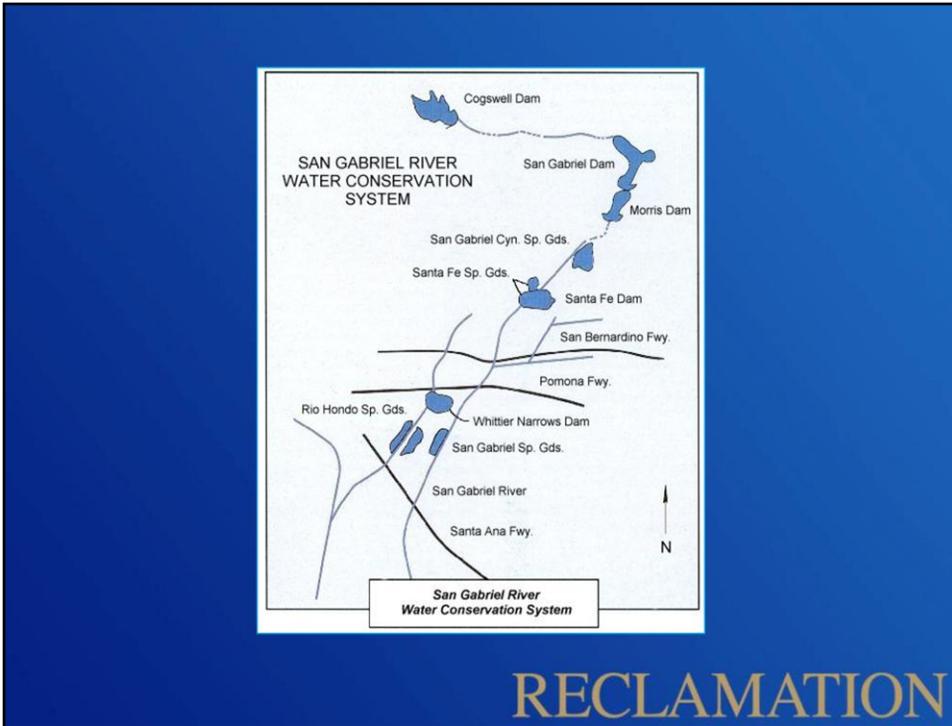
And I am talking “public” in the broadest sense: regulators, agencies, businesses, citizen groups and individuals.

In S. Calif, including San Diego and the Inland Empire, they have been recharging and using treated effluent for irrigation for 40+ years without any major issues.

In the San Gabriel River Valley, they have been recharging treated effluent, along with state project water and Colorado River water since the late 60’s. They understood the potential for problems and did extensive studies of the health effects, based on the constituents they know about.

By the mid-70’s Orange County was injecting advanced treated effluent as a sea water barrier, in Water Factory 21.

But no one was really proposing indirect potable reuse. So, lets go back to the San Gabriel area to pick up the story of recent efforts to use treated effluent as an indirect potable supply.



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Here is the entire San Gabriel recharge system.

Take particular note of Santa Fe Dam.

It is a detention dam built by the Corps of Engineers and it is where the public perception story begins.



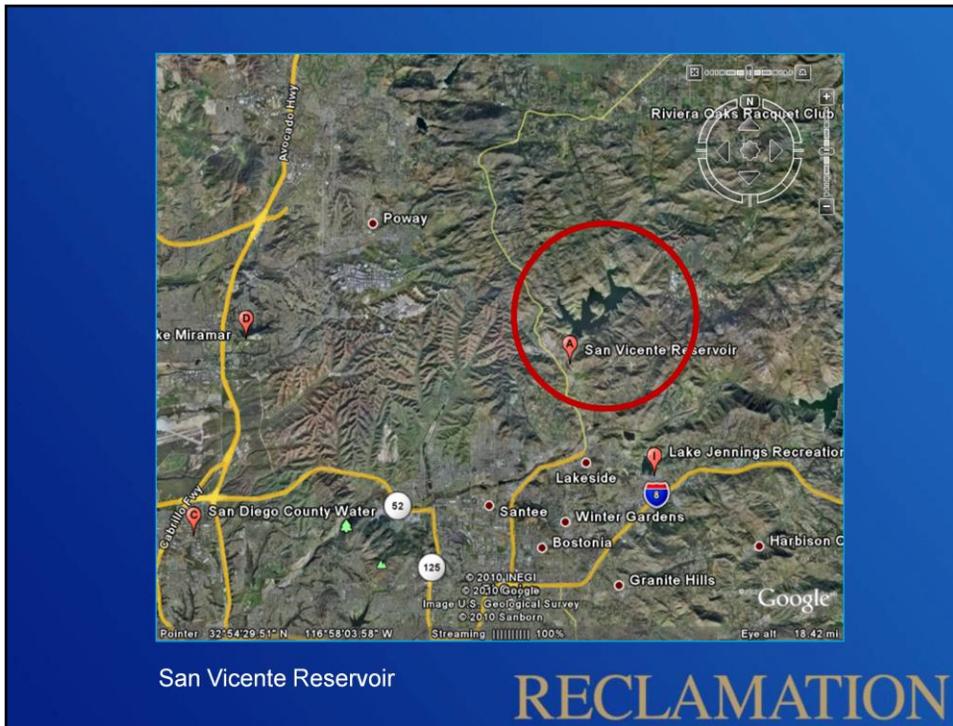
In the mid-90's the USGD decided to recharge treated effluent (and other water) at Santa Fe Dam, for indirect potable reuse.

The project went down in flames after Miller Beer (who had groundwater wells in the area) mounted a well funded and well organized campaign against the project – coining the phrase “toilet to tap”. The media loved the sensationalism – clowns and toilets at public meetings. The meat of the issue was totally lost.

After the dust settled, everyone agreed on a smaller project, ds of Miller wells. But there were still quality issues with TDS, N and S. So, USGD backed away....and invested in purple pipe for irrigation use.

In the same timeframe, LA Country Sanitation tried a similar spreading project behind another Corps detention Dam.

This time, the project fell victim to politics. The San Fernando Valley was threatening to succeed from the city of LA. The mayor did not want to do anything else that might be controversial. So the project was shelved.



In the late 90's, the city of San Diego planned to take treated effluent from this northern area of the city, and put it in San Vicente Reservoir, for eventual potable use.

Once again, the project was a victim of politics.

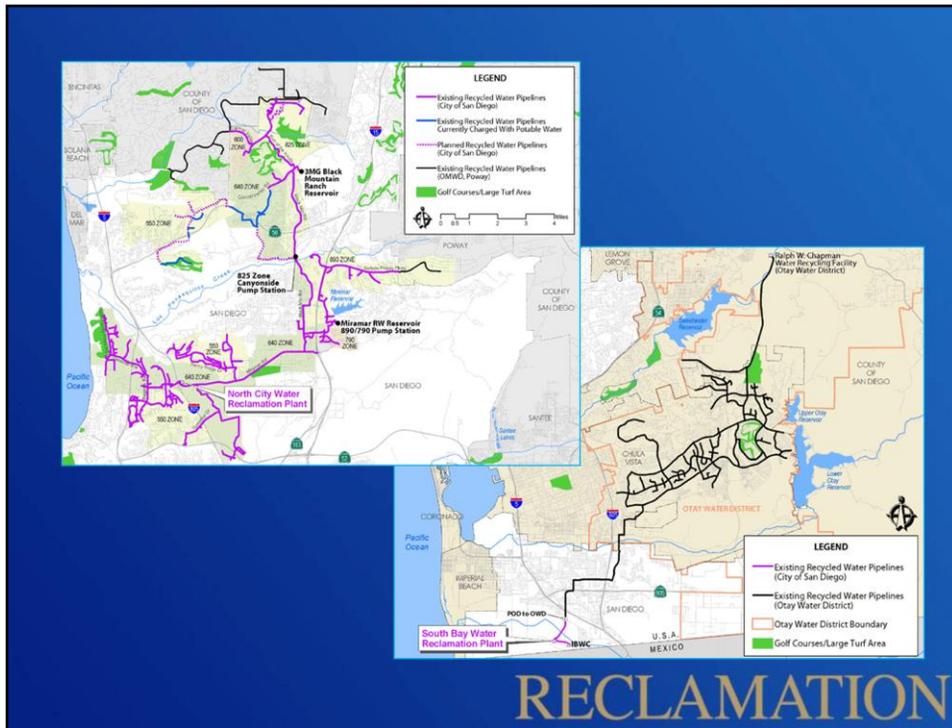
A candidate, running for state assembly, used it as a campaign issue.

Up until that time, the project appeared to be on track.

Then all the politicians got cold feet.

Didn't help that the project had a perceived environmental justice issue.

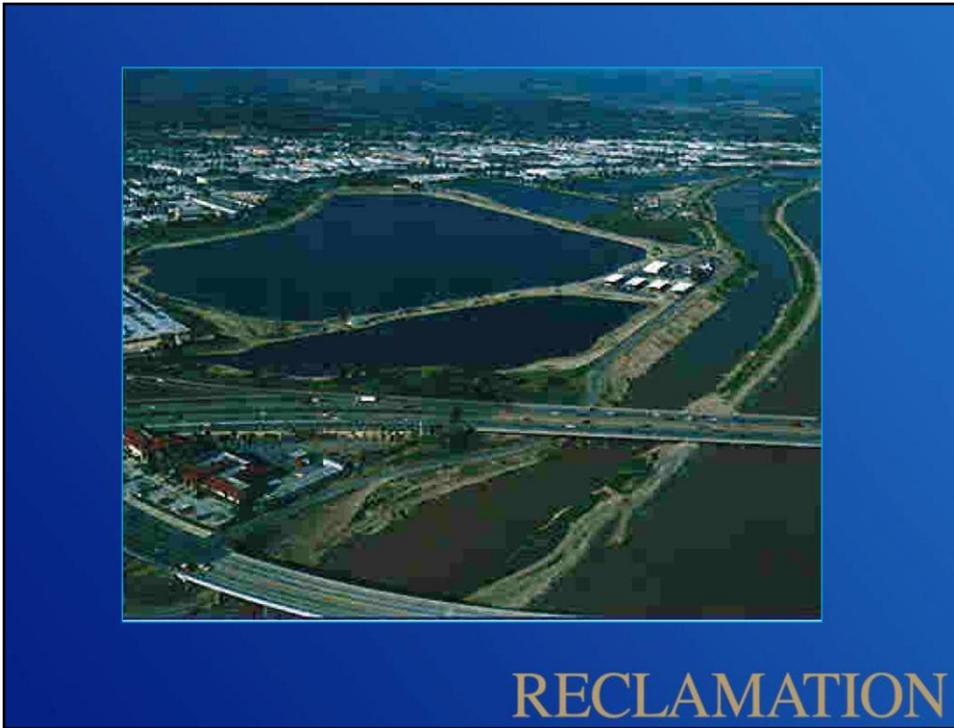
Rich folk's effluent going to poor folks.



San Diego had to do something with the effluent.

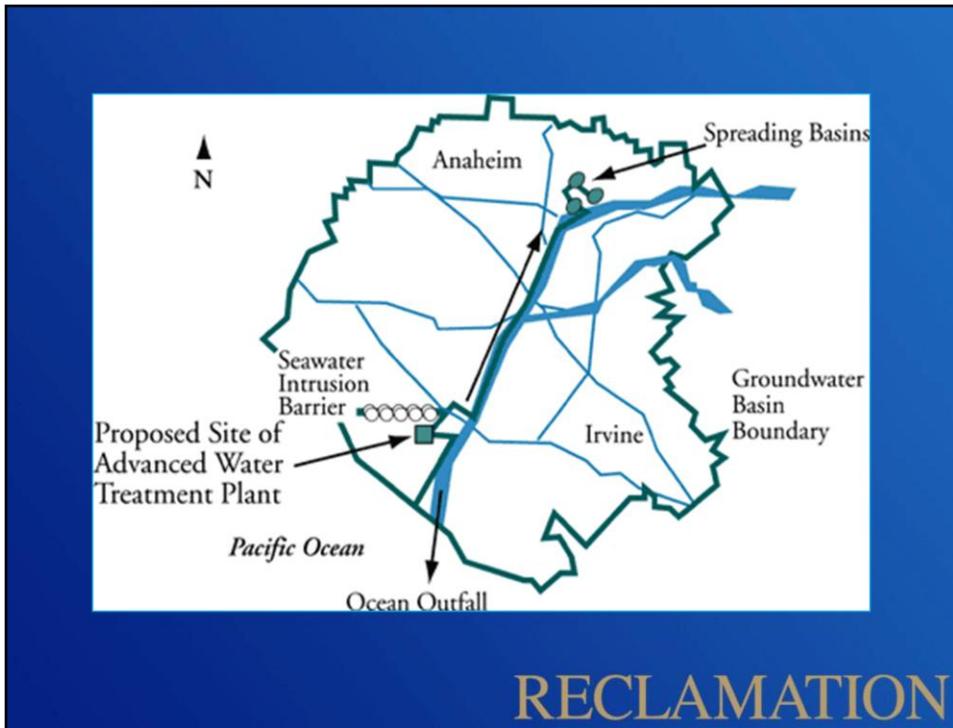
So, San Diego invested in lots of purple pipe too.
It was easier....and it was necessary.

SD had agreed to build the N and S WWTPs to reuse effluent.
The plants were part of a deal with environmental community.
San Diego could continue to have only advanced primary treatment at their ocean outfall,
as long as flows at the ocean outfall were reduced.



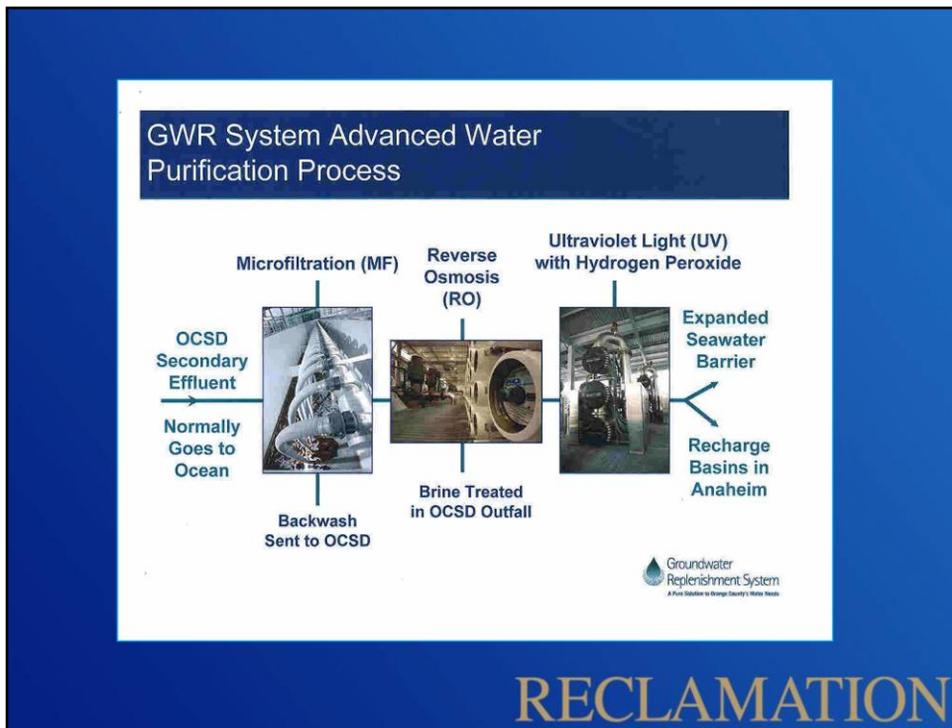
Meanwhile, Orange County, was also getting ready to do spreading of treated effluent.

They were concerned about what happened to the SD project.



They proposed to take the treated effluent to spreading basins are in and around the Santa Ana River, about 14 miles us of the plant.

And to their injection wells that form a sea water intrusion barrier.



They proposed to build a \$ ½ b, 70mgd advanced “purification” facility....using RO on 100% of the effluent.

Their project went forward while the others did not.

I want to talk a bit about what USGD and SD and doing now, and then about how OC pulled off their project.

Upper San Gabriel District

Groundwater Reliability Project

- 3 years without MWD replenishment water
- Firm MWD water \$500-700/acft
- Effluent is locally controlled and reliable

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San Gabriel is getting ready to restart.

Why – 3 years without cheap replenishment water available from MWD to offset over-pumping.

They pump from an adjudicated groundwater basin.

At some point the water master is going to have to say stop!

Firm MWD water costs \$500-700/acft.

MWD prices makes advanced treatment cost effective.

Have to find a source of replacement water or reduce their pumping.

Effluent is a locally controlled, reliable supply.

Perfect!

Upper San Gabriel District

Groundwater Reliability Project

- Hire a PR firm
- Find the right name
- Use the OC model – AWT (RO)
- Get customer support
- Do lots of outreach

RECLAMATION

What have they learned!

Hire a professional pr firm.

Use the right name...reliability sells.

Use the OC model (it worked! And RO fixes the TDS, N, S and emerging contaminate issues)

They learned from the first time to get their customers on board.

Putting together a joint powers agreement – so start-up is slow.
But they learned the importance of outreach.

It's one of the first things they have been able to agree on funding.
The fear is they are already 1-2 years behind.

San Diego

Re-purification Project

Reduce ocean outfall

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San Diego

Re-purification Project

- An aware public
- Large, diverse stakeholder process
- Professional public outreach effort
- Full media access
- Panel of independent experts
- Group of respected supporters
- A community coalition
- Environmental groups as supporters
- Science (modeling)
- A demonstration project
- Advanced water treatment (RO)

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Inland Empire Utilities Agency

- Develop a broad outreach program
- Get environmental support
- Keep relationships with political and community leaders
- Use your local experts and celebrities
- Focus on reliability of the effluent supply
- Be aware of big city water politics

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I heard much the same message from Inland Empire Utilities Agency. They have been recharging tertiary treated effluent for years without any issues.

They credited some of that success for being small and under the radar. Even so, they echoed the need for outreach and support within the community.

Use your local experts...and your celebrities.
The regulators want the experts.
The public wants Ed Begley Jr.

While RO might be expensive, they gave me a good example of why reliability is so critical, especially to business:
W/o water, the oil industry loses \$1m an hour.

Finally, the GM had an interesting take on big city water politics.
(Pretty political guy and president of National Water Reuse Assoc)

And he contends that big cities don't do public works well – too many stove pipes. When he worked with SD and LA, he was doing shuttle diplomacy between the city departments.

As a big city, you have to be careful not to be your own worst enemy....

Orange County Water District

Orange County Groundwater Replenishment System

- No MWD replenishment supplies available
- Needed locally controlled, reliable source
- Decided to go 100% RO

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So that brings us to OC – the gold standard!

They were looking at a \$480m project.

Why was OC looking at such an expensive project?

- 1 no replenishment water
- 2 need for reliable source
- 3 decision to go 100% RO

(did the Board realize they were setting the standard for everyone else?)

Orange County Water District

Orange County Groundwater Replenishment System

Investment
in outreach

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What is it that they did that made them successful?

Investment early in outreach.....they said they spent \$4m/10 years.

1% of project cost, but good investment...since they were the first to be successful.

Orange County Water District

Orange County Groundwater Replenishment System

- Do early education – water 101
- Be up-front: purification....sewer water
- Get written support from all political levels
- Get environmental support
- Get health and medical community support
- Get general public support
- Get religious leaders and schools on board

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How did they do it?

Orange County Water District

Orange County Groundwater Replenishment System

- Hire a PR firm – for the message
- Have staff give presentations
- Do extensive minority outreach
- Continue to do a little water 101
- Create an independent panel for regulators
- Develop a community coalition
- Use advanced treatment (RO)

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Hire a professional pr firm – to refine the message and find the gigs.
They went to the Kiwanis, Rotary, DAR, chamber of commerce, mom's clubs...
(mothers were the most suspicious)

But, have staff give the presentations – 2000!

Minority outreach is important....and different!

They come from countries where they don't trust the government and don't drink the water.

People don't understand water....and politicians come and go.

So they find they need to continue to do at least a little bit of water 101 every time they give a presentation.

Their permit required the independent panel, to help the regulators.

Very important – without it, regulators were be even less inclined to do anything new.
But – what helped OC was their years of operating experience at WF21.

*** Their CLAC – community liaison action coalition – was very important...

It was a group of well known and respected supporters (like Herman Bower) who could be counted on to rebut an editorial.

Finally, their Board decided to go 100% RO – that helped the regulators and the public perception of the quality of the water.

“Natural filtration” in the recharge process was also looked at favorably.



OC Groundwater Replenishment System

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One example of the lengths to which OCWD went:

When they were doing construction, they held pizza parties and monthly tours so that neighbors knew what was happening.

Give folks info – or they will make it up themselves and it won't be positive!

They've done 4000 tours without really publicizing the availability of tours.

They now hope to build a visitors center in the future.

They clearly believe that outreach has to continue even after the project is in operation.

Orange County Water District

Orange County Groundwater Replenishment System



Develop a broad base of support

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I took 2 keys from what I heard at OCWD....and from everyone else.

The first key is to build a broad base of support.....at all levels of the community.

Orange County Water District

Orange County Groundwater Replenishment System



Build credibility.
All the time.
Every opportunity.

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The second key is to build credibility.

Use every opportunity – OCWD doesn't have "customers" so they had to search for ways.

Remember - you are being branded all the time – like it or not.

OC built credibility with the regulators by having operations experience with WF21 and with good tech staff.

They built credibility with the public thru their outreach program....and their base of support.



One final note: we struggled at our first meeting about what to do with terminology.

SD folks said that Calif had a panel in 2002 that made recommendations on how to sign effluent use.

One was to remove the skull and crossbones.

There wasn't \$ to actually do any of the recommendations....but we may be able to find the study.

They were obviously struggling with terminology too – just like us.

But I noticed something interesting in my travels about terminology:

First, all of the projects were named (by the PR firms) for why they were important: replenishment, reliability.

Not for the fact that they reclaimed wastewater.

First thing PR firm did was change name from OC Reclamation Project to OC Groundwater Replenishment System.

And second - I ever heard anyone call it anything but recycled water.

They have made it clearer to themselves and certainly to the public by tailoring their message and being consistent.

We as practitioners have to get our act together...but it will make it easier to deal with the terminology issues.

And much clearer to the public.



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