

TRANSCRIPT OF OCTOBER 15, 2008

List of Presenters:

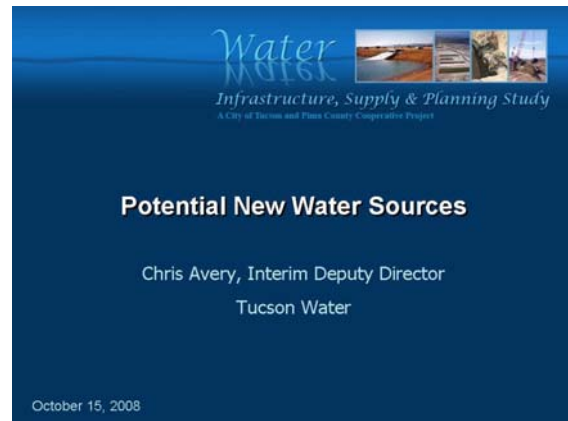
1. *Chris Avery, Interim Deputy Director of Tucson Water*
2. *Ken Seasholes, Senior Policy Analyst, Central Arizona Project*
3. *Nancy Freeman,*

CHAIRMAN JIM BARRY: We have a technical problem for Nancy, so we're going to jump to Potential New Water Sources, and we're going to start with Chris Avery and Tucson Water.

**Presenter #1:
CHRIS AVERY,
INTERIM DEPUTY DIRECTOR OF
TUCSON WATER: POTENTIAL NEW
WATER SOURCES**

MR. AVERY: Good evening, I'm Chris Avery and I'm the Interim Deputy Director at Tucson Water. And this evening we have the opportunity to talk with you about a subject that causes me trepidation. I'd like to start with a little bit of a preface, and that is that anytime you start talking about new water resources and the possibilities for new water resources, I think there are two kinds of competing dichotomies that you have to be careful that you don't go too far one, one way or the other. And one is the idea that all the water we have is all the water we have, and that there's very little likelihood that we'll be able to do anything about acquiring new water resources in Tucson, or that the municipal and industrial interests in Arizona will be able to change things much. There has been, in the past, some long-term efforts about acquiring new supplies in Arizona and across the west that have been successful.

The other side of the coin is the assumption on the part of some people that everything will just be fine; that all that needs to happen is the development of new technology and new resources, and all the issues will be resolved without a

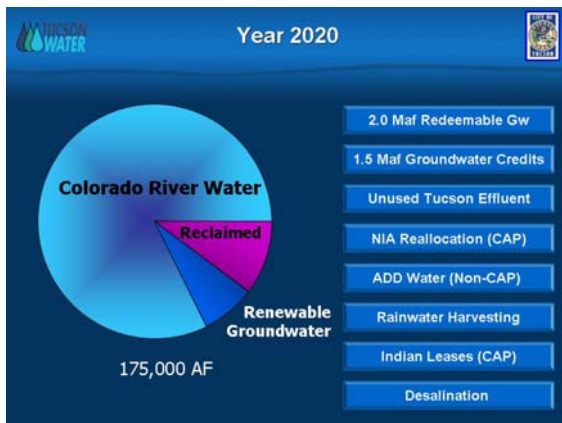


great deal of time and effort. And that's probably a wildly variant possibility as well.

These are the kinds of disputes that have been going on in the west for at least 140 or 150 years now, and they're not likely to change anytime soon. The players may change and the resources may change, but these are the kind of disputes that cause people like John Wesley Powell and John Fremont to head east and go back to Washington and paint a glowing picture about what would happen in the west if we could only reclaim it to this degree or explore it to that degree. So, it's nothing new.

But, what we're going to present tonight is a discussion about what Tucson Water staff thinks about the availability of new resources for the area, and we'll follow that up with a presentation from Ken Seasholes from CAWCD about one of those processes, the ADD Water Process that's ongoing today. So, we ended the Water Resources presentation on June 25th with this slide. And, at the time, I told you that there's a couple of assumptions in this slide, and by the time we

finished this process we would be able to show you where those assumptions are, and the time has come to do that today.



So, this pie chart is, essentially, a representation of the Plan B or C scenario that we talked about in the Long-Range Plan a few weeks ago, and the assumption is either that some conservation has occurred in a larger Obligated Area, or that a smaller area's being serviced by

Tucson Water without much conservation increases. And, on the right, you see a list of water resources that are ranked in some kind of order about possibilities that we have immediately available to us, like the redeemable groundwater credits, and some local supplies like unused Tucson effluent, and then some other supplies coming down the CAP. So, the time has come to talk about those resources and try to present them in some kind of coherent fashion. And the way we'd like to do that today is to talk about resources that are related to the CAP canal, and resources that are not.

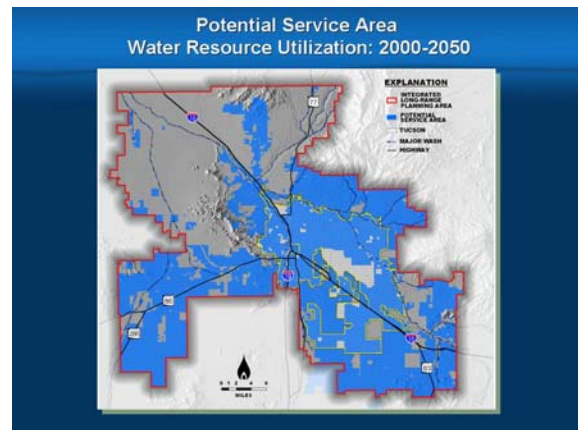
Again, here we go, this is the graphic that we've shown numerable times now; it talks about the potential Service Area. And this is a graphic that shows the larger area, the Obligated Area, plus a larger area that, although it's quite a bit larger in terms of overall extent. Under the Pima County TAZ

projections it will contain about 10% more population than the Obligated Area in 2030.

And, when you look at, under the Long-Range Plan, the resource demands that are posed by either serving water in that larger area with some conservation reductions that have seemed to have taken place just in the last few years, or if you talk about serving the Obligated Area, but without any conservation reductions, you get this portfolio and you get some kind of future demand that starts to take place in 2022 that needs to be filled with those water resources that we talked about on the left.

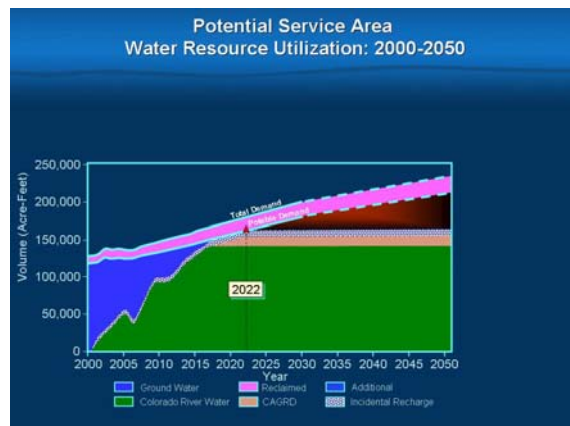
This is the Obligated Area and, again, when you take the Obligated Area and you take the conservation improvements that we've seen just in the last few years at Tucson Water, and expect that those conservation improvements will continue through time, you get this graph.

And this graph shows that, by about 2032, the utility is going to need to bring some additional combination of either reduction in demand or resources to the table. And so the discussion tonight is really about how we fill this future need.



So, one of the first possibilities is to increase conservation. And last week we talked extensively about those efforts that Tucson Water is undertaking, going forward over the next couple of years to increase its Conservation Program. And, in this particular instance, we've chosen to talk about rainwater harvesting and gray water use as a conservation method from a Tucson Water perspective.

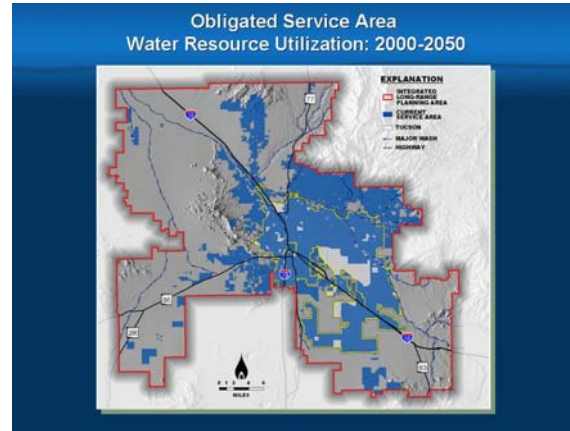
From the utility's perspective, rainwater harvesting



and gray water reuse essentially reduce our demand. From, I think, a customer's point of view, or from a community point of view, it's probably equally valid to think of these as additional resources, or additional supplies of water, that are available to the region. By putting them in a conservation bucket, I don't mean to demean the idea that rainwater and gray water are important sources of supply for the region,

and we're going to talk about those in additional detail in a minute.

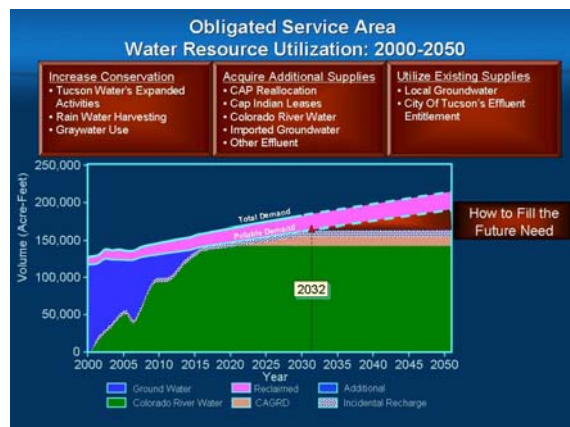
The other option is to try to increase supplies from the CAP canal. And some of those opportunities are some potential reallocations of existing CAP supplies that have already been allocated and for which there's already capacity available in the CAP canal. Some of those include reallocations of non-Indian Water. Some include CAP Indian leases. Some include bringing new sources of water through the CAP canal, such as Colorado River Water, imported groundwater, or other effluent, and we're going to talk about those in a minute. But, the one common thing that these



additional supplies have in common is they need to be brought into Tucson through some physical infrastructure, and the infrastructure that we're choosing to focus on here is the CAP canal. It may be possible that, at some future point, Tucson or Southern Arizona, indeed, the mega-city of, you know, the Prescott/Phoenix/Tucson mega-city that the demographers talk about, may need some additional source of supply, but we think that for our presentation tonight, that that's just too far off to the future to talk about in any kind of coherent fashion.

And, finally, there's always the option for Tucson to use existing available supplies that don't require additional acquisition but may, in some cases, especially in the case of Tucson's effluent entitlement, require additional infrastructure to be constructed locally.

In the case of groundwater, you're talking about using a limited pool of resource and, basically, a limited bank account of groundwater and drawing it out as long as possible



and, essentially, accepting the negative consequences that follow from using that resource, perhaps, too early or making another decision about, you know, holding that resource in abeyance and using it later. That involves, obviously, a different set of tradeoffs than bringing and importing new water in from the CAP canal.

But, let's talk about

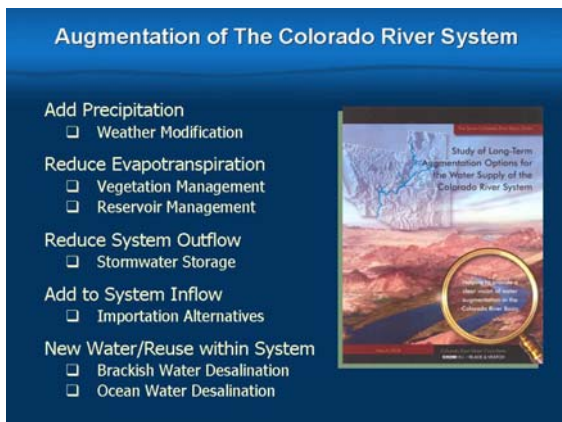
the CAP issues for a minute, and this is a graphic that we've showed on June 25th as well. But, to go back, essentially, the entire Colorado River is divided up and apportioned between the Upper Basin, Utah, Colorado, Wyoming, essentially, a little bit into New Mexico, a little bit of Arizona, and the Lower Basin. In the Lower Basin, Arizona has an equal priority with the other states, but the CAP entitlement that Arizona has doesn't have equal priority, and is subject to shortage, and we talked about that extensively.



One of the things that we wanted to bring up in this presentation and get out of the way, because we have seemed to have had some confusion about it is that this spring, the Seven Basin States, as a whole, have commissioned a report called "The Study of Long-Term Augmentation Options for the Water Supply of the Colorado River System" that looked at ways to augment the Colorado River supply as a whole.

And what these various options that are discussed do is increase the amount of water coming down the Colorado River. They increase the supply available to all Seven Basin States, and the water that would be available would be divided up and apportioned out according to the Colorado River Compact, the Treaty with Mexico, and the Law of the Colorado River. And so we don't think it's really appropriate to talk about these as Tucson resources are available, Tucson supplies.

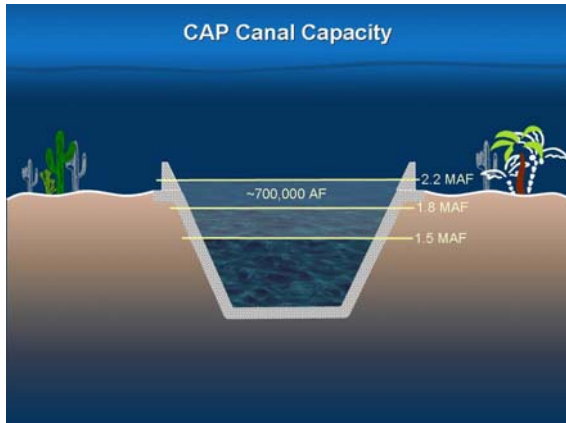
If anything is going to happen in terms of augmentation of supplies on the Colorado River in response to



climate change, it's going to involve, essentially, the entire western United States acting in some kind of a concerted effort to either, you know, change the weather, change evapo-transpiration, maximize the way that the various reservoirs on the Colorado River are operated, be able to maybe build additional storage capacity to capture extreme flood events that might

otherwise flow down - all the way down the Colorado River or the Gulf of Mexico and, perhaps, work some kind of deal that involve trading water that either is already exported out of the

Colorado River Watershed into other watersheds, or trading for water that would appear in other watersheds that would allow water to be brought to the Colorado River drainage.



And, finally, you get to what I think in some cases has been discussed as a solution for Tucson, but really doesn't fit within what we think as the Tucson solution, and that's the desalinization options. One of those options is to look at

desalinization of ocean water either in California or in the Gulf of Mexico, and another option is to look at desalinization of brackish water supplies. There are some relatively abundant brackish water supplies in the Buckeye area, for example, in Phoenix, that would need to be, you know, treated. You could deliver, theoretically, those supplies to the Phoenix area, and that might free up additional supplies for Tucson. But, generally, these kinds of supplies are available for the entire western United States as a whole, and the amount of funding that I think it would cost to develop them would have to be borne by the region.

So, what does that leave us with? Well, we've got the existing CAP entitlements, and the existing CAP entitlements are about 1.4 million acre-feet.

Those divide up, roughly, into municipal and industrial supplies, Indian contracts. One fairly exotic deal between the Arizona State Land Department and the Maricopa Stanfield Irrigation District. This does not include the State Land allocations that are otherwise subsumed within this municipal and industrial supply portfolio.

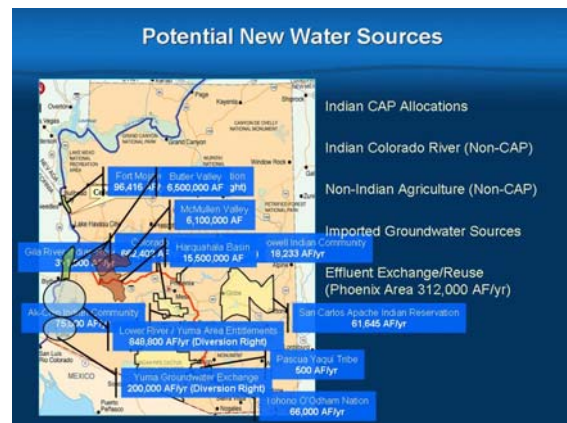
CAP Entitlements	
Municipal & Industrial	620,678 AF/yr
Indian Contracts	555,806 AF/yr
Az. State Land Dept.	9,026 AF/yr
Future Indian Settlements	68,578 AF/yr
Future Municipal & Industrial	87,269 AF/yr
Other Entitlements	73,703 AF/yr
Total	1,415,000 AF/yr

There's also some water that's been reserved for future settlements of some Indian Water Rights litigation in Central Arizona, and what we've called in here "Future Municipal and Industrial." This is, essentially, the non-Indian agricultural reallocations that are likely to take place in the CAP some point in the relatively near future. And then kind of a grab-bag of really complicated other entitlements that are essentially used to settle complicated

litigation, mostly between various parties that are served by the CAP system and Indian tribes.

Here's a basic graph of canal capacity. And, as part of the ADD Water Process that Ken's going to talk about, one of the places to look is how much capacity is in the CAP canal. According to most of the engineering estimates and depending on how much down time you factor in for maintenance and reliability and the rest of it, there seems to be a general consensus that there 's about 1.5 million acre-feet that's readily available in the CAP canal today. With some moderate level of improvements, perhaps, some more efficient pumps, more efficient plumbing, more efficient system operation it's possible to put another 300,000 acre-feet into the CAP canal and deliver it through, essentially cranking up the existing canal to its optimum utilization. And that with some very expensive, but nevertheless a lot less expensive than building an entire new canal, it might be possible to find another 400,000 acre-feet or so of capacity in the CAP canal by building sideboards along some of the most restrictive reaches of the canal. All tolled, you know, there's some reasonable possibility that with a pretty expensive outlay of funds, that you can find another 700,000 acre-feet of capacity in the CAP canal.

So, if you're looking for new water sources for the CAP, then where are you going to look? One of the first places that one would look if one didn't know how difficult it is to reach agreement with Indian tribes on water issues is Indian tribes. And this is just a quick graph of some of the in-State allocations that are allotted to various tribes in Southern or Central Arizona. San Carlos, Apache, it's 64,000 acre-feet a year; the Ak Chin Indian Community, the Tohono O'odham Nation, and the Gila River Indian Reservation. Again, these are recent supplies that, in many cases, were just acquired a few years ago as a result of some comprehensive settlement of Indian Water Rights litigation. And the tribes are playing quite coy - I think is a nice way to characterize it - with their intentions with the water, and it's obviously in their interest to do so. The more interest that they can create, the more demand that they can create for their supplies, the more they decide exactly how they want to use their allocations; it's quite possible that the more costly those supplies will become.



Another place to look is Indian tribes who have on-river entitlements, and one of the attractive reason for looking on the river for Indian entitlements is that these supplies would not be subject to the same kind of shortage criteria that the CAP entitlements would be subject to.

Where's another place to look? Well, existing agriculture in Yuma. According to the best guess system, folks who are putting portfolio supplies together, both looking for the CAGR's Plan of Operation, as well as for the ADD Water Process, some reasonable estimate that there may be a million acre-feet or so of water available in Yuma. The chances that you can get all of that are extremely slim, but if there are some options for doing the kind of creative deals with farmers that are starting to be done in the Imperial Valley, then there's at least some source of supply that's potentially available from Yuma.

Finally, having mined the Tucson area, then there's always other places to look for groundwater mining, and there are three basins that are located in relatively close proximity to the CAP canal that do have substantial supplies of groundwater in the basins, but these are use-it-once-and-that's-it kind of options.

The Butler Valley has about six and a half million acre-feet of groundwater. The McMullen Valley has about 6 million acre-feet of groundwater, and the Harquahala Valley has about 15 million acre-feet of groundwater and, obviously, this is a one-time shot; this is not an annual supply; this is not something that you can ever expect to get back. Once you pump it and - and there's probably a lot more geophysical investigations and other things that need to be done to exactly be able to tabulate what kind of opportunities you have here. But, as you look at ways to put additional water supplies in the CAP canal by trying to mix and match amongst all these various options you may get some way to fill the canal to whatever its capacity may be.

And, finally, one of the last places to look is effluent exchange and reuse in the Phoenix area. In the Phoenix area, there is some excess supply of effluent and, as water supplies become more constrained in Central Arizona, it's quite likely that those effluent supplies can be used in some kind of creative exchanges or trades, much like the brackish desal- - desalinization proposals that would not necessarily result in effluent being placed into the CAP canal and delivered around Central Arizona, but ways where water - effluent can be used to replace existing agricultural demands, or other uses of CAP water that would free up water for use in the CAP canal.

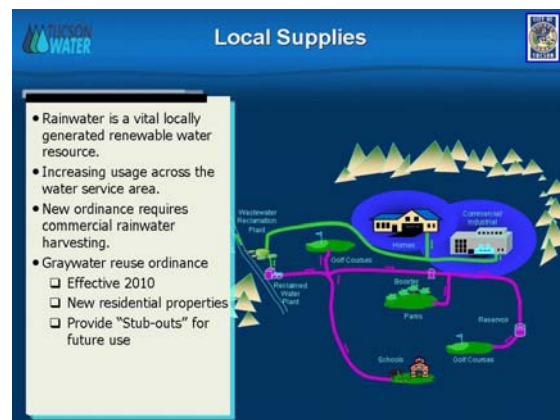
And, as Ken comes up here to talk about the ADD Water Process, the ADD Water Process is an attempt to take some systematic look at that portfolio of supplies and figure out how to bring it into Central Arizona using the CAP.

So, that leaves us with local supplies and we've talked a little bit about local supplies in the past, but mostly in the existing context. Essentially, this is what we talked about in June. Effluent is a vital locally-generated renewable water supply resource. Tucson's existing Reclaim System recycles effluent and preserves groundwater and, over time, the need to reuse effluent will increase. And, also, at the same time, as the community grows, the supply of effluent will also increase at some rate, and that in the future we see as a source of supply for the Reclaim System as well is the potentially available local supply effluent will continue to play an increasing role in Tucson.

And that role has only become more apparent with the recent auction of effluent credits in Prescott where, as a consequence of a water supply situation that's much more dire than in Tucson, a recent auction of effluent credits in Prescott found a market value for effluent in the Prescott AMA of somewhere around \$15,000 or \$16,000 per acre-foot. So, effluent is only going to become more important as a local resource.

What are the other local sources of supply? Well, here's where I put on my other hat and talk about rainwater harvesting and gray water as - as some kind of local source of supply. And, like effluent, rainwater is also a vital locally-generated renewable water resource. It's become apparent to me, as I drive around town, that more and more folks are using rainwater harvesting, at least to supplement their irrigation. Ten years ago, I was astonished at the idea that people would be doing it, and now it's pretty commonplace. So, I think it's fair to predict that, as we move forward, rainwater is going to become an increasingly important source of supply for Tucson Water's customers as they try to meet their water needs.

That importance was only reinforced by the action of the Mayor and Council just last night when they unanimously adopted a new Ordinance that requires commercial rainwater harvesting. And, essentially, the new Rainwater Harvesting Ordinance that applies within the City of Tucson requires

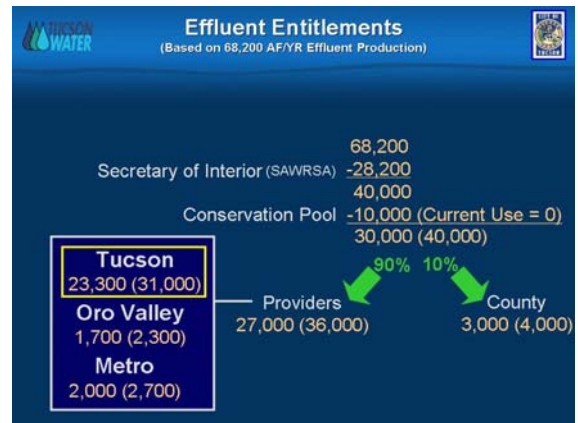


commercial - new commercial buildings to - after a grow-in period to meet 50% of their outdoor watering needs through rainwater harvesting, either through (inaudible) or cisterns.

In addition, a few weeks ago, the Tucson City Council also passed a Gray Water Reuse Ordinance that doesn't mandate the use of - of gray water, but it does mandate that new homes be plumbed to provide readily - readily available attachments, or stub-outs that homeowners or landowners who are so inclined can use to augment their use of gray water.

When you talk about the effluent entitlement that's available in the Tucson region - this is the replay of a slide that's been slightly amended since June - but, essentially,

today there's about 70-000 acre-feet of effluent that is treated by the Pima County's Regional Wastewater Treatment Plants. Of that, the Secretary of Interior owns title to 28,200 acre-feet as a consequence of settlement of water rights litigation in the Tucson area; that leaves about 40,000 acre-feet that's available to the



local water providers; 10,000 of that is legally obligated to the Conservation Pool, although none of its used there today; and that leaves some abundant supplies that can be used by the local water providers. And as demand increases in the Tucson area and, as the water providers try to figure out how to fill those wedges, some of the water that Tucson currently uses in managed recharged projects, or is planning to use in constructed recharge projects, may become available for reuse in other ways.

And one of the supplies that is available locally that requires a great deal of probably patience and effort, but can be - I think it's - it's reasonably certain that in the future someone will figure out how to put it to better use in the

Conclusions

1. Additional CAP delivery capacity is available.
2. Potential sources of additional supplies are available.
3. Statewide discussions are occurring about how to share these potential supplies and allocate costs.
4. Individual water users can reduce their potable water use by utilizing household graywater and rainwater harvesting.

Tucson region, and that's the Secretary of Interior's 28,200 acre-feet of - of effluent supplies that are not currently available to the City of Tucson, or the other local water providers.

So, with that, essentially, without getting - trying to fall off either side of the tightrope, there is some

additional CAP delivery capacity in the canal, and there are potential sources of supply to fill that capacity gap. There - there's no doubt in - in the mind of - of almost anyone who's worked on this issue, even for a short time, that those supplies will be expensive, compared to the existing CAP allocation. It's my personal opinion - and I think it's shared by the folks I work with at Tucson Water - that those supplies will be, in order of magnitude, more expensive than CAP.

So, right now, we've based a water resource fee on CAP past payment obligations, that value that - the cost of essentially acquiring that resource and paying for it over the years at about \$700 or \$800 an acre-foot. And it's probably reasonable to assume that new supplies coming down the canal will be seven to \$8,000 an acre-foot, maybe a little more, maybe a little less, but the idea that there's an abundant supply of \$700 an acre-foot water available in Arizona is - is a myth, in my opinion.

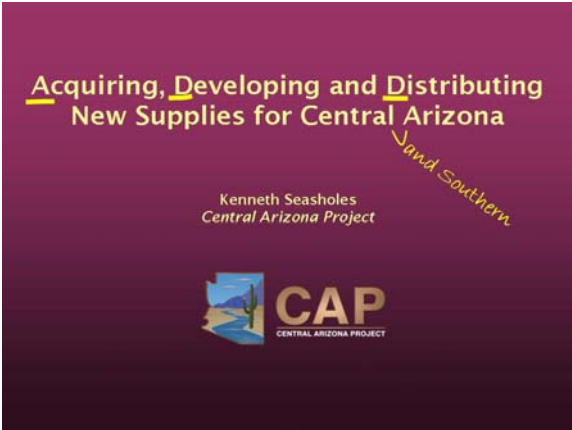
Ken's going to talk to you about Point Number 3, and that is that statewide discussions are occurring about how to share potential supplies and allocate the costs.

And, finally, as always, individual water users and customers of Tucson Water and other utilities in the region can, on their own, and - and in partnership with the utilities, do a great deal to reduce their potable water use by using household gray water, rainwater harvesting, and other appropriate conservation measures.

And, with that, I'd like to turn the podium over to Ken. We'll get questions after we're both done.

**Presenter #2:
KEN SEASHOLES
SENIOR POLICY ANALYST, CENTRAL
ARIZONA PROJECT: POTENTIAL NEW
WATER SOURCES**

MR. SEASHOLES: Thank you. I'm Ken Seasholes with the Central Arizona Project. And, after that presentation, I have the unenviable position of talking about process things, which is really quite comparatively dull. But, actually, Chris and Tucson Water



Staff have done a great job of kind of setting the stage about the available supplies. I'm going to hit on some of that, and I will try to just kind of go through this quickly.

We have mentioned ADD Water multiple times and I want to at least kind of give you some context for what the ADD Water Process is and, perhaps, also what it - what it isn't. Because we're in the water business, of course, ADD Water is an acronym for something, so it's "Acquiring, Developing and Distributing" supplies. And, of course, when we say "Central Arizona," we're including Southern Arizona because it's the CAP Service Area of the - the Tri-County Service Area.

And there's probably no better way to kind of summarize it than this is our problem statement, which is:

Problem Statement

Long-term water demands in CAP's three-county service area are projected to exceed currently available supplies. A comprehensive strategy may be desirable for the acquisition and delivery of water to meet these future demands.

"When you get right down to it, the projected demands for the three-county area exceed in the future, exceed the known supplies that we have readily available at some point." And that doesn't mean that we're about to run out of water; it means that we're - like Chris was mentioning the Tucson Water perspective - there needs to be additional acquisition if we're going to meet those

demands as they come along.

And the second part here about this sort of comprehensive strategy is really about the recognition that the CAP infrastructure is kind of the backbone for the Central part of Southern - Central and Southern part of the State, and it allows us to have access to a wide array of supplies.

And so if you start with that problem statement, you very quickly get to some fairly self-evident kinds of questions, you know. How much do you need? When do you need it? Where is it going to come from? Who's going to do it? And how are they going to share and pay? And so these are sort of framing questions that we're wrestling with, and I'll get to how those are put together here in a minute.

Questions Raised

- How much water is needed?
- When is the water needed?
- Where will the water come from?
- Who will acquire new water supplies?
- How will the water be shared?
- How will the water be paid for?

The demands, Chris mentioned from the Tucson Water perspective and it's similar across the Central part of the State that, of course, a lot of the demand is being driven by

growth; it's being driven by the legal requirements of the Assured Water Supply to rely, either directly or indirectly, on renewable supply.

Water Demands

- Cities, private utilities and other water providers/users need water to:
 - Replace existing non-renewable supplies
 - Meet future demands
 - Provide back-up supplies
 - Meet Assured Water Supply requirements
- Uses include direct delivery, recharge/recovery and replenishment

So, that's really a major emphasis on this in terms of where the new demands are coming in. There are also other kinds of demands that we're seeing, some industrial ones that are demanding renewable supplies.

And then this last piece is just to make it clear that when we talk about demands, we're also talking about not just direct use to a treatment plant,

but also for recharge and recovery. Obviously, the City of Tucson's annual storage and recovery, CAVSARP, SAVSARP, Clearwater Facility is a great example of that. So, just to be clear that we are including that in the scope of what we talk about on demands.

This relates just to take out of the same kind of portfolio supplies that Chris had mentioned that the Central Arizona Groundwater Replenishment District, one of our functions at CAP, the Plan of Operation identified a potentially-available portfolio of supplies; it was significantly larger than the kinds of supplies that we were needing to acquire for the Plan. So, the number - the 900,000 or the million - you can go through and look at some of those supplies; that's what on Chris' map shows where some of those supplies are potentially available. And I would concur with Chris' point that just because they're available doesn't mean they're easy to acquire, or that there's a lot of both money and time and acquisition issues, but there are definitely ones that could be available.

The part that was included in the GRD Plan of Operation - and I know on the website there's a link to the the table that kind of breaks those out more directly - it didn't include these two desal pieces. Those are both being looked at in terms of the overall system of augmentation, but they do present the possibility for actual new supplies or exchanged supplies.

Water Availability

- CAGRD plan of operation identified more than 900,000 AF of potentially available supplies
- Other sources could also be developed
 - Ocean water desalination
 - Brackish groundwater desalination

And then Chris mentioned this same point about the fact that the infrastructure was built oversized, and there are some relatively creative ways that you can utilize the CAP infrastructure to deliver more than the long-term entitlements; in fact, we have delivered close to 1.7, using Lake Pleasant storage, which is our regulatory storage.

CAP System Capacity

- Long-term contract entitlements total 1.415 MAF
- CAP system, as it exists today, can deliver 1.8 MAF annually
- With reasonable improvements, CAP could deliver 2.2 MAF

So, we have a system that - depending on how you shuffle the demands - really can meet a substantial amount above and beyond our long-term obligations, and that both of these numbers - this is the one with the current system - the 2.2 is the kind of system enhancement that Chris mentioned. Those do include maintenance down time, 15%, so that it's not running at full bore with no margin of

safety; that is included in that.

This latter number comes from a sort of conceptual study that's being finalized, so we'll be able to share that I think this upcoming year. In just kind of round numbers that have been tossed around going from the 1.8 to 2.2 is about \$250 million. So, real money, but not like rebuilding the entire system.

So, if you come back to these questions, you kind of address these first three. And, for the purposes of this process, those are I don't want to say they're given, because there's a lot of issues behind them, of course, but those aren't the central issues that are driving the process that's going on currently. It's really more

Questions Raised

- How much water is needed?
- When is the water needed?
- Where will the water come from?
- Who will acquire new water supplies?
- How will the water be shared?
- How will the water be paid for?

ADD Water Process

about these last three. Who's going to do the acquisition? And then how do they get shared and paid for?

So, this ADD Water Process is focused on those things. And it actually has a couple of origins that are important because

it sets the stage for how we got to this point, and how CAP kind of ended up in this lead role.

Going back a really long time, there were some original statements about how you could use the infrastructure. It is, of course, a federal project, but there's some positions about being able to use the excess capacity; there's historic document. But, really, I think for a lot of us the piece that really kicked this off was a

process - another acronym - Project WHEEL. I don't remember what that stood for, but it was about arrangements of dealing with moving other supplies, non-project water supplies through the CAP system, and it got to a certain point, it helped frame some of the issues in terms of the legal issues and the sort of kinds of issues that we might have to deal with if individual entities were going to acquire their own supplies and try to wheel them through the CAP system. It didn't reach a final conclusion, but it set the stage really for a series of informal discussions among water providers, including Tucson Water subcontractors, and others about, "Well, maybe rather than having everybody go off and doing their own thing and trying to strike deals with Indians, or trying to wheel - mainstream Colorado River supplies, that there might be something that's more coordinated." And that came together in CAP's Strategic Plan, and one of the identified pieces was this idea that CAP would take a lead role.

I got a little bit out of sequence here - this is the piece of what was discussed in the ADD Water - excuse me - in the Project Wheel issue, and there were these sort of

Informal Discussions

- Water providers have historically worked independently to acquire their own water supplies
- AMWUA cities, Tucson and others met with CAP Board members to discuss a broad framework and public process for developing a wholesale water supply program

Origins

Potential use of CAP to transport non-Project water

- CAP position statement (1983)
- CAP discussion document (1988)
- Project Wheel (2002)
- Informal discussions (2005)
- CAP Strategic Plan (2006)

Project Wheel

- Continuum: CAP as "delivery agent" vs. "water provider"
- Adoption of hybrid approach and "interim set asides"
- Explore concept of developing new water supply for CAP service area, with public process addressing how to allocate new supply

competing ideas: Should there be one entity? Should there be multiple entities? Is CAP both the acquirer and the distributor? So, again, sort of setting the stage for what happened.

This piece about the informal discussions, it is important, not just because it really came about from the subcontractors' and water users' perspectives, but there was a recognition, kind of an epiphany when everybody realized, you know, if we're all going out and doing this all - everybody for their own, not only might that mean that there might be folks that were left out of that, folks maybe who didn't have the kind of financing to be able to do things, but also we'd drive up the price for ourselves. So, CAP is a piece of infrastructure that bridges us together and the kind of natural conclusion from that was that there'd be a coordinated effort.

So, this is really just about the Strategic Plan process, and I won't go into that. But, the outcome really is that, basically, they - our Board, the CAP Board - directed Staff to engage the stakeholders on a process to see whether we could come up with a way to get agreement on how we could do this that everybody came to realize was perceived to be fair.

Strategic Issue

"Developing New Water Supplies for the CAP Three County Area"

[CAP Strategic Plan, 2006]

So, we had a big kick-off meeting early on in the summer and it really starts with this idea that we're assuming that CAP is going to be the one that's going to be the primary entity that does this work of Acquiring, Developing and Delivering these supplies, so it takes that as a given. And then the question is: Okay. Let's

CAP Strategic Plan

- Developed by CAP Board in 2006
- Input and support from a broad spectrum of stakeholders
- Elements of Plan:
 - Strategic Issue
 - Strategic Objective
 - Action Plan
 - Desired State

So, again, when you look at these questions, these sort of over-arching questions, we break them into these two pieces: There's implementation, which is really about the sort of operations or actually acquiring these supplies, the legal issues, the system issues, and these program development ideas.

Strategic Objective

"Establish a collaborative process to determine when new supplies need to be acquired and what entities get those supplies. Encourage fair competition and eliminate perceptions of unfair advantage."

[CAP Strategic Plan, 2006]

say we do that. How do we go in and share and pay?

Program v. Implementation

Program Development

- Who will acquire new water supplies?
- How will the water be shared?
- How will the water be paid for?

Implementation

- How much water is needed?
- When is the water needed?
- Where will the water come from?

there's a lot of stakeholders, and there's a Project Team, Southern Arizona, Tucson Water, other folks down here are very well represented. And it's all out in the open.

And, like anything else, it's sort of a step-wise

5-Step Process

- Identify information needs
- Define and prioritize criteria
- Develop alternatives
- Evaluate alternatives against criteria
- Develop recommendations

the core values and you're not just jumping to conclusions, but it's a significant commitment. As you all know, serving on this Committee, a significant commitment of time and effort to get to that point.

The - where we are right now with that process is we have gotten through the first major piece, which is to develop sort of these broad parameters, criteria, against which

So - and I should give - for sure, some credit for some folks. I'm peripherally involved in the ADD Water Process, although its gravitational pull ends up having an effect on all of us at CAP - but, Terry Sue Rosse (ph.), a colleague of mine, is the Lead Staff Person. Our Senior Management is heavily involved, our CAP Board Members, and then

Focus Question

Assuming CAP is to be the primary entity that acquires, develops and delivers new water supplies for its three county service area, how should the water be shared and paid for?

process to it, and this is just a list from our email distribution list, to give you a little bit of an indication of the kind of breadth and list of folks that are routinely involved. The stamina of this group so far has been to me quite staggering. These facilitated processes are designed to make sure that you really get



alternatives are going to be evaluated. And, actually, Friday there's going to be a meeting, a big stakeholder meeting, we're going to start weighing some of those. Which of these factors are most important in terms of when we do get to the point of evaluating alternatives for sharing and paying for the supplies.

That's kind of a long mealymouthed way of saying that we're going through this involved process to get to a point where we can have a stakeholder consensus on how new supplies that are delivered through the CAP system, or exchanged through the CAP system, can be brought to fruition in a way that the broad representation of stakeholders feels is equitable and meets their needs, and those needs are substantial and we are working our way through it.

The timeline, we're looking at about probably I'd say late spring before we really have things really solidified and we know whether we have a program that we can actually start getting into the implementation phase on. Pretty involved process, obviously, but so far so good.

And, with that, Chris and I, I guess, we'll take questions.

CHAIRMAN JIM BARRY: Where's Chris? Okay. Questions from the Committee? Sean first.

MEMBER SEAN SULLIVAN: The question is for Chris. The slide when - that runs down potential new water sources, imported groundwater sources, the three basins west of Phoenix. How does that fit with Groundwater Management Act Compliance?

MR. AVERY: Those three basins are located outside of an AMA. So the - the Groundwater Management Act Compliance means that if you can bring those supplies into areas that are governed by an AMA you, perhaps, can show an Assured Water Supply. But, again, it's - you're - there's - I want to make sure there's no misunderstanding about this. You're talking about groundwater mining in basins that are currently uninhabited or - or largely uninhabited compared to Central Arizona and Southern Arizona.

MEMBER SEAN SULLIVAN: And a few follow-ups, if I could.

MR. AVERY: Yeah.

MEMBER SEAN SULLIVAN: Do you know if the land ownership in that area is primarily BLM or State land, or is it mixed?

MR. AVERY: I don't know the answer to that question. I know that there is some private in-holdings in the Harquahala Valley, you know, ranching and farming interests. I don't know the answer about Butler or McMullen, and I know that also - I think it's McMullen - well, I'm not going to answer it -

MEMBER SEAN SULLIVAN: Okay.

MR. AVERY: - until I know.

MEMBER SEAN SULLIVAN: Thanks.

CHAIRMAN JIM BARRY: Let me follow-up, John, if I could.

MEMBER JOHN CARLSON: Sure.

CHAIRMAN JIM BARRY: How does those - those three basins comport with the map that Rob Marshall showed about groundwater-dependent ecosystems?

MR. AVERY: That's a good question. I don't know the answer to that one, either.

CHAIRMAN JIM BARRY: John?

MEMBER JOHN CARLSON: Well, isn't there a Safe-Yield out of those three, Harquahala, and those other two, that could - you - you said that's a one-time shot like -

MR. AVERY: Yeah.

MEMBER JOHN CARLSON: - you're going to drain 'em and God's not going to put any water back. But, isn't there a Safe-Yield that one could work towards?

MR. AVERY: God's not putting a whole lot of water into the Harquahala Basin; it's pretty dry out there. So, there may be some extremely minor amount of - of what we might consider to be Safe-Yield, but it's - it's groundwater that's built up over thousands of years, and that's why I'm - when - when you talk about those valleys, I - I think that - to talk about 'em honestly, you have to think of 'em as, essentially, groundwater mines.

MEMBER JOHN CARLSON: Okay. Now, it seems to me years ago there was an Indian allotment up on the Little Colorado, and I didn't see that on your map; am I wrong or what?

MR. AVERY: No, there - I haven't focused this presentation on water supplies that are outside of the three-county area because it - it's just - it's outside the area that really affects us.

MEMBER JOHN CARLSON: Okay. And I've - I've built a lot of these conveyances, but this increase in the CAP, you have to start taking water out. When you say you're going to go to 2.4, or whatever, for - where does that start dropping off? You're not going to build it clear down to Tucson with 2.4 capacity, but is that all taken into account, your - on your figuring or what?

MR. AVERY: What - what - yeah, what you're talking about is, you know, obviously, bringing more water into Phoenix and then progressively smaller. The - the canal itself today is sized to become progressively smaller as it comes through in - into Phoenix -

MEMBER JOHN CARLSON: Yeah.

MR. AVERY: - and then out of Phoenix and past Casa Grande, so -

MEMBER JOHN CARLSON: Yeah, 'cause you mentioned the Lake Pleasant drop-off where you could interrimly store a bunch. Fine.

CHAIRMAN JIM BARRY: Bruce?

MEMBER BRUCE GUNGLE: To be honest, this is probably a stupid question, but I'm going to ask it anyway.

CHAIRMAN JIM BARRY: I've - I've been doing it (inaudible) so go ahead.

MEMBER BRUCE GUNGLE: You - you referred to the Indian Colorado River Water, the non-CAP water. If that is to be transported by the CAP, does it then come under those rules in terms of priority, or we - we're not going to have to build a separate system to move that water; correct?

MR. AVERY: That's a - that's a good question, actually, and it's - it's a little bit - I may - may not have explained it carefully enough. But, the - the priority for that water is, essentially, equal to all of the other basin states; it's not subject to CAP's junior priority, the 1968 CAP allocation. Basically, CAP funding placed the CAP allocations and the canal itself is a lower priority.

But, essentially, what it would mean, if you were trying to be really creative, is that if there were a shortage on the river, if you could get non- - that Indian Water into the canal, you might be able to - you'd still have the canal capacity available and you've got higher-priority water. So, it's a little bit of a mixture. You've got - you've got all - the canal capacity exists, whether there's water available to fill it or not, and the - some of the allure of looking at the on - in the on - on-river water is that it's got higher priority.

CHAIRMAN JIM BARRY: Follow-up?

MEMBER BRUCE GUNGLE: No.

CHAIRMAN JIM BARRY: No? Anybody else?

MEMBER JOHN CARLSON: She's - down there.

CHAIRMAN JIM BARRY: Oh, Tina. I'm sorry.

TINA LEE: Ken, what's your time frame for the ADD Water Process?

MR. SEASHOLES: The timeline for the ADD Water Process is really to have it wrapped up for this first three phases by mid-spring, and it may get pushed back a bit depending on how - how things go. We're - we're moving actually relatively rapidly through this last - last phase; it's going to, of course, depend on how much consensus we can get. The - the real rubber hits the road in a way when people start to - when we all start working on alternatives, and alternatives is actually the

mechanisms we've got issues about. How to fund things. How to finance things and, ultimately, you know, what - what - how do things cost out.

I want to just maybe clarify one - one piece that may not have been clear about the - the - the three basins that - the three groundwater basins that Chris mentioned. They are exempted from the overall prohibition on groundwater importation that was enacted in - in '92. So, there are only those basins, and Little Chino and - and - or, excuse me - Big Chino, and Little Colorado, there's a piece. But, those are the only ones for which you can do this kind of groundwater importation. So, there is a connection in with the regulatory structure in that - in that case.

And just one other piece on this. Both the issue of the priority and how you might think about groundwater supply, groundwater importation supply, like those in - in - in western Arizona is that they have particular characteristics that might be beneficial in times, for instance, of shortage on the Colorado, or fill- - filling in supplies if you were working on short-term leases or fallowing arrangements. When you start cobbling together some of these supplies, we tend to think about just the really durable, long-term ones, but there are also acquisition strategies that emphasize some of the shorter-term opportunities that may exist.

CHAIRMAN JIM BARRY: John?

MEMBER JOHN CARLSON: On Indian Water, I've been around water all my life, even though I'm from out west, I've been either handling it or chasing it or - but, I just loved the idea the Indians had so much water that we could've gotten ten years ago, or 15 years ago, and then there was the adjudication where they got allotted more permanently. But, to me, that is extremely time-sensitive that we - who's going to be the driver to go out and try to secure supplies from the Indians? And that seems to me that we ought to be working on that immediately and not putting that off. You want to argue with me or ignore me?

MR. AVERY: I agree that - I - I agree that's an issue and - but, if you're - if you're thinking about it from - from the tribes' point of view -

MEMBER JOHN CARLSON: Yeah.

MR. AVERY: - and, you know, if you're going to try to negotiate with them, I think that's probably why. From the tribes' point of view, first of all, these are relatively new supplies for them, so they've been embroiled in bitter litigation over their water rights for the last 30 years -

MEMBER JOHN CARLSON: Yeah.

MR. AVERY: - and finally were able to settle those - those lawsuits and determined what their available supplies are.

I think that they - they - they are going to want to have - take the time to figure out what to do with them, and I think that, you know, if - if it were me, I - I think I would deserve it.

The other thing is that it's in their interest to play coy, you know, it's sort of the same thing that happens when somebody wants to trade a baseball player, you know. Well, he's a great team guy and he's a hustler, you know, and then as soon as he's traded, he's a clubhouse cancer and the guy, you know - I mean, it's in their interest - it's in their interest to say, "I'm interested in using all of this water for my own needs and, by golly, if you want to come get it, you're really depriving me of - of something that's going to affect my lifestyle for generations to come, 'cause the price goes up." If you say, "Ah, I'm not sure I really need it. I'm not sure I really want it, and I'm putting it on sale just to try to raise money short-term, the price goes down." So, it's a complicated dance and it's going to take some time.

MEMBER JOHN CARLSON: Well, I recognize it's extremely complicated and everything you say is true, and I grant that, but there still ought to be somebody working on something in that arena is what I'm saying.

MR. SEASHOLES: Let me just make it clear, too - well, first of all, there are people working on it - but, there is also a history of Indian leases, particularly in the Phoenix area. Phoenix area cities have entered into long-term arrangements with the - the tribes. So, you really have to look sort of deal by deal, area by area.

I think the point about the fact that the - the Arizona Water Settlement Act created large new supplies does put a number of the tribes, including the Tohono O'odham in a different situation -

MEMBER JOHN CARLSON: Yeah.

MR. SEASHOLES: - than they were. So, a long-term time frame, but we don't want to paint an entirely bleak picture. There is a history of actually entering into long-term leases that have been put to use in the - in the Phoenix area as well.

MEMBER JOHN CARLSON: Thank you.

CHAIRMAN JIM BARRY: Anything else?

Well, Ken, let me ask a question. I'm not sure I understand. When you say you're going to have something done by the spring in phase three, what -

MR. SEASHOLES: Well, not me personally, you understand.

CHAIRMAN JIM BARRY: Well, I'm sorry. ADD Water, what - where, in your presentation, do I get these phases and - and

what questions have been answered, or how do I know what you're talking about by - by spring?

MR. SEASHOLES: www.cap-az.com, and go the ADD Water link. And - and I should say I probably haven't given it due justice because I haven't - haven't been as -

CHAIRMAN JIM BARRY: Okay.

MR. SEASHOLES: - enmeshed in the process as some other Staff members. There - there's - we're following, basically, a facilitation framework that really has these sort of phases where you really identify the - the information needs. There - there's actually a slide in there and it kind of walks you through these pieces.

The - the objective is to, at the end of it, get to the point where you're actually evaluating specific proposals against the values that you've identified through the process. So, the - the facilitation process is designed to kind of get at: Well what is it that you care most about? And what is more important to you than less important? And then try to identify areas where there's overlap among the stakeholders.

CHAIRMAN JIM BARRY: Oh, okay. Vince?

MEMBER VINCE VASQUEZ: I've had the opportunity to participate a little bit in the ADD Water, and I think it would be helpful to - for this Committee, as we look to the Phase II, or beyond, to maybe look at the model that the ADD Water uses in terms of the stakeholders, the - can you - can you maybe explain the process? Just a little snapshot in terms of the different layers of the elected -

MR. SEASHOLES: (Inaudible).

MEMBER VINCE VASQUEZ: - well, the -

MR. SEASHOLES: Yeah, the -

MEMBER VINCE VASQUEZ: - there's the elected, there's the - the Policy Team, or the -

MR. SEASHOLES: Yeah, the Project Team. In order to manage a project like this - and when you have a, you know - folks who self-identify as stakeholders - and it goes on for a really long, long time, it's a - it becomes a management issue. So, it is kind of broken up into - to pieces. We do have what I call a "Project Team," and that's got representatives of the various entities, including Tucson, at the table, principally sort of acting, essentially, as a Steering Committee for the project - for the process, as a whole. Stakeholders, that's everybody, all together.

And, in fact, one of the things that happened at this last round of stakeholders is we had so many people wanting to come that we didn't have facilities at CAP to - to accommodate it, so we found a facility in Phoenix that was large enough.

Well over 100 folks participating for two full long days of facilitation that's real - very impressive amount of work.

But then also an important component has been to have individual Board members of our Board acting as - and I'm not going to use the right term - but I think it's "champions" - basically, they're engaged in the process, too. Having folks who are involved in the process who can then bring it back to a larger group. So, they - they can be representing what - the process, but bring it back to folks who can't have that level of engagement. It's worked pretty well; it's - it's a big commitment; that's the one kind of real down-side I think of those kinds of facilitated processes; it's a significant time issue. But, when you think about what we're talking about, these are the new supplies that are going to be used for meeting the demands many decades out into the future, so it's worth trying to get it - get it right.

CHAIRMAN JIM BARRY: Do we have any questions, as opposed to statements? Do we have questions from the audience? Tracy? Tracy, I see - and this is - this is in addition to your speaker's card? Okay.

TRACY WILLIAMS: Yes, this - hi. I'm Tracy Williams. This question is for Chris. Since Tucson just adopted the Rainwater and the Gray Water Ordinance, I'd like you to project when they're actually implemented, like in year 2010. Now, we're building houses with gray water stub-outs, we've got commercial with rainwater harvesting. Is Tucson Water planning on using those conservation efforts, those savings as credits, sort of like our paper water idea?

MR. AVERY: We're not planning on using them as credits. What we are trying to do with rainwater harvesting and gray water harvesting is provide a great deal of education to the public during this interim period about how to install systems that work. How to make sure that the - that the - the public has an easy repository of information. And then we will be watching as those processes move forward to implementation to see what they do in terms of water demand. How we can build projections of future rainwater and gray water use into our - our models and see what the effects are. But, we don't, at this point, intend to obtain credits or - or - or some other water supply for - for the City's use based on that.

TRACY WILLIAMS: So, would Ken pipe in on this idea? I'm talking about with the CAGRD, you know, if we're saving water, would that give us credits, because we've done this good thing in our community, or am I really projecting way ahead of you guys?

MR. SEASHOLES: I think when Chris sort of framed water harvesting and gray water as both, you can look at it as a

supply, but also as reducing demand. I think the way that it would work its way through on the regulatory side is that it reduces the need for potable deliveries. And, to the extent that those potable deliveries require an offsetting recharge, if you're a member of the CAGRD, it just - it reduces the amount of - of new supplies that have to be acquired to do that. So, it has that effect, but it wouldn't be a paper water accounting -

TRACY WILLIAMS: Okay.

MR. SEASHOLES: - piece.

CHAIRMAN JIM BARRY: Bob? Bob, this is a question; right?

ALTERNATE MEMBER BOB COOK: It's a question -

CHAIRMAN JIM BARRY: Okay. Thank you.

ALTERNATE MEMBER BOB COOK: - prefaced with a sentence.

CHAIRMAN JIM BARRY: Okay.

UNIDENTIFIED SPEAKER: With lots of semicolons.

ALTERNATE MEMBER BOB COOK: We're concerned about an apples-to-apples comparison between expanding the CAP infrastructure and other alternatives to increasing supply and other delivery infrastructures, including conservation, rainwater harvesting and gray water. And it's really clear that in the time frame that this additional water would be added we would be seeing increasing costs for energy, i.e., pumping water, construction costs adding to the infrastructure, the CAP, and also carbon penalties that would be accrued to the burning of coal for the Navajo Power Station which runs the system.

Will we see a good analysis of the actual per-acre-foot cost of an ADD Water Process that looks at what are the - what are the infrastructure costs for creating water catchment in processing rainwater, for - for - for encouraging conservation in various forms and the costs associated with that? You know, we can really make a comparison here if we have some good analysis of what those - those other systems would actually cost on an - on an apples-to-apples basis.

MR. AVERY: Well, I think that you've got a point in that - in trying to decide whether it's more cost-efficient and beneficial to continue to try to acquire new supplies versus develop Conservation Programs that save a commensurate amount of water for the utility.

ALTERNATE MEMBER BOB COOK: Rainwater is a supply.

MR. AVERY: Right, right. That - that you have to have accurate data in order to make a good comparison, and whether you can do that today, given that the costs for existing CAP's supplies is subsidized by the postage stamp rate and by, you know, federal infrastructure is one thing. I think, as the ADD Water Process moves forward, there will be, at some point,

coming out of the ADD Water Process, a pretty clear indication of what those costs will be. And, once you get those costs, then you can evaluate them against your conservation portfolio.

But, I think that the - the answer moving forward is to try to acquire the right mixture of supplies in order to meet the demand, and it may be both; it may be that you use a little bit of ADD Water and a lot of conservation, or a lot of ADD Water and a little bit of conservation, but I think that we're going to need both at some point in the future.

ALTERNATE MEMBER BOB COOK: Yeah, I'm asking this question because I'm anticipating that, in the next federal administration, we're going to see an increased interest in the federal investment in regional infrastructure for all kinds of needs, including water -

MR. AVERY: Right.

ALTERNATE MEMBER BOB COOK: - and I'm sure they're going to be very interested in that apples-to-apples comparison.

MR. AVERY: Yeah, and - and I think that you've got a question that not only applies just to water, but also, perhaps, a lot more importantly, in terms of energy. And one of the first slides that we presented during the very first meeting was a discussion of how the - the energy costs of Tucson's current supplies, as well as future supplies, is sort of hidden in the price of water, but it is true that virtually every gallon of water that Tucson Water delivers has been pumped uphill, either out of the ground or through the CAP canal, some considerable height, before it's delivered back down to our customers. And so energy and water are always going to be an important component of our costs. And, to the extent that - that the true cost of energy, in terms of whether it's a carbon tax, or emissions credits or offsets starts to be captured, then you'll be able to more accurately identify what the true costs of water are, too, and that can inform decisions going forward.

CHAIRMAN JIM BARRY: Nancy, did I see your hand? Please.

NANCY FREEMAN: Since the State is issuing 100-year water supply certificates based on Groundwater Replenishment District only have 20 years of water supply, I would like to know on this ADD Water how much of the water has been allocated to the Groundwater Replenishment District, and is there a cap on the amount the Groundwater Replenishment District customers will have to pay for water?

MR. AVERY: I can answer part of that question and that is that the Groundwater Replenishment District is part of the ADD Process, and so they - they will be participating in that process going forward. And the - the question about -

NANCY FREEMAN: But, there's no - there's no certain amount that's been designated that's going to go to a Groundwater Replenishment District?

MR. AVERY: I'm going to let Ken answer that, 'cause

. . .

MR. SEASHOLES: Clarification on the first part of your question. The 100-year supply that's associated with certificates is groundwater. The consistency with goal, the requirement to offset that groundwater pumping with Safe-Yield is met through the CAGRD. So, the Replenishment District serves one piece of the Assured Supply Program; it doesn't guarantee 100-year supply to 100-year supply; it has to be proven on groundwater. I keep saying that until - until I - until I keel over.

The - the CAGRD Plan of Operation sets the parameters for how much obligation there is during the planned period for the CAGRD, and it's - 237,000 acre-feet was the - the amount that was identified through that planned period. There's a tracking process to see where we are relative to that that's regulated by the Arizona Department of Water Resources.

The recognition, in - in large part, about this process about cobbling together supplies and meeting our shared needs in a Service Area is partially recognition that the CAGRD, the replenishment responsibilities of CAP, are part of the supplies that need to be acquired. So, the data that both Chris pointed to and I pointed to out of the Plan of Operation was this idea, well, the CAGRD - which is to say CAP - needs to go acquire supplies to meet its replenishment obligation at the same time that individual cities need to do it; that individual other entities are trying to figure out how to meet their demands. So, we are all in the same boat. The - the Replenishment District members and the individual entities that are needing to meet those - those wedges that grow out into the future need to - need to be working on conservation; need to be working on local supplies; and they need to acquire new supplies; and that's where the - the GRD and the individual members come together in the ADD Water Process.

NANCY FREEMAN: And is there any cap on the amount that the Groundwater Replenishment customers will have to pay for water in the future?

MR. SEASHOLES: No.

CHAIRMAN JIM BARRY: Anybody else in the audience?

MADELINE KISER: I have two questions for - related questions for Chris, and one for Ken or for both. I wasn't clear, what will the breakdown be in terms of future supplies, local versus outside of the area? What were you projecting?

MR. AVERY: What I try to do is talk about those supplies in terms of what they are, not so much about how much they are, and that's because it's really hard to figure out. You - it's - it's relatively easy to know how much additional capacity there is in the CAP canal, and look at some portfolio supplies that's out there. How much of that gets to Tucson, hard to figure out.

In the case of - of local supplies, we have a fairly good idea about how much the effluent entitlement is going to grow, and it's roughly proportional to new demands, at least that's our expectation. It - what we don't know yet - 'cause the data's still pretty raw and new - is: How much of a source of either supply or conservation - depending on how you look at it - will rainwater and gray water harvesting prove to become? It's hard to tell at this point exactly what that's going to be.

MADELINE KISER: I'm just curious, like, the percentage of, you know, effluent, rainwater versus CAP -

MR. AVERY: We -

MADELINE KISER: - extra -

MR. AVERY: Yeah.

MADELINE KISER: - what -

MR. AVERY: We didn't - we deliberately didn't try to put numbers on that because it's - it's - they're - they're just wild guesses at this point.

MADELINE KISER: Okay. Relatedly then, you're talking about shifting from seven to \$800 to \$7,000 per - to \$8,000 per - when is that - how - when do you see that happening?

MR. AVERY: Well, I think that the first real indication of that's going to come out of the ADD Water Process. What we've dealt with in the - in the recent past in Tucson, as well as the three-AMA area, has been a renewable water supply portfolio that's all based on - roughly, on CAP costs, either the costs of - of direct allocations of CAP, or the cost of putting excess CAP or unused CAP allocations to use through Water Bank, Groundwater Replenishment District, Recharge Facilities, and - and otherwise.

There have been a few, from my perspective, at least, and I'm probably not aware of everything that's going on, but from my perspective, at least, there's been a few moderate deals here and there for small amounts of water rights on the Colorado River and - and things. But, the ADD Water Process has really - not only is it important in terms of developing a process and looking at putting CAP water to use, but the ADD Water Process is also critical, because what is going to come out of the ADD Water Process is for the first time some reasonable estimate of about what CAGR D supplies are going to cost in the future, and some reasonable numbers for what this next bucket of water is

going to cost in the future. And, at this point, we don't know, but I - I just, you know, I'm throwing -

MADELINE KISER: Is there -

MR. AVERY: - a number out there.

MADELINE KISER: - any estimates? Five years? Ten years? Two years as we start to shift? And that shifts into the next question too. I'll go ahead and just ask that one. It just seemed like - both of these just seemed like a tremendous shift and - locally and our state level, and I've been following the ADD Process. I've been online. I've been watching it with great interest. It hasn't been reported that thoroughly. And I know that the stakeholder process is really involved, but this is a major story for our State, and I'm wondering about what kind of out- - public outreach, you know, reportage on it you're planning, along with that question about when do we shift from \$700 to \$7,000.

MR. SEASHOLES: Well, I - I don't - I don't endorse that - that view. But - and one thing I think is important when people talk about costs associated with water is to differentiate between acquisition costs for rights versus an annualized delivery of an acre-foot of water.

MR. AVERY: And I agree. And I think they're both going to be in order of magnitude higher, but . . .

MR. SEASHOLES: Right. But - but - so, when you're looking around and you see kind of shocking numbers of, you know, one transaction, one place, one another, it does help to kind of look at, well, what - what was the transaction for? Was it for a perpetual right, high-priority right, and there's an up-front cost, or is that the delivery? There's a lot of kind of nuance to that.

In terms of sort of generating additional stakeholders and additional engagement, as important as the issue is, it's really kind of still quite blanche-ish (ph.); it's - we've had lots of conferences and discussions over - about the, quote, "next bucket supply" in the water community for a long time and it's hard to really get engagement interaction. I think that's - that's going to change in the next five years; that I'll - that I'll agree with for sure. And we've - we've seen some real markers on that.

Our Board, the CAP Board, was - was, I think, really kind of jarred into really look - taking a hard look at this in the CAGR Plan of Operation. When you roll out the numbers and it's a, you know, a quarter million acre-feet that needs to be acquire for the plan - for the membership that's going to enroll through 2015, those numbers start to really grab folks' attention.

And when we do start making these transactions, when we do have to acquire some of these rights, that's when the numbers become realer, and I think that's why you maybe don't have, you know, stories in the paper about it is that it hasn't really gotten to the point where it gets to people's pocketbooks or where the actual paradigm has shifted. We're - we're talking about it, but it hasn't gotten there yet.

MADELINE KISER: Thank you.

CHAIRMAN JIM BARRY: Anybody else? Colette?

COLETTE ALTAFFER: We've been talking about desalinization as another source of water, and we're looking at desalinization of brackish water up in the Phoenix area. You probably know there's huge energy costs associated with desalinization, as well as a waste stream that must be disposed of. Who's going to pay those costs if we're doing this up in the Phoenix area? And where are we going to store this waste stream?

MR. AVERY: I - I - I think that - you know, everyone - let me back up. I think, in some cases, the ADD Water Process is (inaudible) blot test and everybody can look at it and see what they want to see coming out of it. But, I think that one of the benefits of at least attempting the ADD Water Process is that I think you will - rather than having individual parties come in and try to cherry pick little pieces of supply, that you will start to see - at least I hope - a process where certain blocks of water, or - or aggregate clumps of water will be allocated at some relatively equitable price.

So, the folks who benefit from the additional water supplies that - that comes out of desalinization will be the ones paying those costs and - at least the way I see it. And those costs are - and, again, just my opinion, are going to be, in order of magnitude, higher because of the brine disposal costs, because of the increased energy costs, because of the incredible infrastructure investment you've got to make just to build the plant, and - and it's a significant difference between the water supplies that we have available today in going to that regime.

On the other hand, as I've tried to - we - we tried to show on the June 25th presentation, agricultural water, no matter how - how you slice the numbers, some - develops somewhere between \$1,000 to \$500 to \$1,500 of economic return to the State and to the country for every acre-foot of water that gets used. And, in Tucson, an acre-foot of water generates about \$150,000 worth of economic return. And so, while those supplies are likely to be, in order of magnitude, more expensive than existing supplies, it's also likely that municipal and industrial users will be able to pay those costs because of the

- what - what are, in my mind, enormous economic returns that come out of municipal and industrial use of water.

CHAIRMAN JIM BARRY: We have - over here, Mike.

MARK MARIKOS: Mark Marikos. One global question and one local one. On those three basins, has any thought gone into actually storing unused CAP allocations in those basins?

MR. SEASHOLES: There is a Recharge Facility in Harquahala. There's also an Irrigation District that receives CAP water and earns paper water credits. So, there is some activity there. Butler and McMullen are less developed and less ac- - directly accessible to the - to the CAP infrastructure. There's a private entity, Good- - Goodyear Water Company, has made investments in Harquahala to - to store excess CAP. So, the answer is yes, it's - it's happening.

MARK MARIKOS: Okay. Is there a fairly large capacity for storage there or is it - are the ba- - aquifers pretty close to full?

MR. SEASHOLES: The - the aquifers aren't necessarily full in terms of there being - there's - there's aquifer space. The actual Recharge Facility, the Goodyear Facility hasn't been one of the more productive ones; its infiltration rates aren't - aren't as high as, for instance, the City of Tucson's. So, there - there definitely are opportunities, but the - the supply there, the supply development, both in terms of the water that's been stored from excess CAP, as well as this groundwater that can be mined, is being investigated kind of a couple of different ways, whether it may be used as a - as a interim supply, a drought supply, those kinds of things. But, there's - there's been a noticeable up-tick in interest in - particularly in Harquahala, a lot of proposals, a lot of proposals for solar, large-scale development, all kinds of things out there, but we're - we're a ways away from anything concrete.

MARK MARIKOS: Okay. Then the local question. I know we've got a number of large holes along the Santa Cruz, gravel quarries and stuff. Has any thought been given to using some of those as storage of excess storm water?

MR. AVERY: I - I - I think the answer is there's been some thought, but not a lot on the gravel - the gravel pits. We are working with Pima County, basically, right now looking to try to identify some constructed recharge opportunities in the Santa Cruz River to try to increase infiltration rates and the - one of the real questions is: How you design facilities that are - not necessary flood-proof, but so inexpensive that when there - when there is one of those monster Santa Cruz River floods that everything washes away and you start over again.

And, as we move forward in that process, I think that we'll have in - in five years, or maybe even three years, we'll

have more answers about what works in the Santa Cruz River and what doesn't than we do today.

CHAIRMAN JIM BARRY: Anybody else?

MEMBER JOHN CARLSON: Jim, I have a question of - confusion on my part. Gray water. I'm - I'm in Colonial Verde and I was on their Homeowners' Association Board when a gentleman wanted to use gray water, and we turned him over to Tucson Water and they sent him to the - Pima County. So, have you got a jurisdiction thing there? And who's in charge? And what are the thoughts there?

MR. AVERY: I don't know the time frame that you're talking about, but - and I can't -

MEMBER JOHN CARLSON: A year and a half ago.

MR. AVERY: Yeah, I don't - I can't remember the date. As soon as I walk away from the podium, I'll know it. But, it seems to me that it's 2002 or '03 that the Arizona State Department of Environmental Quality adopted the gray water rules.

MEMBER JOHN CARLSON: Yeah.

MR. AVERY: And, before that, there was always some question about whether gray water reuse was legal or not, and whether it could be done in Arizona or not; that all changed with the adoption of those rules. So, that - those rules and, essentially, the adoption - it's called a "Gray Water General Permit" - basically mean that if you follow the rules in - in the permit and the conditions of the permit, that you can use gray water in Arizona. And so I don't know exactly what kind of run-around you were getting.

MEMBER JOHN CARLSON: Well, who - who - who's enforcing it? You just mentioned the environmental aspect.

MR. AVERY: In - in terms of the - the enforcement - that's a good question - ADEQ has the jurisdiction to enforce a violation of its rules, or a violation of what would be the general permit conditions. How it gets reported and whatever is a different question. But, it's clear that in - in Arizona - and you might have homeowners' association codes that I - that I don't know about - but, in Arizona, generally, if you want to use gray water to irrigate a non-food-bearing tree or a - or - or a food crop that's not likely to be - you know, you can irrigate a citrus tree, but you probably don't want to irrigate carrots with it - it's - it's legal. There's some standing-water restrictions, and some other - some restrictions about the source of the water that's used, and I can't answer the particular question. But, generally, gray water now is - is a legitimate use of water as long as those rules are followed, and that's what's the City of Tucson Ordinances are trying to build on is a way for homeowners who want to follow those rules

to have a source of supply that's available without grabbing a reciprocating saw and cutting holes in one's walls.

MEMBER JOHN CARLSON: Well, that's my confusion. They - they said once it got out there and started to flow it became a County jurisdiction because of the - the drainage system and so forth, and I'm just confused. Are you guys -

MR. AVERY: The Arizona rules -

MEMBER JOHN CARLSON: - stalking each other?

MR. AVERY: The Arizona rules basically say that if you want to use the water on your own property - and I don't - you say homeowners' association, I - anyway - if you want to use the water on your home - on your own property to irrigate certain kinds of trees, and - and you don't allow the water to pool so that it becomes a hazard, it's entirely legal to use gray water, and if you - if you violate some of those permit conditions, if you let the water pool, if you use the -

MEMBER JOHN CARLSON: Yeah.

MR. AVERY: - wrong source of water, if you - you irrigate the wrong plants, then you violate the conditions.

MEMBER JOHN CARLSON: Well, I'm - I'm with all that, but who's going to come and shut us down? You or the - or the County?

CHAIRMAN JIM BARRY: I - I think we don't know the answer.

MR. AVERY: Not me.

CHAIRMAN JIM BARRY: John, I'm going to go out to the audience.

MEMBER JOHN CARLSON: Please -

CHAIRMAN JIM BARRY: We got -

MEMBER JOHN CARLSON: - do that.

CHAIRMAN JIM BARRY: - we got another question out there.

WILLIAM CROSBY: William Crosby, Tanque Verde. I'd like to know if there is an annual acre-foot use figure for the Tucson Basin, both incorporated and non-incorporated areas.

MR. AVERY: Yeah, there is and we can - we can figure that out for you. In terms of how much water - Tucson Water delivers within the incorporated areas and how much water we deliver outside?

WILLIAM CROSBY: Right.

MR. AVERY: Yeah, we can provide that number for you. It's about -

WILLIAM CROSBY: Okay.

MR. AVERY: - 6,535. And I don't know exactly, but in terms of Tucson Water's provision of service, about 65% of the water that we deliver every year is delivered within the City limits, and about 35% to 40% is delivered outside the City

limits. Oro Valley doesn't deliver much water outside of its incorporated boundaries; not - not any that I know of. And I think Metro is entirely - well, I don't know the answer - Metro may deliver some small residual deliveries inside Oro Valley.

WILLIAM CROSBY: Okay. And is - question for Tucson Water - how active are the Central Wellfields?

MR. AVERY: Today, they're - they're pretty inactive. This morning, we delivered - well, last - last week, we delivered somewhere between 106 and 110 million gallons a day; and, of that supply, about 55% came from Avra Valley, about 45% came from our Wellfields, but only about 20 to 30 million gallons of that demand is coming from the Central Wellfields, a lot of it's coming from the Santa Cruz and the South Side Wellfields. So, at this point, probably a third of what was being pumped seven years ago from - from the Central Wellfield. We know that in the last seven years, in the area right around Rincon University High School that the water tables rebounded about 30 feet.

CHAIRMAN JIM BARRY: All right. Anybody else? Are we set up for Nancy now? Okay. Chris, Ken, thank you very much.

(Applause.)

<p>Presenter #3: NANCY FREEMAN, EXECUTIVE DIRECTOR, GROUNDWATER AWARENESS LEAGUE: STORM WATER RECHARGE</p>
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MS. FREEMAN: Well, I know why I'm going last, because I think this is very inspiring; to me it is. I - when I lived in Green Valley, I - I searched around and pestered Ken Seasholes and found out we had a 40,000 water - acre-foot deficit per year, and so I was - I joined a community garden over in Sahuarita, and they told me, "Don't - don't plant anything in the summer." And I go, "Yeah, it's too hot." "No, it all gets washed away because of the floods."

Last year, our toolshed, which is a huge toolshed with two or three rototillers, and all sorts of other tools in it, got washed across the - got washed across the garden and only got stopped by the fence. And I go, "There's that much water, you know. Why isn't somebody doing something?" So, I started talking to the different people in the neighborhood and they have photographs and it's true, we've got water.

This is El Toro Road. This is Delgado Road. And this - oh, pardon me - that first one was Davis Road. This is El Toro Road. And so we wanted to think about, "What are others

doing with their storm water?" This is a reservoir in Colorado where you can go fishing; there's a lot of these in California, too, recreational reservoirs to catch the storm water. And this is Bosque de la Apache in New Mexico, which is a managed wildlife refuge which is absolutely incredible. If you haven't been there, it's - it's something not to miss.

And this - of course, Australia, they got there before we did when it came to low water supplies. So, this is an example of a golf course that catches its storm water and stores it and uses it. Now, this is more sophisticated. This is also in Australia and on the website is posted their - their plan for water management in this whole district, and it's a really incredible, logical plan.

What are we doing with our storm water? Somebody's backyard. Cleaning water out of their home. This is a rescue team from Green Valley. They didn't have vehicles to get in there, so they had to borrow a backhoe thing. And these are kids going home from school. Their home's not quite the same as it used to be.

Now, this is a map of the floodplains in Tucson. Now, the pink areas are what the Flood Department has called the new sheet floodplains, so this is the region, one of the regions that I'm speaking of, which is south - south of Sahuarita Road, but these areas exist all over Tucson, and if you notice even part of it is a FEMA floodplain areas. So, there's - this is not rainwater harvesting. This is serious storm water and flooding.

And, of course, many people in Tucson don't - are stopped by not being able to get home from their jobs when there is a big rain storm event. And I will mention that this particular area - I'm sure they all have their own stories - it was settled in the '70s. A lot of the people there worked for Hughes, and they wanted to get away from it all. And - and, during the 1983 and the 1993 storm events, they had no problems at all with flooding. So, there's new water being created, and how is this - why is this flood water increasing? Some of it is definitely maintenance issues. In this region, the - the ditches are filled up along Sahuarita Road, washes are silted up. Washes that used to be six feet are now two feet, culverts are clog- - are clogged up. Some people swear that the ditches haven't been cleaned out in 20 years.

Now, there are some key issues. Swiftly-moving water creates hardpan, so it's going to move swifter. And also new roads and housing developments. Now, this is a piece of State Trust Land just to see the hardpan that's been created by swiftly-moving water moving over it in that same region. New developments.

Now, this is actually along Wilmot and Sahuarita Road. There's been a lot of development on Wilmot, and this is what the result has been. And, as you can see, a lot of this water is - it's a good view, so you can see a lot of this water is delivering down Sahuarita Road downhill.

So, how much water do we have in these floodplains? I mean, really no one knows. But, the region that I'm working with - there's about 1,000 acres involved. In rain events, there's six inches to three feet of overflow, and I'm talking about overflow. The washes in the - what's left of the washes and the ditches are totally full. So, we can say we have an excess of one foot over 1,000 acres, which gives us 1,000 acre-feet of water and that is in the - one region, and then there's another region from Wilmot to Country Club, the very same scenario. And this is 1,000 acre-feet of water every time it rains a good monsoon rain, four times this year.

Now, they have recharge basins in Chandler. And I used to live in Chandler, and I - I think - I - I just think they were doing a super job there. They - you don't have to use turf with recharge basins; some of those use the rocks.

Now, this is actually a soccer field, and this soccer field is a recharge basin. And what happens when it rains? Well, nobody plays soccer for two days, you know; it's just - it's just the reality. And how - and then how - oh, you make sure the water infiltrates. You notice the dry wells on the far end because it delivers down to this end and there's mandated to have the water cleared in 48 hours because mosquitoes will form in 36 hours. What do you do if - if, historically, traditionally doesn't clear? Simple. You put in another dry well. This is another - this is a recharge basin; it's got parts and metal equipment.

Now, as it turns out, Chandler has 3,763 dry wells in it, which is, you know, it happened over a long period of time; it didn't happen overnight. What's the cost of a dry well? Ten to \$15,000 each. Now - and this shows how the dry wells are mainly just in the open green space. And the - the historical recharge estimate for this area when it was under agriculture and not used for housing, the re- - estimate, recharge was 191 acre-feet annual. Now they're getting 3,600 to 4,600 acre - acre-feet, and this is what they call "incidental." These are places that had flooding, they put in a dry well to get the - to take care of the flooding problem. They really weren't attempting to augment the groundwater recharge.

Other projects in Arizona, it's Tucson, kind of fuzzy photo, but there it is, Kino recharge - not recharge - Kino storm water project; that's in 2001; and there it is in 2005; that catches storm water to use for the ballpark.

And this is El Coronado Ranch in Cochise County, before picture, and notice those stubs, those stubs are actually branches of a willow tree that - not rooted or anything; after picture.

And now I've been - we've been talking about rural area. I want to just quickly give this information on Santa Monica, which did a storm water recycling facility. Santa Monica, as it turns out, has 12 inches of rain per - per year, the same as Tucson. And I'm just going to go through it quickly, just to show you what you have to go through when you're filtering and catching urban storm water. But, there is an interesting story here, and that is look at, they got their - their money from so many different sources, that ISTEA is a federal pool of money in - considered with transportation, but also EPA has funds, but basically we're thinking about projects upstream. We're in a basin, all the water is flowing downstream to us. If we get the flooding taken care of in the perimeters, then there's going to be less flooding in Tucson itself.

And I ran across in the - from Douglas County, the Colorado Storm Water Management Website, a little paragraph that is just so appropriate. "Nature has claimed a prescriptive easement for floods via its floodplains that cannot be denied without public and private cost. Flooding can result in loss of life, increased threats to public health and safety, damage to public and private property, damage to public infrastructure and utilities, and economic impacts to the residents of the County. In contrast, natural floodplains provide many benefits to the citizens of the County, including natural and attenuation of flood peaks, water quality enhancement, groundwater recharge, wildlife habitat, and movement corridors for wildlife, and opportunities for recreation."

So, I want to think of this storm water as an asset and that we can use as recharge in some areas, and recharge the water where it is instead of moving - moving it around and paying for a lot of infrastructure. Thank you.

CHAIRMAN JIM BARRY: Thank you, Nancy. Very good.
(Applause.)

CHAIRMAN JIM BARRY: Very informative.
Okay. We're going to do Call to the Audience.

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CALL TO THE AUDIENCE

CHAIRMAN JIM BARRY: Okay. We're going to do Call to the Audience. Charles, do you want to . . . ?

CHARLES COLE: Mr. Chairman, I - I was out of town and missed two meetings, and they were recent meetings and I reviewed them on the website and saw that some misleading information on cost of rainwater harvesting was presented. I'd like to take about three minutes to correct the record.

In answering a question from the audience on October 2nd, Mr. Avery compared the cost of our residential rainwater harvesting system to the \$20 or \$25 average household's monthly water bill. He was essentially comparing the cost of apples and oranges because of the following: One, our system was built in a remote, semi-remote location, with no other development occurring at the time. So, we had no options for cost sharing; whereas, most people in Tucson are spreading infrastructure costs across thousands of households.

Two, mortgage estimates for our costs were based on year 2003 costs, but the Tucson Water infrastructure was priced decades ago. The monthly water bill stated for Tucsonans does not - and this is number three - does not accurately reflect what citizens are paying for their water.

For our system, the reasonable comparison would be with the estimated costs the Pima County Board of Supervisors obtained a year or so ago for possibly extending water service up Camino Del Cerro, the next canyon to the north of us. If the Board had not voted that down, they would have assessed each household at least \$50,000 to \$60,000, plus a connection fee, plus a monthly water fee. This cost would have been far more expensive than our system, and ours provides outstanding water quality.

In addition, Mr. Avery's use of the \$20 to \$25 average water bill per month in Tucson does not reflect properly what people are actually paying for water. After the last meeting, last week's meeting, I asked Mr. Mitch Basefsky if they had any idea how much people are paying for bottled water. He said that a survey was conducted about two years ago and, if he recalled correctly, people were paying \$28 to \$30 a month for bottled water. This would bring the average monthly water cost to \$50 per household, if accurate, not \$20 or \$25.

In considering such things as untapped water sources, innovative planning, and extending new water surface - new water service - excuse me - to areas that will include shared costs among many water users, futuristic planning should include thinking out of the box, being entirely objective without bias, and costs analyses for possible alternative systems must include appropriate comparisons, not the apples versus oranges phenomenon.

You are discussing extremely serious issues here, and anybody who would use misleading comparisons or funny numbers

would be providing a great disservice to the Committee and to the citizens of Southern Arizona. Thank you.

CHAIRMAN JIM BARRY: Tracy, you want to . . .?

TRACY WILLIAMS: Thank you, Mr. Chair and Committee members. Clearly, one of our community's greatest concerns is the aging infrastructure of Tucson Water and Pima County Wastewater Departments. Many of the pipes, pumps, wells, and treatment plants are outdated, and due to be replaced. This places a huge burden on the employees who are responsible for the operation and maintenance of these vital systems. To improve our understanding of the big picture, we asked the Water Committee to acquire some basic Human Resources information.

Number one - and, Melaney, I'll get this to you in writing, so you don't have to put it on the chart - overall, how many people are currently employed at Tucson Water and Pima County Wastewater? How do these numbers compare with people employed there five years ago, back in 2003?

Number three. How many people work in Operations and Maintenance for both of these systems? And what are their responsibilities, like, what are their job descriptions?

And four. Are any of these Operation and Maintenance jobs being outsourced to private contractors, consultants, companies, or individuals? If so, what are the timelines related to those contracts? How much is being paid? What are the costs related to those contracts? If there are, do they produce reports, and are those reports available as public records? Please provide these reports for our review. Thank you.

CHAIRMAN JIM BARRY: We'll - we'll do that. Asking about how many people work there reminds me of back in 1963 somebody asked John Paul the 22nd, who was the Pope at the time, how many people worked in the Vatican and he said, "Oh, about a third." So, maybe we'll get you that information.

Anybody else? Call to the Audience. Colette?

COLETTE ALTAFER: I feel like I've gone down the rabbit hole when it comes to talking about effluent and gray water. We talk about the amount of gray water increasing as the population increases, but the water to fill the toilets has to come from somewhere first; doesn't come out of thin air. So, it sounds like we're not factoring that in.

And then we talk about how we're going to conserve water by putting in gray water systems but, because of the way our sewer system is designed, it is designed at a particular pitch, which means you have to have a certain amount of water in the system in order for the sewer system to function, and if we start taking water out, that may amount to a savings for me if I put a gray water system in, but somewhere down the line we've

got to put - whether it's potable or pipe effluent back uphill to put it back into the system. So, it looks like all we're doing is redistributing my costs to the rest of the community that doesn't put a gray water system in, and I 'm just hoping we don't lose sight of that and that we keep that in mind is that, at this point, it doesn't really sound like a real conservation measure.

MEMBER JOHN CARLSON: Yeah, we addressed that last time; that there's -

CHAIRMAN JIM BARRY: Yeah. Anybody else? Anybody want to adjourn? Done. Thank you all very much.

(Conclusion of meeting.)

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CERTIFICATE

I hereby certify that, to the best of my ability, the foregoing is a true and accurate transcription of the audio recording of (Call to the Audience) of the City/County Water & Wastewater Study Oversight Committee Meeting held on October 15, 2008.

Transcription completed: October 19, 2008.

DANIELLE L. KRASSOW-TISDALE