STATE WATER RESOURCES CONTROL BOARD

---oOo---

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

PETITION FOR CHANGE

---oOo---

HELD AT

PAUL BONDERSON BUILDING
SACRAMENTO, CALIFORNIA

TUESDAY, JANUARY 17, 2001
9:00 A.M.

---oOo---

Reported by: ESTHER F. SCHWARTZ
CSR NO. 1564

APPEARANCES

BOARD MEMBERS:

ARTHUR G. BAGGETT, JR., HEARING OFFICER

STAFF MEMBERS:

ERNEST MONA
THOMAS PELTIER
MELINDA DORIN

COUNSEL:

DANA DIFFERDING

REPRESENTATIVES

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY:

SOMACH, SIMMONS & DUNN
400 Capitol Mall, Suite 1900
Sacramento, California 95814
BY: ANDREW M. HITCHINGS, ESQ.

DEPARTMENT OF FISH AND GAME:

NANCEE MURRAY, ESQ.
1416 Ninth Street, 12th Floor
Sacramento, California 95814

SOUTHERN CALIFORNIA WATER COMPANY AND
CITY OF BARSTOW:

MCCORMICK, KIDMAN & BEHRENS
695 Town Center Drive, Suite 1400
Costa Mesa, California 92626
BY: ARTHUR G. KIDMAN, ESQ.

APPLE VALLEY RANCHOS WATER COMPANY:

NOSSAMAN, GUTHNER, KNOX & ELLIOTT
445 South Figueroa Street
Los Angeles, California 90071
BY: ANDREW J. YAMAMOTO, ESQ.

JESS RANCH WATER COMPANY:

GARY LEDFORD
11401 Apple Valley Road
Apple Valley, California 92308

JOSEPH VAIL: (Not present.)

JOSEPH VAIL
16993 Abbey Lane
Victorville, California 92394

---oOo---

INDEX

INDEX (CONT.)

---oOo---

SACRAMENTO, CALIFORNIA

WEDNESDAY, JANUARY 17, 2001, 9:00 A.M.

---oOo---

H.O. BAGGETT: Good morning. We will continue the hearing on the Victor Valley Wastewater Reclamation Project. I think everybody knows each other. Let's get to it. We will see if we can get it done today or not. See how it goes.

We will start with -- Fish and Game is up with their case in chief.

Ms. Murray, it's all yours.

MS. MURRAY: Thank you.

My name is Nancee Murray. I am counsel for the Department of Fish and Game, and I am going to give a brief opening statement.

In general terms, DFG does not oppose this project. We simply want to make sure that the public trust resources are protected while the project goes on.

DFG conducted good faith negotiations with VVWRA that resulted in a settlement agreement submitted to the Board. VVWRA withdrew from that settlement agreement, resulting in this hearing. DFG has submitted testimony consistent with that compromise settlement agreement of which it believes -- what it believes is necessary to avoid take of listed species on the project.

DFG is not asking for environmental enhancements, full protection of all species in the vicinity or restoration of miles of habitat already lost. DFG is merely trying to maintain a remnant riparian area in an arid part of the desert.

Counsel for VVWRA said in his opening statement that the issue of take in this proceeding is a red herring. I respectfully disagree. The Water Board is a responsible agency under CEQA and is required to make findings regarding significant impacts that result from its action.

VVWRA has admitted in its testimony that approximately 1.5 miles of wetted river will be lost, and you will be hearing testimony from us that we believe it is a little bit more than 1.5 miles. Mr. Dodson admitted on cross-exam that he never considered that information in preparing the negative declaration. What is the impact of the loss of surface water of 1.5 miles? It has not been analyzed. The loss of 1.5 to 2 miles, as we will testify, of wetted river is significant new information that may require a new CEQA document to be prepared prior to the Board's decision.

Counsel for VVWRA also narrowly construes this Board's required analysis under the Water Code. Again, I respectfully disagree. Not only must the Board find that the proposed diversion will not injure users of water, such as fish and wildlife, but the Board also has an obligation

under the Water Code not to approve a petition for a long-term transfer that would unreasonably affect fish, wildlife and other instream beneficial uses. And I believe that take is an unreasonable effect.

In addition to its obligation under CEQA and the Water Code and clearly set forth in your Decision No. 1638 regarding a wastewater petition submitted by the City of Thousand Oaks, this Board has an obligation to protect public trust resources when granting a petition such as VVWRA's. In making a determination regarding public trust resources, the endangered status of some of those resources and conditions necessary to prevent adverse impacts to those resources, is not only relevant but it is integral to a Board's decision.

DFG will present evidence today regarding hydrologic continuity between the Mojave River and the source of wastewater supply to VVWRA, the impact of the proposed decrease in VVWRA discharge on surface and subsurface flow, the impact that those decreases in surface and subsurface flows may have on fish and wildlife and other public trust resources, the importance of the depth of the water table in assessing the impact of the proposed project on the riparian area, and what DFG believes is necessary to prevent take of the listed species.

DFG would like to now present its panel of witnesses.

The first to testify will be Mr. Custis.

---oOo---

DIRECT EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY MS. MURRAY

MS. MURRAY: Mr. Custis, is CDFG Exhibit 1 a correct copy of your qualifications?

MR. CUSTIS: Yes.

MS. MURRAY: Would you please briefly summarize those those qualifications.

MR. CUSTIS: I am currently employed as a senior engineering geologist with the California Department of Conservation's Division of Mines and Geology. I have 23 years' experience as a professional geologist, including five years with the State Water Resources Control Board and Regional Board. I have California licenses as a registered geologist, certified engineering geologist, a certified hydrogeologist. I have a Bachelor's and Master's degree in geology and approximately 25 plus graduate units at U.C. Davis in groundwater and surface water and hydrological sciences.

MS. MURRAY: Is CDFG Exhibit 2 a correct copy of your written testimony?

MR. CUSTIS: Yes.

MS. MURRAY: Would you please briefly summarize your written testimony.

MR. CUSTIS: First, I would like to talk about the issues that we agree with VVWRA. One of the issues is that most of the water treated by the VVWRA plant is from the groundwater pumped in the Upper Alto Basin or above the Lower Narrows. Second, we agree with VVWRA that the Mojave River surface water and groundwater are hydraulically connected. Third, we agree with VVWRA that the riparian -- that there was riparian downstream of the plant prior to its operation.

What I would like to go through is, time permitting, critical questions that were asked. The first one being to what extent does water supply to VVWRA deplete the Mojave River?

Fish and Game's Exhibit 4, the upper graph which comes from the water master's sixth annual report, shows the historic discharge of base flow and storm flows as measured at the Lower Narrows since 1930 through 1998. It's separating out the base flow and the storm flows.

The darker bars are the base flow and the spikes that are unfilled are the storm flows. Note the general decrease in base flow beginning about 1980. Right up in here, beginning to drop in base flow.

The lower graph of Exhibit 4 shows the discharge of VVWRA beginning in the mid 1980s and rising steadily to approximately 9,000 acre-feet per year today.

Figure 11 of the Todd Report, Fish and Game's Exhibit 3, shows the volume of groundwater and storage above the Lower Narrows has declined. There is an overall decline of approximately 800,000 feet since the 1950s. You can see there is some periodic rises since that time that are due to high storm flows. If you compare that with Figure 4 which has the storm flows, you can see when those correlate.

This is Figure 10 of the Todd Report, Fish and Game Exhibit 3, shows since the 1990s the discharge from the VVWRA plant has been a significant portion of the total base flow of the Alto Transition Zone below the Lower Narrows. We don't have on this graph the 21,000 acre-feet per year reference line that was determined in the judgment, but you can see 20,000.

What this graph is showing, the darker bars are VVWRA discharge and then the unfilled bars are the base flow measured at the Lower Narrows gauge.

The development of the VVWRA regional sewer system in the 1980s coincided with the dramatic decrease in the base flow measured at the Lower Narrows. In general, the connection of discharges to a regional system reduces the direct recharge, discharge, that would occur with a local disposal practice such as percolation ponds or leach fields and shifts the recharge or discharge to a centralized location, in this case to the VVWRA plant.

It should be remembered that in the judgment it was assumed that 50 percent of what is produced is consumed and the other 50 percent is available for recharge back to the system. In the VVWRA case the Upper Alto pump groundwater is diverted around the Lower Narrows gauge in discharged downstream into the Alto Transition Zone. Prior to the 1980s base flow in the Lower Narrows averaged approximately 21,000 acre-feet per year, as stipulated in the judgment and in VVWRA -- which is included in VVWRA's Exhibit 1-J and as shown in the Todd Report. If you look at that graph, you can see why they came to that judgment. Since the mid 1980s the base flow at the Lower Narrows gauge is generally below 8,000 acre-feet.

MS. MURRAY: This is Figure 10 from Exhibit 3.

MR. CUSTIS: Figure 10, again.

Again, you can see where we don't have an 8,000 marked on here, but you can see where 5- and 10,000 and over on the right-hand side of the graph the unfilled bars represent the base flow, and they are generally below 8,000.

Today VVWRA's discharge makes up approximately 40, 50 percent of the total base flow in the Alto Transition Zone as shown in Figure 10 of the Todd Report, Exhibit 3, Fish and Game. VVWRA's discharge provides not only surface water to the Mojave River, but also groundwater recharge in the Alto Transition Zone.

In conclusion, from these data we conclude there is an apparent permanent drop in the base flow delivered to the Lower Narrows since 1980, such that the annual average today is approximately 8,000 acre-feet per year as measured at the Lower Narrows gauge, well below the historic 21,000 acre-feet.

That drop in base flow coincides with the rise in discharge from the VVWRA plant. Today, that is today, approximately 9,000 acre-feet per year.

The amount of groundwater in storage below the Lower Narrows has steadily declined since before the VVWRA plant began discharging.

The drop in base flow delivered to the Lower Narrows may be due to one or both, the drop in groundwater storage in the Upper Alto subarea and a redirection sewer recharge from the Upper Alto to the Alto Transition Zone. Over the last decade VVWRA discharge made up a significant portion of the total base flow in the Alto Transition Zone and VVWRA discharge makes a significant contribution to the recharge of the aquifer beneath the Mojave River in the Alto Transition Zone.

Next question is: To what extent does VVWRA's discharge offset any reduction in the Mojave River flow?

Well, the average annual base flow and storm flow discharge are important numbers and more critical to the

health of a riparian stream habitat. These are average daily flows. The data on the average daily flows at the Lower Narrows were not readily available to me. These data -- there are data on monthly average flows, both for base and storm flows. The water years, 1997-98, water year 1998, and water year 1999. This data is provided in Fish and Game Exhibits 5A and 5B. This is Exhibit 5A which shows at the forks, Lower Narrows, Barstow and Afton the gauging information by the month at Lower Narrows comparing this graph, which is 1990 water year. Shows that the base flow is about 9,000.

MS. MURRAY: This is water year 1998, correct?

MR. CUSTIS: This would be water year 1999. I gave you the wrong -- this is 5B.

The base flow at the Lower Narrows is about 8,900 to 9,000 acre-feet per year. The storm flow is about 320. Previous year, water year '98, we had a base flow of around 10,000 acre-feet. Note on the storm flow of around 73,000 acre-feet per year, a significant difference.

These exhibits show storm flows in the Lower Narrows very significantly from year to year and monthly. Base flows at the Lower Narrows vary less significantly than the storm flows from year to year and monthly. The majority of the total annual flow at the Lower Narrows occurs in the months of December through May. You can see that if you

look at the distribution of the flows, for base flow and the total flow.

For the two years shown it varies approximately 66 to 96 percent. There is a significant reduction in the base flow at the Lower Narrows during June through November over the December through May period. In the two years shown summer months base flow in the Lower Narrows was as low as approximately 10 to 15 percent of the winter months' base flow.

As discussed before with the Todd Figure 10, Fish and Game Exhibit 3, the annual total flow of the Alto Transition Zone is made up of approximately half natural base flow and approximately half VVWRA discharge today. Monthly discharge from the VVWRA plant is approximately 700 acre-feet per month, assuming that a discharge, annual discharge, of around 85,000 acre-feet is uniformly distributed over the year.

During the summer months, the VVWRA discharge makes up as much as 85 percent of the total base flow in the Alto Transition Zone.

CDFG's Exhibit 6, which is the smaller of the posters, shows the Alto Transition Zone in October '98, including the wetted channel. The wetted channel is shown on here as the blue. So you have an area down here that is wetted, and here is VVWRA plant which is in Township 6, Range 5 west,

Section 12. And the blue going down here is the plot of what is wetted, and you have a little bit of an area in here which looked that it is moist. Is not wetted further down.

MS. MURRAY: When you say area wetted and a little bit moist, approximately how many miles past VVWRA or downstream of the VVWRA plant are you referring to?

MR. CUSTIS: This is about six and a quarter miles of unwetted and another quarter mile or so of moist soil in area -- Township 7 north, 5 west, Section 12 for reference.

One thing to note on this figure is that the base flow from the Lower Narrows disappears from the channel before reaching the VVWRA plant. This is a typical condition today. You can see down here the surface water flow is marked up to here, disappears --

MS. MURRAY: Surface flow is marked up to around?

MR. CUSTIS: It is about a mile, about a mile.

MS. MURRAY: Approximately?

MR. CUSTIS: Little bit of saturation in the soil here and then it dries up until it reaches the plant.

MR. LEDFORD: A mile from the Upper Narrows gauge?

MR. CUSTIS: Upper Narrows gauge.

MS. MURRAY: A mile downstream?

MR. CUSTIS: Downstream.

Loss of surface water here is due to pumping wells that draw down on the water table and surface water readily

infiltrates into the channel bed, filling the pores of the unsaturated zone. The conclusion is that VVWRA's discharge makes up approximately 50 percent of the total surface water flow in the Alto Transition Zone. During the summer months VVWRA's discharge makes up to 85 percent of the total flow. Without the VVWRA discharge it is likely that no surface water will be present in the Alto Transition Zone for much of the summer given that the base flow measured at the lower gauge infiltrates into the channel within a few miles downstream of the gauge.

Today the surface water flow made from base flow and VVWRA discharge are critical to maintaining stream habitat along the Alto Transition Zone, and a reduction in surface flows will result in loss of habitat.

Third critical question here is: How will the reduction of VVWRA discharge of 1.5 million gallons per day impact the riparian?

Based on the VVWRA's Exhibit 5C and the lines --

MS. MURRAY: Exhibit 5C is what?

MR. CUSTIS: It's the map that was just handed out.

MS. MURRAY: It's the Lines Bilhorn Report.

MR. CUSTIS: It's the Lines Bilhorn Report.

MS. MURRAY: Which includes the plate that was just handed out?

MR. CUSTIS: Yeah. USGS No. 96-4241 and Lines USGS

Report 99-4912.

The vegetative water demand for cottonwood willow riparian needs approximately four acre-feet of water per year to be healthy.

MS. MURRAY: Is that four feet or four acre-feet?

MR. CUSTIS: Four feet of water per acre, so it is four acre-feet per acre. Thus a reduction of 1600 acre-feet annually will impact approximately 420 acres of cottonwood, willow riparian by reducing the available water. The method for reducing water to the riparian comes in two processes: reduced surface water flows and reduced groundwater recharge.

Fish and Game's Exhibit 6 shows the wetted channel for October '98 extending approximately six and a quarter or six and a half miles downstream from the VVWRA plant, and we've already showed that, previous question.

Also shown is the drying up of the river just below the Lower Narrows until the VVWRA plant discharge point. The 1.5 million gallons per day is approximately 20 percent of the VVWRA's average daily discharge based on 8,500 acre-feet per year total plant discharge. You need to remember that in the summer months that discharge makes up approximately 85 percent of the total flow.

The reduction of 1.5 million gallons per day would reduce or cease flows along the lower most reach of the Alto

Transition Zone and reduce the width of the riparian along much of the channel below VVWRA. Approximately one and a half to two miles of riparian would be impacted. By remembering that it is the depth to groundwater that impacts the health of riparian, the long-term reduction in groundwater recharge provided by VVWRA discharge will cause a cumulative impact that lowers the groundwater table and will likely impact more channel than just the surface flows would suggest.

As stated in the Lines Bilhorn Report, VVWRA Exhibit 5C, a water table of less than eight feet is necessary, eight feet to the surface is necessary to maintain healthy cottonwood riparian. Thus the stress on the riparian is likely to extend approximately one and half to two miles downstream when you have the loss in that flow.

Reduction in the riparian may occur along the entire channel below VVWRA because the width of the wooded channel will also be reduced in the lateral extent of the saturation, as well as the lateral extent of saturation. For example, Fish and Game's Exhibits 8 and 9, which are the 1951 air flows, shows the wetted channel in the vicinity of VVWRA discharge to be in several channels in December 1951. In this black and white, the dark areas along here are wetted channel. The white areas are dry, and the riparian is sort of a gray. You can see that you have an abraided

system. You have multiple channels wetted, all the way from the lower gauge down.

This is Exhibit 9 and the mouth of the arroyo with the irrigated area that is on the west of the channel. That is where the VVWRA plant will go. It goes beyond the VVWRA plant and extends somewhat up to the top of the exhibit. We can see that channel is moist, if not wetted.

The Todd Figure 10, Fish and Game Exhibit 3, in the judgment the total base flow at the Lower Narrows that year is approximately the average, 21,000 acre-feet per year. If you compare the width of the wetted channel in 1951 with the width of the channel in 1998, Fish and Game Exhibit 6, you can see that there has been a significant reduction of width of channel that is wetted with flows today.

I think that is the end of my testimony for the questions that are most critical.

MS. MURRAY: You have time to do one more question.

Do you want to clarify between '51 and '98 why the channel would have narrowed?

MR. CUSTIS: Well, you have a large drop in base flow coming through the Lower Narrows, and you have -- you see in '98 that the flow doesn't make it past a mile or so downstream from the Lower Narrows. So, I think that your -- right now that it is VVWRA's discharge that is providing the flow since it is being discharged into a single channel, it

is not braiding out.

Last question would be: Will approval of VVWRA's change petition affect groundwater levels in the Alto Baja Centro, Este or Oeste Basins subareas?

Since the Este or Oeste are upstream of VVWRA, their discharge will not affect those basins. The change in the discharge rate that the VVWRA plant will have is the greatest impact on the portion of the Alto subarea below the Lower Narrows. The Centro and Baja subareas are also downstream of the point of discharge, VVWRA discharge, and they may be impacted.

The discharge from VVWRA plant adds significantly to the base flow of the Alto Transition Zone as shown in Todd Figure 10.

MS. MURRAY: Which is in DFG Exhibit 3.

MR. CUSTIS: Three. Since recharge of groundwater aquifer below the Mojave River comes most from infiltration through riverbed, any reduction in river flow will have a corresponding reduction in volume and perhaps rate of groundwater recharge.

Impact to the Centro and Baja subarea will be both a reduction in surface water flows that are available to reach the subareas and a reduction in recharge to the subareas. Todd Figure 11, which is Fish and Game Exhibit 3 -- excuse me, Todd Figure 12 shows the historic impact that has

occurred with surface water discharge between the forks, the Upper Alto subarea, Barstow, and the Lower Centro subarea, using a double mass curve technique. This figure shows that a historic reduction in flows reaching the Barstow area since 1950.

What this graph shows is a plot of discharge, cumulative discharge, at the forks and cumulative discharge as measured at Barstow gauge. If these two discharges are related, they are going to plot a straight curve. But if there is some change in the hydrology, that curve is going to deviate. And what Todd showed was that around 1950 there is a shift in that curve which implies that there has been less water reaching Barstow than was discharged at the forks.

The reduction from 41 to 18 percent of the forks flow now reaches Barstow. There is no direct data on the historic changes in the volume of groundwater flowing between each of the subareas, as there is with surface water flows. But some interference can be based on groundwater base flow changes, how much water goes between the different basins in subsurface.

Todd Figure 11, Fish and Game Exhibit 3, shows correspondence between reduction in surface flow that reaches Barstow around 1950 with a reduction in groundwater storage above the Lower Narrows. So as shown above, most of

the recharge to groundwater aquifer below the Mojave River comes from recharge from surface water flows. Thus a reduction in surface water flows at the Alto Transition Zone will likely reduce the volume and rate of groundwater recharge and reduce the groundwater flowing downstream to the Centro and Alto subareas. It also reduces the amount of water that -- the amount of storm water that is available to pass over the water bridge in the Lower Narrows down through the Centro basin because the groundwater basin -- if you decrease the volume of the groundwater basin when you have storm flows, some of that storm has to recharge the groundwater in order for storm flows to pass through.

That is the end of my testimony.

MS. MURRAY: Department of Fish and Game's next witness is Ms. Becky Jones.

Ms. Jones, is CDFG Exhibit 12 a correct copy of your qualifications?

MS. JONES: Yes, it is.

MS. MURRAY: Would you please summarize those qualifications for us.

MS. JONES: I have a Bachelor's degree in wildlife zoology with a concentration in wildlife management and conservation from San Jose State University and an additional 12 units in entomology. I have worked as an environmental specialist with the Department of Fish and

Game since October of 1992 and have been working on natural resource issues within the Mojave River since about January 1993.

I am a member of the Mojave River Habitat Restoration Task Force, the Mojave River Watershed Stakeholders Group and the Alto Subarea Advisory Committee for the Mojave River Adjudication.

MS. MURRAY: Is CDFG Exhibit 13 a correct copy of your testimony?

MS. JONES: Yes, it is.

MS. MURRAY: Would you please summarize your testimony for us.

MS. JONES: I would like to start by giving a few terms that I will be using in my talk here. I will be using the term "in the vicinity of VVWRA." And when I refer to that I am speaking from the Mojave Narrows gauge area up to approximately a mile past Bryman Road area, and that is about a 9.5 mile stretch. The other term I will be using is "upstream of the vicinity area," and that includes approximately, maybe about five to six miles upstream or north of the Lower Narrows gauge area.

MS. MURRAY: Is that north or south?

MS. JONES: South, sorry, of the Mojave gauge area, which will include Mojave Narrows Park and the Upper Narrows area.

During my time with the Department I have visited the area or the vicinity of VVWRA over a hundred times, working on different projects within the area. During those visits some of the species that I have observed in the area is the state and federally listed endangered Least Bell's Vireo. I have seen beavers and bats, western toad, Pacific treefrog, herons, egrets, mallards, teals, buffleheads, ruddy ducks, golden eagle, northern harrier, red-tailed hawk, black phoebe, ash-throated flycatcher, barn swallows, western bluebirds, loggerheaded shrikes, various other wrens and sparrows and birds and mosquito fish and the three-spined stickleback fish.

Besides the listed Least Bells' Vireo, other sensitive species that are known to be present within the vicinity include the state and federally listed southwest willow flycatcher, summer tanager, brown-crested flycatcher, vermilion flycatcher, and southwest pond turtle.

Sensitive species that I believe may reside in or use the area is the state listed yellow-billed cuckoo, the state fully protected southern bald eagle, state listed Swainson's hawk, yellow warbler, the federally listed southwestern arroyo toad, the federally listed California red-legged frog, two-striped garter snake, and the Mojave River vole.

I believe some or all of these species may be found in the vicinity of VVWRA because of the contiguous stretch of

habitat that exists from the area upstream to where these animals have been reported. Unfortunately, there is limited information on the area because there has not been a lot of surveys done. But the area contains some of the pristine habitat along the Mojave River.

There are over a hundred different other species that may be using this area due to the high habitat diversity and that are known from areas upstream. Some of these species migrate through, some nest during the spring and summer months there while others are permanent residents.

I would like to show some of the photos of the habitats, the different habitats that exist along the river.

Department of Fish and Game Exhibit 14 is the open flowing water. This photograph was taken north of Bryman Road which is about four miles north of the VVWRA discharge, which is up in this area right in here. As you can see, there is an open channel, some sandy banks. It is mostly a willows scrub-type habitat that you see here, and this is some cottonwoods out along the side.

The next photograph, also DFG Exhibit 14, shows areas of sandy channel. In these areas you will have intermittent flows that go through when it rains and then they will dry up, but you still have your cottonwood habitat out along the side.

MS. MURRAY: Becky, where was this photograph taken?

MS. JONES: This photograph was taken six miles north of the VVWRA discharge, which would have been taken right about this area.

The next type of habitat you will find out there, and this was taken approximately 1.5 miles north of the VVWRA discharge point. That one would be located right in this area in here.

MS. MURRAY: That is Department of Fish and Game Exhibit?

MS. JONES: Exhibit 15.

It shows your ponds that you have out there. Most of the ponds you will find were created by beavers in the area. And it's -- besides created by beaver, they aren't manmade. They have great habitat. You will get your reeds and rushes and tulles and that type of thing along there, along with the cottonwoods further back and willows closer to the water area.

And this is the picture of the mature riparian forest. This was taken directly across from the VVWRA discharge on the east side of the river.

It is my opinion that the approval of the VVWRA's petition for change of discharge would adversely impact fish and wildlife within the vicinity of VVWRA. Mr. Custis testified that approximately 1.5 to two miles of stream

channel would no longer be wetted. This would kill the willow riparian habitat. Therefore, this would decrease breeding, nesting and foraging for such species as the listed Least Bell's Vireo, the listed southwest willow flycatcher, the summer tanager and other previously mentioned within about a two-mile reach of the river where these birds are known to occur.

It would also decrease breeding, nursing, foraging and/or adult habitat for species such as the arroyo toad, the red-legged frog, two-striped garter snake, southwest pond turtle and Mojave River vole because areas of flowing or standing water are critical for these species.

Changes in depth of the water or length of flow could have significant affects on those species. As stated in Mr. Custis' testimony, the proposed reduction in discharge would mean that the water demand of approximately 420 acres of riparian habitat below the VVWRA discharge point would not be met.

This greatly reduces available habitat for breeding, nesting, foraging and/or roosting in this area for species such as the listed yellow-billed cuckoo, the fully protected bald eagle, the listed Swainson's hawk and other raptors using the area.

If the change in discharge is granted, there will be an adverse affect to fish and wildlife, and it is my opinion

that an incidental take permit under Section 2081 of the Fish and Game Code would be needed for the project. I also believe that the take of listed species could be avoided by VVWRA continuing to discharge not less than 8,500 acre-feet annually or not less than 23.3 acre-feet per day. The 23.3 acre-feet per day is a mathematical calculation, and due to time constraints the Department did not have time to study the possible seasonal differences.

In addition, as we have seen in Mr. Custis' testimony, there is a strong relationship between the decrease of base flow and the increase of discharge from VVWRA. It's the Department's recommendation that a portion of the increase input into VVWRA be dedicated to the environment to maintain the habitat downstream.

In closing, I would like to say that the portion of the Mojave River that is downstream of VVWRA is some of the most pristine habitat that I have seen out along the river or almost anywhere. The reason for that being is that all, or if not all most of it, is privately owned and has little disturbance from the outside world. As I mentioned before, unfortunately we do not have a lot of studies from this area because it is privately owned and access is an issue.

Most of the habitat upstream has been impacted by flood control activities, off-highway vehicles and other human uses. This is one reason why it is my professional judgment

that some of the species that I have mentioned above may be using this area. To quote the Audubon members who worked on a rapid assessment account this year within the Mojave River area, this is argumentably the most extensive and healthy riparian habitat in California south of the South Fork Kern River Preserve and one of the most desert riparian habitats in the state.

Thank you.

MS. MURRAY: That concludes our testimony.

H.O. BAGGETT: Do you submit for evidence?

MS. MURRAY: We move to have the exhibits submitted into evidence.

H.O. BAGGETT: Is there any objection?

If not, then they are received.

Before we take a break, let's do some cross-examination.

Mr. Hitchings.

MR. HITCHINGS: Thank you.

Thank you, Mr. Chairman. Good morning.

H.O. BAGGETT: Morning.

---oOo---

CROSS-EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

BY MR. HITCHINGS

MR. HITCHINGS: I would like to start with some

questions for you, Mr. Custis.

In directing you to question three in your written testimony, which begins on Page 1, you state that over the last 14 years discharge from VVWRA has steadily increased the export of water from the Alto subarea.

Do you see that statement that you have in there?

MR. CUSTIS: Correct.

MR. HITCHINGS: What do you mean by the term "export of water"?

MR. CUSTIS: What I was trying to say is that the water that is discharged to the treatment plant is coming from the pumping in the Upper Alto Basin and that, since it is not directly recharging in the Upper Alto Basin, it is going to the Lower Alto Transition Zone. That is export out of the upper subarea that then it is being discharged back into the Alto Transition Zone.

MR. HITCHINGS: By that reference are you suggesting that VVWRA's treatment of wastewater results in a depletion to the Mojave River?

MR. CUSTIS: No. The point is that the point of measurement is the Lower Narrows gauge. Since the discharge is not being released above that gauge, it is not being recorded at the Lower Narrows gauge. So if you look at hydrographs, you can see this decline in the base flow as measured at the Lower Narrows gauge.

MR. HITCHINGS: Is it your understanding or do you have an understanding of whether VVWRA actually produces groundwater in the Alto subarea?

MR. CUSTIS: I don't specifically know what the source of water for VVWRA is. But my understanding is that it is coming from water producers, and the relationship between those producers and VVWRA I am not sure of.

MR. HITCHINGS: But VVWRA itself as a legal entity, a separate entity, do you have any understanding as to whether they produce groundwater, whether VVWRA produces groundwater?

MR. CUSTIS: I don't know that they produce groundwater.

MR. HITCHINGS: It appears from your testimony in responding to question three that there is an implication that VVWRA should be responsible for remedying the depletions caused by other producers in the Upper Alto subareas. Is that what your testimony has opined?

MS. MURRAY: I am going to object. I think that mischaracterizes -- I object to the question. I think that mischaracterizes his testimony and assumes, makes assumptions incorrectly based on the testimony.

MR. HITCHINGS: I am asking him if that is the implications of his testimony, whether VVWRA has some responsibility to remedy the depletions caused by other producers in the Alto subarea.

MS. MURRAY: And I object. It is beyond the scope of his testimony. He is called as an expert in hydrology, and Mr. Hitchings is asking a policy question.

H.O. BAGGETT: I overrule. Rephrase.

I sustain the objection.

MR. HITCHINGS: Let's move on.

Fish and Game Exhibit 4 referred to in question four of your testimony, and it is the two figures that I believe you stated were from the Mojave River Water Agency Annual Water Master report; is that correct?

MR. CUSTIS: That is where I believe they came from, yes.

MR. HITCHINGS: What does the term "seasonal discharge" refer to in those two charts?

MR. CUSTIS: I think what they are saying is that is the discharge on a water year basis.

MR. HITCHINGS: It is not necessarily any given season within a water year, it's just the water year itself?

MR. CUSTIS: I think it is a total discharge. It's just because it is not an annual calendar they are trying to note that.

MR. HITCHINGS: On question four of your testimony, your written testimony, Page 2, you state that in referring to Fish and Game Exhibits 5A and 5B, you say that the table shows in recent years base flow at the Lower Narrows

generally drops below the minimum monthly average of 23.3 acre-feet per day during the months of June through October.

Do you see that statement?

MR. CUSTIS: Correct.

MR. HITCHINGS: What is this minimum monthly average of 23.3 acre-feet per day that you're referring to? Is that some type of standard?

MR. CUSTIS: The issue there is Fish and Game's desire to have that volume as a daily flow. And the point I was trying to make is that the Lower Narrows base flow doesn't provide that.

MR. HITCHINGS: Do you have any idea what the basis of that 23.3 minimum monthly standard is?

MR. CUSTIS: I think it comes from the 8,500 acre-feet per year total discharge.

MR. HITCHINGS: Do you have any idea what the basis of what that 8,500 acre-are feet per year number comes from?

MR. CUSTIS: Yeah. We can -- it is a mixture of an answer from myself and Becky.

MS. JONES: Basically, that number was derived from the time when the initial petition was filed, and it was a little less than what VVWRA was putting out at that point in time. And we were looking at trying to save the remnant habitat that was left in the area, and that appeared to be

working to at least hold onto the habitat down there at the time the initial petition was filed.

MS. MURRAY: Want to give some background or biology in the area?

MR. HITCHINGS: I don't think I need any more than that at this point. What I am curious is is there any data supporting that 8,500 acre-foot number that you arrived at as a standard?

MR. CUSTIS: Well, right now in Alto Transition Zone the base flow that is available to pass through it is less than 21,000 acre-feet per year as determined by the judgment. And as Becky said, the attempt was to try to maintain that 21,000 acre-feet per year. If the VVWRA's discharge is 8,500 plus, then what we were hoping to do is to not decrease that since we are already deficient.

MR. HITCHINGS: What if you added, then, the daily flows or say -- what if you added the monthly flows that are measured at Lower Narrows and you added to that the monthly flows measured from VVWRA's discharges and that equaled the equivalent of 23.3 acre-feet per day, would that standard that you have articulated be met then?

MS. MURRAY: I am not sure I understand the question.

MR. HITCHINGS: Let's do this, it is 23.3 acre-feet per day, which is the standard that you have articulated as a standard for which riparian habitat would be maintained; is

that correct?

MS. JONES: As I stated in my testimony, that was just basically a mathematical figure, and there could be some changes, but we didn't have a chance to work it out on the seasonality of when the flow is discharged.

MR. HITCHINGS: So I still don't understand how you arrived at this 23.3 acre-feet per day or this 8,500 acre-foot annually standard.

MS. MURRAY: Kit, why don't you explain the 23.3 acre-feet per day, where we got that.

MR. CUSTIS: Without -- my understanding is what we are trying to maintain is 21,000 acre-feet.

MS. MURRAY: Just the straight calculation. He wants the math.

MR. CUSTIS: Well, the straight calculation would be 8,500 acre-feet divided by 365. I don't have my calculator to figure out --

MR. HITCHINGS: How did you arrive at the 8,500 acre-feet annually number? I can understand how you backed out the acre-feet per day. Where does the 8,500 acre-feet annually number come from?

MR. CUSTIS: It comes from looking at what VVWRA is discharging now, what the riparian condition is now, and trying not to have a reduction in base flow which is already below the 21,000 acre-feet annually. We are trying to

maintain that 21,000 acre-feet annually.

MR. HITCHINGS: If the 21,000 acre-feet annually is maintained in accordance with the terms of the adjudication, would those concerns be met then?

MR. CUSTIS: The concerns?

MR. HITCHINGS: Would the amount of water that Fish and Game wants to have flowing to the transition zone be met if the 21,000 acre-foot standard or term of the Mojave adjudication is met?

MR. YAMAMOTO: Objection. The stipulated judgment is fairly complex, and understanding how the Alto subarea's obligation to provide 23,000 acre-feet to the Lower Narrows gauge could tie into the idea of maintaining the habitat is fairly complex. And to ask a hydrogeologist whether it would work --

H.O. BAGGETT: Sustained.

MR. HITCHINGS: Mr. Custis tied the 21,000 acre-foot number to what the historical flows were. Is that correct, Mr. Custis?

MR. CUSTIS: That is a number that comes from the judgment, as what the historic base flow plus 2,000 acre-feet subsurface flow to make up the 23,000 that was just mentioned.

MR. HITCHINGS: Let's just remove it from the terms of the adjudication. If 21,000 thousand acre-feet annually

flowed to the transition zone, would that address Fish and Game's concerns regarding potential impacts on riparian habitat in the transition zone?

MS. MURRAY: I guess I want to object that Fish and Game's testimony is that 8,500 was necessary to protect -- to prevent take. We did not say that 8,500 would protect species as the riparian area. What we are saying is that it is the minimum necessary to prevent take. So he's mischaracterizing the number or the intent.

MR. HITCHINGS: Maybe we need to get back to that figure, then. My understanding was that the 21,000 acre-foot annual number that Mr. Custis just testified to was a number based upon historic measured flows at Lower Narrows; is that correct?

MR. CUSTIS: That is my understanding of it, yes. Base flow.

MS. MURRAY: You want to put up the Todd Report, Figure 10? That is where you got the --

MR. HITCHINGS: I don't need him to put up the report.

MR. CUSTIS: You can see if you look at Todd Figure 10 why they came up with that decision.

MR. HITCHINGS: So the 8,500 acre-foot annual number is a number that is specific just to VVWRA and the flows that Fish and Game believes VVWRA continues to have to discharge; is that correct?

Let me rephrase that. Let's say that there is 8,500 acre-feet of flows measured at Lower Narrows. Is that quantity of water sufficient to address Fish and Game's concerns regarding potential impacts to riparian habitat in the transition zone?

MS. JONES: No. I would say it wouldn't be because we wouldn't have what is their base flow added into that. So we'd be deficient if that was all that was going through the Narrows.

MR. HITCHINGS: Let's assume that you have 21,000 acre-feet of base flow measured at Lower Narrows in any given year, or let's say we have 23.3 acre-feet per day measured at Lower Narrows. Is that quantity of water sufficient to address Fish and Game's concerns regarding potential impacts to riparian habitat in the transition zone?

MS. JONES: No, because we are still looking at what the total flow is that is going down there. And whatever -- that wouldn't be included. We'd need that in addition to the base flow.

MR. HITCHINGS: What is the total flow that Fish and Game believes is necessary to maintain riparian habitat in the transition zones?

MR. CUSTIS: I think what Fish and Game -- not being a Fish and Game employee and setting policy for them, but my

discussions with Fish and Game staff is that they are looking to maintain the 21,000 acre-feet per year that was stipulated in the judgment. And that we recognize that that will not bring the habitat back to what it was, say, in 1950, but that that is a standard today.

MR. HITCHINGS: Is 21,000 acre-feet annually the number that Fish and Game believes is necessary to maintain riparian habitat in the transition zone?

MS. MURRAY: And again our testimony went to what was necessary to prevent take, and this is asking a different question from what we testified to.

MR. HITCHINGS: I understand that, but we need to know -- we need to know what the number is. If it is 8,500 acre-feet in --

H.O. BAGGETT: Overrule.

MR. HITCHINGS: -- the abstract.

H.O. BAGGETT: It is a legitimate question.

MR. HITCHINGS: The testimony talks only about the flows from VVWRA. I would like to know what the number is of flows from being measured at Lower Narrows making it to the transition zone that Fish and Game believes is necessary to prevent any potential impact to riparian habitat in the transition zone. If you don't know the answer to that --

MR. CUSTIS: I don't know the habitat question. Right now the flows measured at the Lower Narrows gauge, they are

base flows, are approximately 8,000 acre-feet per year annual. So the combined flow in the Lower Narrows with VVWRA is around 16- and a half, 17,000 acre-feet per year, annually, which is less than 21,000 acre-feet that's stipulated in the judgment.

MR. HITCHINGS: I would like to turn your attention, Mr. Custis, to Page 3 of your testimony, at the top of the page. At the end of that paragraph you that state without consistent discharge to the Mojave River from VVWRA wastewater treatment plant large fluctuations and possibly a termination of base flow will occur in the vicinity of the plant, especially during summer months.

Have you performed any analysis as to the statistical probability of that occurring over any given period of years? And by that occurring I mean termination of base flow.

MR. CUSTIS: I haven't performed a statistical analysis in the way that I think you're implying. The condition today is the water from the Lower Narrows gauge, the base flow, doesn't make it to the VVWRA plant. Is disappears as we showed in Exhibit 6.

And my opinion is that without the VVWRA plant discharge there wouldn't be any surface flows below where they disappear, just a mile or two downstream of the Lower Narrows gauge.

MR. HITCHINGS: So you don't know the potential frequency that that could occur; is that correct?

MR. CUSTIS: I don't know a flood flow frequency analysis. No, we haven't done that.

MR. HITCHINGS: Are you familiar with the Alto subarea obligation under the adjudication, the subarea obligation to provide for a certain level of base flows to the transition zone?

MR. CUSTIS: It is my understanding that that is where the 21,000 acre-feet surface base flow comes from and the other 2000 subsurface flow which is assumed to be occurring at the Lower Narrows gauge.

MR. HITCHINGS: So if this term of the adjudication is met then, then there would not be a termination of base flow; is that correct?

MS. MURRAY: I think that asks for -- it is a hypothetical situation. It asks beyond his expertise, beyond his direct testimony.

H.O. BAGGETT: Sustained.

MR. HITCHINGS: I am just saying if the term of the adjudication is met and, therefore, there is physically 21,000 acre-feet of surface flows, 23,000 acre-feet of base flows, would there be a termination of base flows?

MS. MURRAY: That is asked and answered. He just asked that.

MR. YAMAMOTO: Same objection.

H.O. BAGGETT: Sustained, both.

MR. HITCHINGS: What if -- you were here for the testimony for VVWRA's witnesses, were you not?

MR. CUSTIS: Yes.

MR. HITCHINGS: Do you recall any testimony regarding the project, this VVWRA project, being brought on line gradually?

MR. CUSTIS: I believe there was a statement that they intended to bring it on gradually.

MR. HITCHINGS: Are you familiar that the project is structured in a manner that the diversion of wastewater treatment flows to SCLA are anticipated to be offset by the quantity of increased flows to be treated by VVWRA?

MR. CUSTIS: I recall that there was a discussion. I don't have the specific table annually what is going to happen, how much is going to be diverted each year and how much is going to be increased. That was the general meaning of that discussion.

MR. HITCHINGS: In any event, with this project do you have an understanding of the maximum acre-feet of water that is proposed to be diverted from the wastewater treatment discharge stream to SCLA?

MR. CUSTIS: It is my understanding that for this petition it is 1,680 acre-feet per year, annually.

MR. HITCHINGS: Even with this project in place there will still be a certain level of discharges from VVWRA's treatment plant?

MR. CUSTIS: Assuming that they continue receiving the water that they are today, I mean there is no redirection of water to another treatment plant, that will be correct.

MR. HITCHINGS: Regarding your answers to question eight in your written testimony, this begins on Page 4 of your testimony.

MR. CUSTIS: Okay.

MR. HITCHINGS: In the testimony you rely on a USGS report to conclude that the vegetative water demand of cottonwood and willow vegetation is approximately four acre-foot per acre; is that correct?

MR. CUSTIS: I rely on USGS report which I believe is the VVWRA exhibit that was submitted that we just got, 5C.

MR. HITCHINGS: Were you referring to a report in here, Report 99-412, a 1999 report?

MR. CUSTIS: Oh, okay. That is a later report published by just Mr. Lines who was one of the primary authors on VVWRA 5C. So he used his earlier data in that report, just referred to it. It is -- in essence it is the same study that generates that four feet.

MR. HITCHINGS: Is it correct that there are storm flows that also contribute to the total amount of water

entering the transition zone to sustain riparian habitat?

MR. CUSTIS: Yes. It is my opinion that the storm flows do have a benefit to the riparian in the transition zone.

MR. HITCHINGS: That would be in addition to VVWRA's discharges; is that correct?

MR. CUSTIS: That is storm flow would be in addition to the base flow, the 21,000 acre-feet per year base flow.

MR. HITCHINGS: When you talk about that reduction of 1.5 mgd, and I am referring to the first paragraph under question eight of your testimony, will mean that the water demand of approximately 420 acres of riparian below VVWRA discharge point will not be met, are you ignoring any other flow components in reaching that conclusion?

MR. CUSTIS: The calculation is basically that is the water demand of 420 acres, and it doesn't try to account for when the surface flow will occur. So, I guess the answer to your question is yes.

MR. HITCHINGS: Are you assuming that there is no other water in the system, in the transition zone area, to sustain the riparian habitat when you reach that?

MR. CUSTIS: No, I wouldn't draw that conclusion. I would say that the water, it is just a straight calculation. If you remove that volume of water, if assume four feet of water per acre are needed, that you can

potentially impact 420 acres.

MR. HITCHINGS: Here you say a reduction of 1.5 mgd in VVWRA discharge will mean that the water demand of approximately 420 acres of riparian, I am assuming you mean habitat there, below the VVWRA discharge point will not be met.

MS. JONES: I think you have to take into consideration that storm flows are not that beneficial for sustaining the habitat. One, when they do go through there they go through very fast, and they don't really stick around. So they aren't going to be maintaining the habitat. You need a constant water supply of that instead of just flood flows that go through very fast. They just don't stay around. You need a constant water.

MR. HITCHINGS: In any event, the statement I am referring to is Mr. Custis' statement in his written testimony. And from this statement it appears that you're concluding that the 420 acres of riparian habitat only relies on VVWRA discharges; is that correct?

MR. CUSTIS: No.

MR. HITCHINGS: What other flow components?

MR. CUSTIS: You have the base flow, 21,000 acre-feet that we can have coming through.

MR. HITCHINGS: Can it rely on storm flows that have recharged the area in the aquifer below the transition zone?

MR. CUSTIS: As Becky has testified, there is some recharge from storm flows, but it is -- since it is sporadic and is not -- we don't know to what amount it is going to be and whether it is going to occur each year, I wouldn't rely on that as your source of water to maintain habitat.

MR. HITCHINGS: In any event, the 400 acre-foot per acre demand can be met by both surface flows and groundwater in the area below the transition zone; is that correct?

MR. CUSTIS: I don't know how, what percentage, but both flows will add to the groundwater system that provides the water.

MR. HITCHINGS: I understand that. That is not my question. I am talking about the four acre-feet per acre demand, that can be met by both surface flows and groundwater in the area below the transition zone; is that correct?

MR. YAMAMOTO: Objection. It is not clear whether you are saying the demand could hypothetically be met, could ever be met or under current circumstances it will be met.

H.O. BAGGETT: I think it is a pretty clear question, myself. Overrule the objection.

MS. MURRAY: I also add an objection. As we referred the Lines Bilhorn Report says you need to have the water table, the depth of the water table, eight feet. If the groundwater is ten feet --

H.O. BAGGETT: You aren't a witness here.

MS. MURRAY: What I am saying is that his question, it depends, he needs to narrow his questioning. You have to assume --

H.O. BAGGETT: Are you saying it is too broad?

MS. MURRAY: It is too broad and that he needs to narrow it so we can answer it relative to what the habitat actually uses.

H.O. BAGGETT: Can you maybe clarify?

MR. HITCHINGS: Maybe Becky is the person to answer the question. Is it your opinion that the four acre-foot per acre demand can be met by both surface flows and groundwater present in the area below the transition zone?

MS. MURRAY: All I'm saying, if you need to assume things or clarify his question --

MS. JONES: Are we talking about current conditions out there?

MR. HITCHINGS: Under current conditions today can the four acre-feet per acre demand be met by groundwater present in the transition zone area?

MS. MURRAY: That is a different question. You said surface and groundwater.

MR. HITCHINGS: That is another question. Answer the question.

MS. MURRAY: His question is groundwater alone.

H.O. BAGGETT: Will you let Mr. Hitchings ask the question. He is the one who is cross-examining.

MS. JONES: Ask it one more time.

MR. HITCHINGS: Under current conditions, can the four acre-foot per acre demand be met by the groundwater in the area underlying the transition zone?

MS. JONES: From what I have heard, I do not believe so.

MR. HITCHINGS: Under historical conditions has the four acre-foot per acre demand been met by groundwater in the area underlying the transition zone?

MS. JONES: I am assuming at some point in history, yes.

MR. HITCHINGS: Doesn't the vegetation in the transition zone obtain at least some component of its water demand by sending its roots into the groundwater table?

MS. JONES: Yes.

MR. HITCHINGS: Given this ability to rely on groundwater, the water demands could be met even with the reduction in treatment flows; isn't that correct?

MS. JONES: Not for some of the vegetation.

MR. HITCHINGS: What vegetation would that be?

MS. JONES: When I showed the open channel area --

H.O. BAGGETT: Could you identify the exhibit.

MS. JONES: The first one is Exhibit 14.

H.O. BAGGETT: Thank you.

MS. JONES: Basically your reeds and your willows that need basic water almost just right at the roots would not be met. With the reduction in flows you would totally lose this type of habitat.

MR. HITCHINGS: Do you have any idea of what percentage of habitat that is within the transition zone?

MS. JONES: Not offhand. There are -- I don't know if that exhibit that was put into today, I think that goes through some of the habitat acreage within the area.

MR. HITCHINGS: I believe in the Lines Bilhorn Report that you are referring to which is VVWRA 5C and then Plate 1 that is attached to that, there is a table in there that talks, speaks to approximately 200 acres of -- I am assuming this is preatophytic habitat that you are referring to.

MS. JONES: Correct.

MR. HITCHINGS: So would that number, is that an appropriate number to conclude is present in the area of the transition zone, that habitat you just pointed to on Fish and Game Exhibit 14?

MS. JONES: I am also looking at some of the willow habitat that might be in there.

H.O. BAGGETT: Does that answer the question or do you have additional questions?

MR. HITCHINGS: Is 200 acres a fair number to represent

the type of habitat that you are referring to on Fish and Game Exhibit 14?

MS. JONES: It could; I really don't know.

MR. HITCHINGS: That is fine. Thank you.

MS. JONES: I don't know.

MR. HITCHINGS: Mr. Custis, do you agree with the conclusion in the Lines Bilhorn Report, which is VVWRA Exhibit 5C, that the consumptive use demand of riparian habitat in the transition zone is approximately 6,000 acre-feet?

Actually, I think it may be 5E. I may have been misreferring to the Lines Bilhorn Report.

MR. CUSTIS: The short answer is no.

MR. HITCHINGS: You disagree with that conclusion of the consumptive use demand of 6,000 acre-feet?

MR. CUSTIS: I think that the Lines Bilhorn Report provides more information about the water demand.

MR. HITCHINGS: I am talking about the consumptive use demand.

MS. MURRAY: We believe the Lines Bilhorn Report says about the evapotranspiration?

MR. HITCHINGS: Can I have Mr. Custis answer my questions. I understand that --

MS. MURRAY: I object to the misleading question.

H.O. BAGGETT: Well, then object to the misleading

question.

MS. MURRAY: I object to a misleading question.

MR. HITCHINGS: The consumptive use demands, if you will look at Table 7 on the plate, Plate 1, this is of the Lines Bilhorn Report.

MR. CUSTIS: Right.

MR. HITCHINGS: That summarizes the various consumptive use demands, I believe.

MR. CUSTIS: Table 7, estimated consumptive use of groundwater, surface water, by riparian vegetation along the Mojave River, prepared in 1995.

MR. HITCHINGS: Actually, this VVWRA Exhibit 5E which is Table 7 from the Lines Bilhorn Report.

Do you agree with that conclusion or that statement in there, at least that that is the annual consumptive use in acre-feet for the transition zone?

MR. CUSTIS: I think I would say, no, because of the way the Lines Bilhorn Report states that this number assumes stress vegetation water uses. Into this 6,000 acre-feet are the areas that are stressed which they show in their Table 2 in parentheses, and they made an assumption when they did that calculation that that water, that ET, from those plants was 25 percent of healthy. So if the question is how much water do the plants in that transition zone need, my opinion is that it should be healthy and not stressed. So they need

more water.

MR. HITCHINGS: Do you have any idea what that number is?

MR. CUSTIS: If you rely on the numbers that are in Table 2 of the Lines Bilhorn Report which show the acreages, if you rely on the numbers on Table 6 which show the healthy water ET and assume the 25 percent is already in the 6,000, and calculate for 75 percent that isn't, you have approximately 1,300 acre-feet per year needed in addition to the 6,000.

So it is about 7,300 acre-feet per year, based on their --

MR. HITCHINGS: That is based on the calculations that you just went through here in looking at the various data in the Lines Bilhorn Report?

MR. CUSTIS: Right. Using the Lines Bilhorn ET demands, their acreages that they calculated and the assumption that 25 percent is already in their Table 7, yeah, I just basically calculated what the other 75 percent would be.

MR. HITCHINGS: I would like to direct you to Page 5 of your testimony. And in your written testimony you state that since 1991 the wetted channel adjacent to the VVWRA plant has extended at least four miles downstream.

Have you performed any analysis as to whether that

extent of wetted channel area is due to storm flows?

MR. CUSTIS: That was based on Fish and Game's Exhibit 6, which blue lines that are shown on the left-hand side of that exhibit, the dates of those, except for 1951, they are in June, July or October of those years that are in there. And I don't recall specifically whether other than maybe October of '98 where you had storm flows, I think most of the other years you didn't have storm flows in the summer months of any significance. I think most of the flow is due to VVWRA's discharge.

MR. HITCHINGS: In your same answer to question eight, still on Page 5, have you relied on any data to support your statement that surface water flow would cease or be reduced along the lower most 1.5 to 2 miles of the channel?

MR. CUSTIS: I used information that is in Exhibit 6 about the distance wetted and then VVWRA's discharge to calculate the losses per mile and information that we didn't -- I have an amendment to that chart which shows 1980s information on it also. But it came after that was marked, that was put on poster. And it shows that in 1989 you had a much less discharge from VVWRA didn't travel downstream as much. So that is where those numbers came from.

MR. HITCHINGS: That is from the aerial photographs that were taken?

MR. CUSTIS: That was from an interpretation done by

Tom Bilhorn who created the chart and the aerial photos that he looked through to come up with the distances where there was surface water.

MR. HITCHINGS: You state that a reduction in 20 percent of surface flow, this is still on Page 5 of your testimony, discharged by VVWRA would likely reduce or cease flow along the lower most 1.5 to 2 miles of channels now wetted.

Do you have any idea what the numerical or statistical probability of that is when you say would likely lead to that?

MR. CUSTIS: I think you can -- without additional storm flows wetting the lower Alto Transition Zone it's a very high likelihood that will dry, that one and half to two miles.

MR. HITCHINGS: In what types of years would this be?

MR. CUSTIS: In a normal to dry year. And you may even have it to some extent in a wet -- in a wet year you'd probably be more to the one and a half. In a dry year you push towards two.

MR. HITCHINGS: What about in months of those years?

MR. CUSTIS: In months?

MR. HITCHINGS: Which months of those years? Have you done any analysis as to which months that would occur?

MR. CUSTIS: I haven't done specific month-by-month

analysis of that. My assumption is that it is going to occur mostly in the summer months. What part of winter that that would occur, I couldn't state that right now.

MR. HITCHINGS: Again, if the project is implemented gradually in a manner where the diversions to SCLA are made up by increased flows treated by VVWRA, would you expect that that channel wetted area, that the reduction of that channel wetted area would not be as high as 1.5 to 2 miles?

MR. CUSTIS: If the assumption in that is that you maintain the 8,500 acre-feet per year annually, then I would think that you are not going to get the one and a half to two mile reduction from VVWRA's flows.

MR. HITCHINGS: If you have 21,000 acre-feet of base flows measured at Lower Narrows, would you expect that there would not be a decrease in the wetted area?

MR. CUSTIS: If you had the full 21,000 acre-feet passing the Lower Narrows, it's less likely that you would have a loss. You'd still have the problem which is the loss of flow right downstream from the Lower Narrows gauge. That is from a well field and that is extracting water from the groundwater system, and the impact of that I am not sure, if you get the full compliment of flows, the 21,000 acre-feet. How much of that well field will divert that base flow, I am not sure.

MR. HITCHINGS: Would the answer be the same for the

conclusions regarding the width of the wetted riparian area, that if you have 21,000 acre-feet of base flow measured at the Lower Narrows that you would not expect to have the reduction in the width of the wetted riparian area?

MS. MURRAY: I objection. The question assumes his answer and incorrectly states his previous answer.

Just ask the question.

H.O. BAGGETT: Overruled. Rephrase.

Sustain the objection.

MR. HITCHINGS: You have a statement in your testimony regarding -- this is at the very end -- a reduction in the width of the riparian may occur along the 6.5 miles of the channel.

And I want to ask you the same question, the prior question dealt with the length. If you had 21,000 acre-feet of base flow measured at Lower Narrows, would that reduction in the width of the riparian area not be expected to occur?

MR. CUSTIS: Part of the problem with the Lower Narrows Transition Zone is that the channel is a braided channel. And if you look at the historic topographic maps, that channel has moved since it first developed back in the '50s. That channel has moved back and forth across that floodplain. The consequence of that is that it can reduce the width or expand the width. But if you have the 21,000 acre-feet per year going through the Lower Narrows, then the

condition that you'd have would be the background base condition. So it is possible you would lose width because of that, but it wouldn't be -- and it is possible you can lose width and you could expand width. Depends on the channel.

MR. HITCHINGS: I would like to direct some questions more towards you, Ms. Jones.

In question nine of your testimony, which is on -- I am not sure which page this is. But you're asked a question regarding Mr. Custis' testimony regarding the surface and subsurface flows and a decrease in the size and extent of existing riparian corridor.

Do you see that area of your testimony?

MS. JONES: Yes.

MR. HITCHINGS: Are you relying solely on Mr. Custis' conclusion for your own statements that proposed project would decrease the size and extent of the existing riparian corridor downstream?

MS. JONES: That along with other information I have received in working with Bilhorn in the area.

MR. HITCHINGS: What other information is that?

MS. JONES: Basically, mostly verbal discussions when we've worked out in the area together and what he's informed me about riparian habitat because I am not hydrologist and have no background in that.

MR. HITCHINGS: Do you assume that when VVWRA reduces its discharge that that reduction in discharge will not otherwise be made up in accordance with the terms of the Mojave Adjudication?

MS. MURRAY: I am going to object to the part that refers to the Mojave Adjudication. We have not --

H.O. BAGGETT: I would sustain that.

MR. HITCHINGS: Are you familiar with the terms of the Mojave Adjudication?

MS. JONES: Yes.

MR. HITCHINGS: Are you familiar with the Alto subarea obligation that requires a certain level of base flows to the transition zone?

MS. JONES: Yes.

MR. HITCHINGS: Then, my question is: Do you assume when VVWRA reduces its discharge that that reduction in discharge will not otherwise be made up in accordance with the terms of the adjudication that requires that subarea obligation to be met?

MS. MURRAY: I am going to object again.

H.O. BAGGETT: Sustained.

MR. HITCHINGS: Let me do it this way.

Do you assume that when VVWRA reduces its discharge that that reduction in discharge will not otherwise be made up by the subarea obligation in the adjudication?

MS. MURRAY: I object again, asked and answered -- asked again.

H.O. BAGGETT: I would sustain it again.

MR. HITCHINGS: Ms. Jones indicated that she is familiar with that term, the subarea obligation of 21,000 acre-feet to the transition zone. I am simply asking whether she assumes that if our discharge decreases whether it would not otherwise be made up.

H.O. BAGGETT: Okay.

MS. MURRAY: That is a different question.

H.O. BAGGETT: Can you answer that? Or if you can answer it or if you don't know.

MS. JONES: I don't know.

MR. HITCHINGS: Do you have an opinion of whether the Alto subarea obligation provides for sufficient flows to prevent a take of the species of concern identified in your testimony?

MS. JONES: Repeat one more time.

MR. HITCHINGS: Does the Alto subarea obligation provide for sufficient flows to the transition zone to prevent a take of the species of concern identified in your testimony?

MS. JONES: The obligation that is required or the current way the obligation's being handled?

MR. HITCHINGS: I am asking the obligation under the

adjudication which is 21,000 acre-feet of surface flows.

MR. YAMAMOTO: Objection. The judgment only requires the Alto subarea to provide water either to the Lower Narrows gauge or provide by purchase in the Centro area equivalent preproduction allowance rights, and the whole line of questions assumes a construction of the judgment which is not in evidence and isn't really part of the judgment.

H.O. BAGGETT: I will sustain that.

Can you rephrase to avoid the terms of the judgment?

MR. HITCHINGS: If there is 21,000 acre-feet of base flows reaching the transition zone, is that sufficient to prevent a take of the species of concern identified in your testimony?

MS. JONES: My hydrology background, since I don't have one and not knowing what subsurface or surface flows how much would be what, I don't know.

MR. HITCHINGS: I am saying 21,000 acre-feet, when they say base flow, that is surface flows?

MS. MURRAY: I guess I object. Base flow or surface flow are different things. So if you're saying --

H.O. BAGGETT: Can you clarify?

MR. HITCHINGS: The base flow that I was referring to was the base flow which is the Alto subarea obligation which is 23,000 acre-feet; 21,000 of that is surplus flow, 2,000

of that is assumed to be underflow. My question, though, is: If there is 21,000 acre-feet of surface flow reaching the transition zone, is that sufficient to prevent a take of the species of concern identified in your testimony?

MR. KIDMAN: Now, I am going to object.

H.O. BAGGETT: Mr. Kidman.

MR. KIDMAN: This has gone on almost long enough. The foundation for this question needs to be laid more thoroughly. First of all, the Alto subarea obligation is an obligation to deliver water to the Centro subarea, not to the transition zone.

Secondly, the judgment requires that groundwater levels are maintained in the transition zone so that water that goes to the Lower Narrows does, in fact, get to Centro. So, we need to make additional foundation assumptions in this question in order for it to be answered.

H.O. BAGGETT: I would overrule. The question was very simply does 21,000 acre-feet --

MR. HITCHINGS: I was directed to move away from the adjudication. I did.

H.O. BAGGETT: You did.

MR. HITCHINGS: I am saying 21,000 acre-feet of surface flows.

H.O. BAGGETT: He's picking a number and using it as a hypothetical.

MS. MURRAY: Right, and this is what I was going to suggest. This really is a hypothetical because it is not what is required under the judgment.

H.O. BAGGETT: He is asking a hypothetical question.

MR. KIDMAN: I am going to interpose another objection that the hypothetical is incomplete as stated. Because it has no foundation about what the conditions of groundwater are supporting the surface flows of 21,000 acre-feet annually introduced at the Lower Narrows. That has to be part of the assumption in order for the question to be answered.

H.O. BAGGETT: I would sustain that. Can you --

MR. HITCHINGS: In your testimony you stated that if there is 8,500 acre-feet of discharges from VVWRA, that would be sufficient to prevent a take of the species of concern; is that correct?

MS. JONES: Correct.

MR. HITCHINGS: Did you make any assumptions of the groundwater conditions in reaching that conclusion?

MS. JONES: No.

MR. HITCHINGS: Were you simply just talking about 8,500 acre-foot of surface flows?

MS. JONES: Correct, yes.

MR. HITCHINGS: Even if VVWRA is required to obtain an incidental take permit for this project, can't the State

Water Board approve the petition but require as a condition of that approval that VVWRA comply with the terms and conditions of any incidental permit that may be required?

MR. YAMAMOTO: Objection. It is an incomplete hypothetical or it is an incomplete question. The issue is whether or not the State Board can approve the petition, but there are a lot of legal issues --

H.O. BAGGETT: Sustain the objection.

MR. HITCHINGS: Are you aware with other orders issued by the Division of Water Rights or the State Water Board that they require as a term and condition of those orders that compliance with take permits be required?

MS. JONES: No, I haven't dealt with that.

MR. HITCHINGS: I am going to show you a copy of State Water Resources Control Board, Division of Water Rights Order 2000-07. Actually, I am going to read this to you, and I am reading from the order, and this is the order approving the change in point of discharge, place of use and purpose of use for treated wastewater. This is for effluent from the City of San Luis Obispo's water reclamation facility. And Item 7 of that orders states:

> This order does not authorize any act which results in the taking of threatened or endangered species or any act which is now prohibited or becomes prohibited in the

future under either the California Endangered Species Act or the federal Endangered Species Act, citations omitted. If a take will result from any act authorized under this water right order, the City shall obtain authorization for an incidental take prior to construction or operation of the project. The City shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this order. (Reading.)

Do you know whether the State Water Board could include a similar provision in any order approving this petition?

MS. MURRAY: I object. It calls for a legal conclusion.

H.O. BAGGETT: I would sustain.

The hour is drawing to a close here.

MR. HITCHINGS: I am going to need some additional time. There are two witnesses here and, if I could, I probably don't need much more than an additional 15 minutes.

H.O. BAGGETT: I would grant that.

Do the parties want to take a break now?

MS. JONES: I would like to take a break.

H.O. BAGGETT: Let's take it. It's going to be another 15 minutes. Let's take five minutes.

(Break taken.)

H.O. BAGGETT: We are back on to continue.

Mr. Hitchings.

MR. HITCHINGS: Thank you.

I am going to get back on a quick question regarding the incidental take permit. If the State Board does approve this petition in any manner, that would not require Fish and Game to issue an incidental take permit; is that correct?

MS. MURRAY: Who are you asking?

MR. HITCHINGS: This is to Becky.

MS. JONES: Run that by me one more time.

MR. HITCHINGS: If the State Board does approve this petition, that doesn't require Fish and Game to issue an incidental permit; is that correct?

MS. JONES: Correct.

MR. HITCHINGS: Does Fish and Game have an active monitoring program to evaluate the health of the riparian habitat in the transition zone?

MS. JONES: Currently, no.

MR. HITCHINGS: Is there any specific benchmark that Fish and Game uses to measure the quantity or quality of the habitat in the transition zone?

MS. JONES: Currently what is being used to measure the habitat have been site visits out to the area along with aerial photos that Mr. Bilhorn reviews to look at the

habitat.

MR. HITCHINGS: Is there any quantitative benchmark?

MS. JONES: Not that I am aware of.

MR. HITCHINGS: Is the quality of the riparian habitat currently existing in the transition zone generally comparable to the habitat that was studied and evaluated in the Lines Bilhorn report?

MS. JONES: One more time.

MR. HITCHINGS: Is the quality of the riparian habitat currently existing in the transition zone generally comparable to that identified in the Lines Bilhorn Report?

MS. JONES: I would have to say that is the most recent that we have.

MR. HITCHINGS: Are you aware that in or about September 1998 that the City of Adelanto withdrew almost 1 mgd from the flows treated by VVWRA?

MS. JONES: Yes, I am aware.

MR. HITCHINGS: Did Fish and Game observe any degradation in the habitat in the transition zone due to the loss of that mgd of flows treated and discharged by VVWRA?

MS. MURRAY: I am going to object. I think we put on testimony regarding what the VVWRA discharge had been since the treatment plant began operating.

H.O. BAGGETT: I would overrule. I think you can answer the question.

MS. JONES: As far as I am aware, there hasn't been any studies to go back and assess that impact since vegetation was looked at in the Lines Bilhorn Report. We don't have the personnel.

MR. HITCHINGS: Do you know whether an environmental document was ever prepared for the City of Adelanto's treatment plant project?

MS. JONES: I never saw one.

MR. HITCHINGS: Do you know if Fish and Game ever submitted comments on any environmental document for that project?

MS. MURRAY: I object. She just answered that she didn't see an environmental document.

MR. HITCHINGS: I asked whether she knows whether anyone from Fish and Game submitted comments.

H.O. BAGGETT: Overruled.

MS. JONES: I don't know if it was ever submitted to Fish and Game. I am unaware.

MR. HITCHINGS: I am going to show you a copy of the State Clearing House notice of completion for that project and a copy of the neg dec for that project is attached to it. This is VVWRA, and we will mark it as VVWRA Exhibit 8.

MS. MURRAY: I am going to ask for the relevance of this. What is the relevance of this document?

MR. HITCHINGS: Do I need to answer that?

H.O. BAGGETT: She objects to the relevance. If you can clarify for the record.

MR. HITCHINGS: Fish and Game is making the assertion that a certain decrease in discharges from VVWRA may lead to potential impacts to riparian habitat. We have another project that resulted in essentially the same thing, and I think it is probative to find out why Fish and Game may have a different stance with regard to that project as to this project.

H.O. BAGGETT: Continue.

MS. JONES: I don't believe Fish and Game does. If I had seen the document, it certainly would have been commented on.

MS. MURRAY: We haven't seen this before. It is important as to where there was a proposed decrease in the discharge.

MR. HITCHINGS: I have a specific question.

H.O. BAGGETT: Continue.

MR. HITCHINGS: I have a specific question about the document. When you look at the State Clearing House notice of completion, there is a check mark at the bottom that has the blank for Fish and Game.

Do you see that? Which is supposed to indicate the routing of copies of this, I believe.

MS. JONES: Yes.

MR. KIDMAN: Mr. Hearing Officer, I would like to pose another objection to this line of questioning. I do believe that the hearing notice for today's proceeding is rather specific about whether or not this project or this petition will, in fact, cause injury to legal users of water. The fact that there may have been another project in another time in another place that had some impact or that they didn't comment on, doesn't have very much to do with whether or not this petition will cause harm to legal users of water.

H.O. BAGGETT: Mr. Hitchings.

MR. HITCHINGS: One of the issues was whether there would be an effect. One of the issues noticed in the hearing notice is an affect on the fish and wildlife and public trust resources.

We have heard testimony as to what the basis of the standard is or the quantity of water that Fish and Game is saying is necessary and whether an incidental take permit should or would be required. And I am probing what Fish and Game's position has been on these issue as to other projects that ostensibly would have the exact same impact. It is certainly real relevant to this proceeding.

H.O. BAGGETT: I would overrule. Continue.

MR. CUSTIS: Maybe I can step in here. What year are we talking about here, specifically?

MR. HITCHINGS: The date of the neg dec, I believe, is

1997 and the project, I believe, was approved -- the discharge flows decreased in approximately September of '98.

MR. CUSTIS: So it would have been water year 1999, started in September '98 carried on through?

MR. HITCHINGS: The discharge flows were essentially taken out of VVWRA stream, according to Mr. Gallagher's testimony, in approximately September of 1998.

MR. CUSTIS: Based on the records that I have, the flows that came out of VVWRA in 1999 are about 8,700 acre-feet per year, annually. So in essence, we've been talking about 8,500 as the flow desire. I think that we haven't had -- even though you lost a million gallons per day, that didn't have -- didn't drop it below 8,500.

MR. HITCHINGS: Do you know for certain that the flows did not drop below 8,500 acre-feet annually based upon that discharge stream of Adelanto being taken out?

MR. CUSTIS: Yeah. What I have is a summary of information that Tom Bilhorn put together for us, where he looked at the -- he adjusted -- VVWRA from my understanding reports their discharge on an annual basis, and he adjusted it for a water year and produced that for us. I am relying on Tom to accurately take VVWRA's information, discharge information. But that is where that data came from.

MR. HITCHINGS: Ms. Jones, did Fish and Game ever require the City of Adelanto to obtain an incidental take

permit in order to address the reduction in the discharge caused by their treatment plant project?

MS. JONES: I was unaware of this project until after it was built, so it is kind of difficult to require.

MS. MURRAY: So the answer is?

MS. JONES: No.

MR. HITCHINGS: Ms. Jones, are you familiar with the Biological Resources Assessment Fund set forth in the adjudication?

MS. JONES: Yes.

MR. HITCHINGS: How much money is currently in that fund?

MS. JONES: Approximately 500,000, which annually -- well, no. Approximately 500,000 and it brings in approximately 75- to 85,000 annually.

MR. HITCHINGS: Doesn't Fish and Game have the ability to request to expend money from that fund to purchase water for the transition zone if base flows fall below a certain point?

MS. JONES: It can be used for purchasing water.

MR. HITCHINGS: I am saying purchasing water for the benefit of the transition zone.

MS. JONES: Currently there is nowhere to purchase the water from the State Water Project to put it into the transition zone.

MR. HITCHINGS: How about if you purchased effluent flows from VVWRA, could money be used from that assessment fund for that purpose?

MS. JONES: They could be.

MR. HITCHINGS: Is VVWRA's proposal to sell effluent to Fish and Game to maintain certain discharge flows something that Fish and Game has considered?

MS. JONES: We don't know what the cost would be.

MR. HITCHINGS: Does that mean that Fish and Game has not considered it because they don't know what the cost would be?

MS. JONES: It has been considered.

MR. HITCHINGS: Has Fish and Game ever considered expending moneys from the fund to eradicate nonnative species in the transition zone?

MS. JONES: Yes.

MR. HITCHINGS: Have there been any decisions made whether to undertake those actions or not?

MS. JONES: Currently we cannot spend any of the funds. We are working on writing up a habitat -- I don't remember the name, but we have to come up with this biological assessment of what we are going to do with the money before we can spend any of it.

MR. HITCHINGS: Are any of the projects within that biological assessment, did they involve eradicating

nonnative species in the transition zone?

MS. JONES: That would be one of the options to be used.

MR. HITCHINGS: Are there current place plans to make a request for that purpose?

MS. JONES: Not currently under that assessment because we don't have it written up yet.

MR. HITCHINGS: In question 14 of your testimony you recommend that 37 percent of the increased inflows of VVWRA be dedicated to the environment to maintain habitat downstream of VVWRA?

MS. JONES: Yes.

MR. HITCHINGS: What is the basis of that number of 37 percent of increased inflows treated by VVWRA?

MS. JONES: Okay. Basically, over a 15-year interval the discharge from VVWRA, it started at about 3,000 acre-feet per year, and for the last full year was about 9,000 acre-feet. At the same time the Narrows base flow started at about 20,500 acre-feet a year and dropped to the present 6,000 acre-feet a year.

The annual change in VVWRA discharge is, therefore, 375 acre-feet per year, and the base flow change was about a thousand acre-feet per year.

If all the base flow decrease is due to diversion -- due to the diversion into multiple usage and was then

captured by VVWRA plant, the expected discharge should be increasing at about 500 acre-feet per year. It is likely, however, that some of the flow diverted from the Narrows goes to other locations and uses not linked to VVWRA. From above data the 37 to the 1,000 ratio is an indication of the capture. Therefore, an increase in future discharge should contribute about 37 percent to the riparian corridor.

MR. HITCHINGS: So, it sounds from that statement that the 37 percent is intended to make up for the increased groundwater production in the Alto subarea; is that correct?

MS. JONES: That is what we are looking at.

MR. HITCHINGS: But you are not making or are you contending that existing environment currently depends on future increased flows?

MS. JONES: What we are looking at is maintaining a flow. You have to add in what goes through the Narrows gauge and the output to keep a constant relationship that seems to be supporting the habitat.

MR. HITCHINGS: You are looking for VVWRA to maintain that flow by this recommendation; is that correct?

MS. MURRAY: I object. I think she already answered the question. Increased discharge.

H.O. BAGGETT: I would overrule. It is a simple question, yes or no. She's already answered it.

MS. JONES: We would be looking at trying to maintain the amount of water that is currently going down there?

MR. HITCHINGS: That is not my question. My question was that Fish and Game was looking to VVWRA to maintain those flows to make up that difference; is that correct?

MS. JONES: Yes.

MR. HITCHINGS: I have no further questions on the initial cross.

Thank you.

H.O. BAGGETT: Thank you.

MR. HITCHINGS: Thank you.

H.O. BAGGETT: Jess Ranch, Mr. Ledford.

---oOo---

CROSS-EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY JESS RANCH WATER COMPANY

BY MR. LEDFORD

MR. LEDFORD: This question is directed to Becky.

You testified that you're familiar with the adjudication, and you also testified that you are on the Alto Subarea Subbasin Advisory Board. And you explained what the responsibilities of the Subarea Advisory Board are?

MS. JONES: They are two make recommendations to the water master.

MR. LEDFORD: Make recommendations in relation to the

adjudication?

MS. JONES: Yes.

MR. LEDFORD: Your position on the Board is as Fish and Game's representative under the judgment?

MS. JONES: Correct.

MR. LEDFORD: And your position on the Board would be to render Fish and Game's interpretation of what the judgment might happen to be at any given time?

MS. MURRAY: I am going to object. She is not a lawyer.

H.O. BAGGETT: I would sustain that, she isn't an attorney.

MR. LEDFORD: Your Honor, Mr. Hearing Officer, whatever, the judgment is a physical solution that a whole bunch of folks got together and signed off on and there is a judge that --

H.O. BAGGETT: I understand that.

MR. LEDFORD: -- does that.

There is committees that get together to determine whether or not the judgment is working or not based on their interpretation and various understandings. She's testified about a number of different things that she is familiar with about the adjudication.

H.O. BAGGETT: Right.

MR. LEDFORD: I have a specific question. But I was trying to lay some foundation to make sure that everybody

understands that she is Fish and Game's representative.

H.O. BAGGETT: That works.

MR. LEDFORD: We are okay to that point.

H.O. BAGGETT: You can continue.

MR. LEDFORD: The very specific question is: Is there any question in your mind that the water that is being produced and treated by Victor Valley Wastewater Authority is water that is subject to the adjudication?

MS. MURRAY: I am going to object. It calls for a legal conclusion.

MR. LEDFORD: It is her understanding. I am not asking for a legal conclusion, simply asking for her understanding.

MS. MURRAY: I object.

H.O. BAGGETT: I would have to sustain the objection. You are asking -- her role is not as Fish and Game's attorney interpreting that agreement. It is as a biologist, as a biologist who works with it daily.

If you can answer that question, if I can sort of help you, if you can answer the question based on your role in that, not as a role of Ms. Murray or the Director, the attorneys interpreting that agreement.

MR. LEDFORD: That is my question.

H.O. BAGGETT: From your perspective as a biologist or in-the-field person.

MS. JONES: Run that --

H.O. BAGGETT: Rephrase the question. If that is what you are trying to get at, rephrase it so it deals with her expertise as a biologist.

MR. LEDFORD: Is it your understanding that the water that is being produced by all producers in the Alto subbasin that eventually get treated by the Victor Valley Wastewater Authority at the present time is water that is subject to the adjudication?

MS. JONES: From what I know of the adjudication, the output is counted in the flows that go down, but it is not subject to the adjudication, as I understand it.

MR. LEDFORD: That wasn't the question. The water produced and that is treated, is it subject to the adjudication?

MS. JONES: If I didn't answer it, then I don't know.

MR. LEDFORD: Based on your understanding of the Alto Basin, is the Alto Basin in balance?

MS. JONES: No.

MR. LEDFORD: Is the Alto Basin currently in overdraft?

MS. MURRAY: I guess I would want to object. Ms. Jones is not a hydrologist. She is a biologist.

H.O. BAGGETT: Possibly you can ask that again.

MR. LEDFORD: That would be fine for the hydrologist.

MR. CUSTIS: I think the first question she answered, I think I would agree with her, that it is -- I agree with

her, yes. I can't remember the total question. But she was correct. I don't want to restate the question and get it wrong.

The second one about overdraft, that has a lot of multi logical and legal implications about when overdraft occurs. Based on the chart that I showed in my testimony, the Todd Report concludes that the basin has lost some 800,000 acre-feet of water stored since 1950, and that is considered a negative. And it is -- whether it is physically more water than the basin could provide and still maintain its base flows, based on what is going through the Lower Narrow gauges, I would say no. It is in overdraft from a hydrology standpoint. You are meeting your long-term 21,000 acre-feet at the Lower Narrows gauge. But it is a little more complicated.

MR. LEDFORD: As a hydrologist, then, there is much more to the overdraft than the 21,000 acre-feet?

MR. CUSTIS: That is where my problem comes in, because I am not familiar with all the intricacies of the judgment. So it is a qualified yes.

MR. LEDFORD: Based on what you are familiar with, you are familiar with the 21,000?

MR. CUSTIS: Right.

MR. LEDFORD: And you are familiar with the fact that we are not currently meeting that obligation or are you

familiar with the fact that we are not meeting that obligation? We being Alto Basin. Yes or no.

MR. CUSTIS: You are asking Becky?

MR. LEDFORD: I am asking you.

MR. CUSTIS: Based on what is coming through the Lower Narrows gauge, you are not meeting the obligation.

MR. LEDFORD: Are you familiar enough with the adjudication to know how that is accounted for? There is a provision in the adjudication for accounting.

H.O. BAGGETT: What is the answer? I didn't hear the answer.

MR. CUSTIS: I'm wondering what accounted for means. I know that it is measured at the gauge. Now that is how you account for the 21,000.

MR. LEDFORD: And if there is a deficit, let's assume for the moment. This will be a hypothetical. There is a deficit of a thousand acre-feet this year and there is a deficit of a thousand acre-feet next year, does that go into some sort of an account, is there an accounting account for that?

MR. CUSTIS: I am not familiar with how you carry over losses.

MR. LEDFORD: Becky, do you know the answer to that question?

MS. JONES: I believe I am familiar.

MR. LEDFORD: Do you know if there is a deficit, an accumulated deficit? And the answer could be yes or no. Is there an accumulated deficit?

MS. JONES: Yes.

MR. LEDFORD: Do you know how much that deficit is?

MS. JONES: Not off the top of my head.

MR. LEDFORD: Is it more than 5,000 acre-feet?

MS. JONES: I just don't know.

MR. LEDFORD: If you don't know, I don't know is fine. It works just as good, and you said you don't know.

MR. CUSTIS: I don't know how you carry over an account for the deficit.

MR. LEDFORD: I want to know if there is, and if your answer was yes, then I want to know what it is.

MR. CUSTIS: I know there is a deficit. I know it probably exceeds 5,000. I can't give you the number.

MR. LEDFORD: Do you know if it exceeds 10,000?

MR. CUSTIS: I am sure that it exceeds 10,000 if you don't count VVWRA in that number, yes.

MR. LEDFORD: Do you know if it exceeds 15,000?

MR. CUSTIS: You have an average over the last ten years of around 8,000. Today it is 8,000 acre-feet coming through the Lower Narrows gauge and you are supposed to have 21,000, so it is.

MR. LEDFORD: So there is a deficit?

MR. CUSTIS: There is a fairly large deficit.

MR. LEDFORD: It is getting bigger?

MR. CUSTIS: In its current condition it is getting bigger.

MR. LEDFORD: Thank you.

Now, since this project has been brought before the Department of Fish and Game has there been any dialogue with Fish and Game or any correspondence relative to subregional treatment plants?

MS. JONES: I heard that they are looking at subregional treatment plants.

MR. LEDFORD: Has there been any studies conducted by anyone and submitted to you in relation how subregional treatment plants would affect the flow through VVWRA?

MS. JONES: I have not seen anything in writing.

MR. LEDFORD: Would it be your understanding that that is a change to the original proposal as far as the environmental impacts on what this project might be?

MS. JONES: If I understand the question correctly, I think that would have to go through another process.

MR. LEDFORD: We just heard Mr. Hitchings ask you a question, several questions you didn't have the answer to, because you had not seen any environmental studies for the Adelanto subregional plant; is that correct?

MS. JONES: Correct.

MR. LEDFORD: Mr. Hitchings informed you there was a million acre-feet that no longer went through VVWRA. Is that also correct?

MS. JONES: That is what I believe he said.

MS. MURRAY: I object. He's quoting --

H.O. BAGGETT: Can you --

MR. LEDFORD: That is fine. I will try something a little different.

H.O. BAGGETT: Sustained. Continue.

MR. LEDFORD: The testimony before the State Water Resources Control Board by the applicant is that they intend to build subregional treatment plants.

MS. MURRAY: I object. I don't believe we have heard that testimony from VVWRA.

H.O. BAGGETT: Sustained.

MR. LEDFORD: This question will be to Becky.

The Department of Fish and Game operates a fish hatchery in the upper defined two areas. It will be in the upper basin. Is that correct?

MS. JONES: Yes.

MR. LEDFORD: Are you familiar with the production of the fish hatchery?

MS. JONES: Not offhand.

MR. LEDFORD: Would the discharge of the DFG fish hatcheries affect the base flow in the area?

MS. JONES: Some of it is diverted.

MS. MURRAY: I am going to object again. I think this goes beyond the scope of her direct testimony and calls for hydrologic conclusion.

H.O. BAGGETT: I would sustain. Can you rephrase it?

MR. LEDFORD: I don't think it calls for a hydrologic conclusion.

Do you know if the fish hatchery is producing more water since the adjudication went into effect or less?

MS. JONES: I don't know.

MR. LEDFORD: How about you, do you know?

MR. CUSTIS: I don't know what the status of -- the long-term status of pumping of the fish hatchery is.

MR. LEDFORD: That's fine.

Question to Becky. Do you know if the adjudication anticipates return flow as part of the balancing in the basins?

MS. JONES: Not offhand.

MR. LEDFORD: Same question for you.

MR. CUSTIS: I don't know the specifics in the adjudication, but there was discussion that they made an assumption that 50 percent of consumption was return flow. So it infers to me that they made some accounting for that. Now the legal language and how it was balanced out, I am not familiar with that. But I would assume that that is

something that they are not going to assume that just disappears from the water balance.

MR. LEDFORD: Did you answer my question? You answered my question that the basin was still in overdraft?

MR. CUSTIS: I think I gave you a qualified yes given as all of the legal issues --

MR. LEDFORD: As a hydrologist, what would your solution to curing the overdraft be in the upper basin, in the Alto Basin?

MS. MURRAY: I object. Irrelevant, beyond the scope of his direct.

H.O. BAGGETT: I would agree.

Can you lay a foundation? Why is this --

MR. LEDFORD: The issue is whether or not there is going to be damage to the legal water rights users. This is one of the fundamental questions before us today. And our position, quite simply, is it going to cost more money in the way of makeup assessments as one piece of the equation.

VVWRA made an argument that under some mass balance scenario, which they provided no study for, that it equated to the same question.

Maybe I can ask you first as a foundational question: Do you agree with VVWRA's expert that the mass balance scenario, there is no difference in the use of the return flow water?

MR. CUSTIS: I'd have to say, no, I don't agree with it. But I really have to -- it's been a month since we went through the exercise, but I know at the time that I didn't agree with it.

MR. LEDFORD: That is fine. Please stop.

Based on fact that the basin is in overdraft and it is not in balance, what is the solution to bring the basin into balance, your solution please?

MR. CUSTIS: I think the first is you adjudicate the basin.

MR. LEDFORD: With that begun, next.

MR. CUSTIS: Assuming that that's been done, and the purpose of the adjudication is try to control water use and return flows, assuming that is being done and you are still running a deficit --

MR. LEDFORD: Right.

MR. CUSTIS: -- then you either have to -- it can be a combination, cut back your use or increase recharge. That is the only things you can do. Now how do you do that is --

H.O. BAGGETT: I don't think that that was the question.

MR. LEDFORD: It actually is getting to the question.

So in order to reduce production or consumption you have to retire some use some place?

MR. CUSTIS: You have to retire or alter, conserve,

change how you use the water, but still obtain the same --

MR. LEDFORD: That is one possibility.

Retire farming use, which is a part of the adjudication, transfers.

MS. MURRAY: I am going to object. Relevance. Beyond the scope of his direct.

H.O. BAGGETT: Focus on --

MR. LEDFORD: The relevance is that the basin is not in balance, there is no mass balance study, and I want to make sure that Fish and Game does disagree with --

MS. MURRAY: You've established that.

H.O. BAGGETT: You have established those questions.

MR. LEDFORD: The solution -- then the solution is still that something has to be done. And the next thing that you said was we have to put water in the basin. I think that is what you said. I hope so.

MS. MURRAY: Not what he said.

MR. CUSTIS: You have to do a combination of controlling your outflow or inflow in unspecified percentages.

MR. LEDFORD: If State Project water was available to put in the basins that would be a method to help?

MR. CUSTIS: That would be an inflow, an increasing inflow, yeah.

MR. LEDFORD: It is going to take all of those things

to balance the basin?

MR. CUSTIS: You have to make sure that you control your inflows and your outflows. What combination is beyond my scope of knowledge for this basin.

MR. LEDFORD: Thank you.

H.O. BAGGETT: Thank you.

Mr. Kidman.

MR. KIDMAN: I have no questions of this panel.

H.O. BAGGETT: Mr. Yamamoto.

MR. YAMAMOTO: I have a few.

---oOo---

CROSS-EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY APPLE VALLEY RANCHOS WATER COMPANY

BY MR. YAMAMOTO

MR. YAMAMOTO: It is still morning. Good morning, Ms. Jones and Mr. Custis. My name is Andrew Yamamoto. I am here representing the Apple Valley Ranchos Water Company, and I have some questions for both of you.

Mr. Custis, first, Fish and Game has submitted a number of exhibits to support your testimony. You have discussed in your direct testimony Exhibit 6, which is the giant chart?

MR. CUSTIS: Yes. It is the smaller of the two.

MR. YAMAMOTO: Relatively big.

MR. CUSTIS: Yes.

MR. YAMAMOTO: Looking at Exhibit 6, have you calculated how far downstream the surface flow persists currently from the VVWRA plant?

MR. CUSTIS: Based on what currently -- here we are in the year 2001. But based on the 1998 data that this chart was made from, it appears that you have at least six and a quarter miles of surface water downstream of the plant, and there is wetted area in the channel that you can see the difference in tonal values for another quarter mile or so. So maybe up to another six and a half miles.

MR. YAMAMOTO: As the production from the VVWRA plant increased up to, say, 18,000 acre-feet per year, the extent of the stream would also increase, the surface flow would increase, correct?

MR. CUSTIS: Sort of yes and no. I would say that yes, but the qualification is that there seems to be a correlation between the drop in base flow coming through the Lower Narrows and the production increases in VVWRA over the last decade, since they have been operating, basically, maybe two decades almost.

And the problem I have is where is that increase production coming from. Is it coming from pumpage in the upper Alto, which to me would say, "Well, now we are going to get reduction in the base flow at Lower Narrow. It is the groundwater condition that allows that water to flow

downstream, and we can see that in just downstream from the Narrows gauge where suddenly the water disappears. It is almost equal in flow today. It only travels a couple of miles and disappears."

There is this relation going on between depth of groundwater and saturation of the soil and how far down. In a general statement, yes, you should see a longer surface flow more downstream, but that could be reduced by the loss of base flow.

MR. YAMAMOTO: Your assumption about the loss of base flow is based on your assumption that the water, groundwater, produced to generate the wastewater streams to the VVWRA plant would be from the Alto area that feeds the Lower Narrows?

MR. CUSTIS: That's correct, yes. If it comes from somewhere else.

MR. YAMAMOTO: Last month Mr. Carlson testified that for each 1,100 acre-feet of water discharged by VVWRA approximately one and a half miles of surface flows were -- or put another way he testified that reducing -- sorry, let me correct that.

What Mr. Carlson testified was that for every 1,100 acre-feet of wastewater discharged by the VVWRA plant, approximately one mile of surface flow was added to the river.

Do you recall that?

MR. CUSTIS: I recall that there was a -- RA presented a chart where they tried to look at the last decade. I think they had eight or ten data points in there and tried to come up with a value. There was a statement that 1,100 acre-feet per mile was the infiltration rate into the channel.

MR. YAMAMOTO: You mentioned the last decade. Actually, their testimony was based on a single water year, correct?

MR. CUSTIS: That number, 1,100, to me when I looked at their chart at how that calculates out would be coming from one year, yes.

MR. YAMAMOTO: Which year was that?

MR. CUSTIS: It appears to me it comes from 1993.

MR. YAMAMOTO: Do you agree with the calculation of VVWRA that each 1,100 acre-feet corresponds to approximately one mile of surplus flow?

MR. CUSTIS: I would say that I disagree that that number is a good average number, and so I would have to say I disagree with it.

MR. YAMAMOTO: What do you think would be a fair average number?

MR. CUSTIS: I am not -- well, I am not sure that we have the data in front of us to come up with a fair average

number. What we have in the information that was submitted by VVWRA are -- and the information that I have is distance downstream from the plant over the last decade or so since, I think the earliest is 1998 or 1988, that if you look at precipitation matters, that is a wet cycle.

And so, we are taking information in a wet cycle and assuming that that applies as a normal condition. And we know that we will go through dry cycles. Even with that data, there are years when we have consumption, infiltration was around 1,800 acre-feet per mile. My understanding of VVWRA's chart was that they came up with an average from their data of around 1,500 acre-feet per mile, average. So, the numbers that are in front of us, 1,500 acre-feet is about the average. But I think it would be actually more because it is a wet cycle that we're looking at.

MR. YAMAMOTO: So, based on your calculations, how far do you think the surface flow of the river will be reduced if the State Board approves the diversion of 1,680 acre-feet?

MR. CUSTIS: Annually?

MR. YAMAMOTO: Correct, annually.

MR. CUSTIS: Based on my calculation, I think we, myself and VVWRA, agree that a mile and a half is going to occur. But I think it could actually go up to two miles because the infiltration rate is likely -- depends on the

wet cycle. But it is likely to go even at 1,500 acre-feet a year, it comes out around a two-mile loss, if you assume the 8,500 acre-feet discharge. So a lot of numbers there.

MR. YAMAMOTO: Thank you.

Ms. Jones, I have a few questions for you too.

To begin with, Mr. Hitchings asked a number of questions about what an incidental take permit may or may not be and whether it is required.

Just for the record, what is an incidental take permit?

MS. JONES: An incidental take permit is a permit that is issued under Section 2081 of the Fish and Game Code which allows for take of a listed species to an act that is otherwise lawful, provided that impacts from that act are fully mitigated and -- the impacts are fully minimized and fully mitigated.

MR. YAMAMOTO: For the record, do you -- sorry.

Does the Department of Fish and Game believe that VVWRA will need to get incidental take permits before it goes forward with its project?

MS. JONES: Yes, because of the impact to the habitat. And we believe that there would be impact to the listed species so that an incidental take permit would be needed for the movement of the water.

MR. YAMAMOTO: As of today, has the Department of Fish

and Game issued the necessary incidental take permits to VVWRA?

MS. JONES: We have not issued an incidental take permit for the delivery or sale of the 1.5 million gallon a day water up to the irrigation.

MR. YAMAMOTO: Has the U.S. Department of Fish and Wildlife released any biological opinion for the VVWRA project to divert the water to the golf course and use it there?

MS. JONES: None to divert the water to the golf course and use it.

MR. YAMAMOTO: Do you know whether Fish and Wildlife will require any additional consultations before it approves the diversion of water from the river?

MS. JONES: I believe at the last hearing there was a letter that was issued by the Department or I mean by the Service regarding that they would need to assess the project and the impacts to the wildlife. And if they determined there were impacts, that there would be either a biological opinion, if there was a nexus, or habitat conservation plan would be needed.

MR. YAMAMOTO: As I understand it, you previously testified that there will be impacts on listed species; is that correct?

MS. JONES: Yes.

MR. YAMAMOTO: Which species of special concern do you think will be impacted if the State Board grants the VVWRA petition?

MS. JONES: The species that I feel that would be impacted by the granting of the petition would include the Least Bell's Vireo, southwest willow flycatcher, summer tanager, yellow-breasted chat, brown-crested flycatcher, vermillion flycatcher, southwestern pond turtle, probably yellow-billed cuckoo, southwestern Arroyo toad, possibly the red-legged frog, the Mojave River vole and two-striped garter snake.

MR. YAMAMOTO: Just to clarify the record, when you say the species will be impacted, you mean they will be adversely impacted, correct?

MS. JONES: Correct.

MR. YAMAMOTO: Now, I know there was a special interest in the southwestern pond turtle. Have you studied the occurrence of the turtle within the area?

MS. JONES: Yes. We do know of an occurrence that was in June of '98, Dr. Jeff Lovitch with the USGS has a sighting in the picture, Department of Fish and Game exhibit, that showed the ponds in Exhibit 15. He found pond turtle in that pond.

MR. YAMAMOTO: Where is that relevant to the VVWRA plant?

MS. JONES: It is about a mile and a quarter north of the plant.

MR. YAMAMOTO: And do you have an opinion whether these turtles will be adversely affected by the VVWRA project before the Board now?

MS. JONES: Yes, it would be my guess that they probably would be.

MR. YAMAMOTO: By guess you mean your opinion?

MS. JONES: My opinion. And also in the initial application to the Water Board there was an initial study done for the project. And in there, from Exhibit 6 of the initial petition, entitled Biological Constraints Evaluation for the Victor Valley Wastewater Treatment Plant, San Bernardino County, the biologist that they have in reference to the southwest pond turtle states that it could adversely -- it could be adversely affected by the loss of pond or oxbow channel habitats or by changes in the water flows or chemistry.

MR. YAMAMOTO: Do you think any mitigation measures planned by the project proponents will eliminate that problem?

MS. JONES: There was no mitigation measure mentioned for any of the riparian species within this document, so I would have to say no.

MR. YAMAMOTO: There has been testimony by the VVWRA

witnesses that there will be a constant increase in the actual flow from their plant. Do you have an opinion whether that would increase the amount of surface habitat available?

MS. JONES: If there was an increase output from VVWRA, there could be an increase in habitat, but I think you would have to take a look at pumping that is going on within the area, too.

MR. YAMAMOTO: Let me ask you a few questions about the Biological Resources Trust Fund discussed by Mr. Hitchings this morning.

How much is generated by that fund every year?

MS. JONES: It is approximately 75- to $80,000 per year.

MR. YAMAMOTO: And you discussed possible plans that Fish and Game has for applying to the water master to use that fund, correct?

MS. JONES: Correct.

MR. YAMAMOTO: All of those plans would have to be approved by the water master before the funds could be spent, correct?

MS. JONES: They would not to be approved or be reviewed by the water master, but I believe they also need to be approved by the judge.

MR. YAMAMOTO: Assuming that Fish and Game wanted to

discharge State Water Project water into the transition zone, what is the closest point of discharge?

MS. JONES: Currently the closest point of discharge would be at Rock Springs outlet.

MR. YAMAMOTO: Where is Rock Springs in relation to the VVWRA plant? You can show or you can tell me.

MS. JONES: Actually, it's further south than this map shows. It is about 15 miles north of the VVWRA plant.

MS. MURRAY: South?

MS. JONES: I mean south.

MR. YAMAMOTO: By 15 miles south, you mean about 15 miles upstream of the plant?

MS. JONES: Upstream of the plant.

MR. YAMAMOTO: Do you have an opinion whether or not water delivered at Rock Springs would ever reach the transition zone?

MS. JONES: No. I don't believe that it even gets close because of upstream pumping and then you'd also have some evaporation.

MR. YAMAMOTO: Are there any plans by Fish and Game to build an alternate discharge point of the pipeline to bring the State Water Project water into the transition zone?

MS. MURRAY: I just want to clarify. By us?

MR. YAMAMOTO: By Fish and Game or anyone using the Biological Trust Fund money.

MS. MURRAY: Using our trust funds?

MS. JONES: Currently, no. I know that Mojave Water Agency is looking at possibly putting in a turnout somewhere there. They had offered to put a turnout in for us in the transition zone just north of VVWRA, but that was held up because of the suit.

MR. YAMAMOTO: Which lawsuit?

MS. JONES: I believe VVWRA was going to do a lawsuit to Mojave Water Agency because they didn't want water put in at that point.

MR. YAMAMOTO: And if the Mojave Water Agency was able to discharge State Water Project water into the transition zone, would that replace the VVWRA discharges in terms of the seasonal discharges?

MS. JONES: It -- we prefer not to see it, but it could be used for that.

MR. YAMAMOTO: Do you know whether the State Water Project water would be available year-round like the VVWRA effluent?

MS. JONES: From my understanding it's usually that the State Water Project, they have to go down every so often almost on an annual basis to do repairs and cleaning and that type of thing. So I don't believe there would be water available year-round.

MR. YAMAMOTO: Would that affect the habitat?

MS. JONES: Yes. Because the habitat down there, the big thing is to keep the constant, especially through the summer months when it is so critical, which you need the constant flow and the constant depths at that time of the year. It is very critical.

MR. YAMAMOTO: Do you know how much the Mojave Water Agency would charge Fish and Game for water imported from the State Water Project?

MS. JONES: Currently if we were to buy State Water Project water from the Rock Springs area, Mojave Water Agency would probably charge about $188 per acre-feet, but the further north you go along the pipeline the higher the prices go up.

MR. YAMAMOTO: In December VVWRA testified -- rather, witnesses for the agency testified that they would charge Fish and Game the market rate for the water. Do you recall that?

MS. JONES: Yes.

MR. YAMAMOTO: Do you know what people in the Alto area currently pay for the transfer of water within that subarea?

MS. JONES: Well, I think there are different costs for the transfers, whether they are permanent or on an annual basis. I believe that a permanent water transfer fee, getting so much every year, is approximately $1,250 per

acre-foot for a permanent transfer per the guarantee.

MR. YAMAMOTO: Do you know what the cost is to transfer an acre-foot of water on a temporary basis?

MS. JONES: I am not exactly sure what they're charging on a temporary basis right now.

MR. YAMAMOTO: Is there any plan by Fish and Game to purchase water to replace the VVWRA effluent? Is there any current plan?

MS. JONES: Currently, no. Because we are still working on the biological habitat plan, which might include one of the options for enhancing the habitat of buying water, but currently we don't have a place to put it in.

MR. YAMAMOTO: If Fish and Game were able to place State Water Project water into the transition zone and replace the VVWRA effluent and Fish and Game had the money from some source, would Fish and Game have to make up for the entire loss of flow from VVWRA in order to maintain the habitat? If that is a hydrogeological question, I will withdraw it.

MS. MURRAY: It is hypothetical.

MR. YAMAMOTO: Yes. That's okay. I will withdraw it.

I am done.

Thank you.

H.O. BAGGETT: Dana, Tom, Ernie.

---oOo---

CROSS-EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY STAFF

MR. MONA: I am Ernie Mona.

This goes to Ms. Jones. Following up on what Mr. Yamamoto said, line of questioning, Department of Fish and Game was a party to the Mojave Adjudication; is that correct?

MS. JONES: Correct.

MR. MONA: As a party, could you define what the rights and responsibilities are under that adjudication in regards to maintaining the flows in the transition zone of the Mojave River?

MS. MURRAY: Again, not as to her legal interpretation, but merely as a biologist?

MR. MONA: As a member of the Mojave River Watershed Stakeholders group and the Alto, Centro Advisory Committee, would she tell us what the rights and responsibilities are of Fish and Game?

MS. JONES: Our main responsibility is under the public resources trust, to see that we don't really have a loss of habitat or try and keep things -- keep the remnant habitat that is there and the species that are using it as a constant.

Under adjudication the Department doesn't have responsibility to keep the water down there. The Department

actually signed on to the adjudication because we have three different interests as a user within the Mojave River: the fish hatchery, the Mojave Narrows Park, and then Camp Cady, which is down east of the Barstow area. They signed on as a user.

There is a section in the adjudication or an Exhibit H which goes into the trustee resources that the Department is overseeing. But the department originally signed on because it was a user.

MR. MONA: So, could you briefly define the purpose of the Biological Trust Fund, then?

MS. JONES: That was set up to enhance the riparian habitat, well, actually the biological resources within the area. The way it is set up is that for acre-foot -- people have the free production allowance in the area. When they exceed the free production allowance they get charged per acre-foot. On that charge per acre-foot, I believe it is currently 52 cents an acre-feet or 54 cents an acre-foot goes into this biological trust fund which is used to enhance either species and/or habitat within the area.

MR. MONA: Very quickly. Do you recall Mr. Gallagher's testimony when he was here last month, his Exhibit 1A, under Paragraph 31, they offered, VVWRA offered some, couple of protest resolution terms.

Have you had an opportunity to review those terms?

MS. MURRAY: Could you repeat the question?

MR. MONA: Yes. VVWRA offered two terms to resolve Department of Fish and Game's protest.

MS. MURRAY: What document are you referring to?

MR. MONA: I am referring to VVWRA's Exhibit 1A.

MS. MURRAY: Gallagher's testimony?

MR. MONA: Gallagher's testimony, yes.

MS. JONES: Offhand I am not familiar with it.

MR. MONA: Very quickly, then. They offered to dedicate a base discharge of 2,000 acre-feet annually and also provided an opportunity to Fish and Game to have the first right of refusal for 2,000 additional acre-feet annually.

In your opinion is that sufficient water to maintain the, I guess, riparian habitat and conditions in the type of good condition that you are now seeking?

MS. JONES: I would have to say no, an emphatic no to that.

MR. MONA: Why not?

MS. JONES: Well, they're looking -- the petition is to remove 1,680 acre-feet per year. What they are looking at -- and if they are at approximately 9,000 discharge or what we are looking for is 8,500 acre-feet per year, that drops us down to about 7,000 acre-feet or, yeah, about 7,000 acre-feet per year. At that rate we are looking at losing a

mile and half to two miles of channel. If we drop down the total to 4,000 acre-feet a year, that is going to cut it back either further. If I understand what you said.

MR. MONA: As an alternative, do you have any alternative proposal that may resolve your protest against the Authority?

MS. MURRAY: We have submitted a protest dismissal. It is in the record.

MR. MONA: That would be to maintain what discharge that existed at the time that they filed the petition. That is what you all want then, essentially?

MS. JONES: Correct.

MS. MURRAY: No.

We will correct on recross.

MS. JONES: I think.

MR. MONA: Nothing further.

MR. PELTIER: Good afternoon. I have a couple questions for Mr. Custis.

Under natural conditions without overdraft what percentage of the natural recharge to the groundwater basin would normally be discharged to the Mojave River channel?

MR. CUSTIS: This is in the Upper Alto?

MR. PELTIER: Yes. I am sorry I didn't express that.

MR. CUSTIS: I don't recall whether I read anything that would put a number to that. I know the USGS has looked

into a model that would try to get to answer that, how much of the groundwater actually comes to the surface and becomes surplus water flows.

MR. PELTIER: If the basin were in balance and you have normal, natural recharge and then whatever discharge is either for plant use or to the river, I am just trying to get an idea of whether the water that is currently being pumped, would that normally wind up back in the river?

MS. MURRAY: Can I clarify, this is a hypothetical situation in which the basin is in balance?

MR. PELTIER: Yes.

MR. CUSTIS: It's my understanding of the hydraulics of the basin, surface water to groundwater, that the Upper Alto Basin, that there is some groundwater coming back to the surface at the Lower Narrows, above the Lower Narrows. Since going through the Lower Narrows they are in bedrock channel, the assumption is that the measurement at the Lower Narrow gauge at 21,000 acre-feet per year surface flow would be the average amount of water that would come either combination, particularly in the summer, a combination of -- the fact I guess the base flow even in storms is backed out of storm flow. Then you have this underflow of 2,000 acre-feet.

So, in a balanced basin the long-term average amount of flow that the lower part of the Upper Alto is measured at

the Lower Narrows would end up being around 23,000 acre-feet base flow and underflow.

MR. PELTIER: What I am really trying to get at is just general percentages of recharge versus discharge.

MR. CUSTIS: Recharge versus discharge, how much of the recharging groundwater --

MR. PELTIER: How much of the natural recharge to the groundwater system --

MR. CUSTIS: Shows up at the end as base flow?

MR. PELTIER: If there was no overdraft.

MR. CUSTIS: I don't know that number. You would have to go back to look at -- the problem is what is the long-term average surface water storm flows. That is where the recharge is coming from.

MR. PELTIER: I am not asking acre-feet. I am trying to get a water balancing approach of the whole system.

MR. CUSTIS: I couldn't give you a number on that that I would feel comfortable with without going back through the storm flow question.

MR. PELTIER: I understand the problem with storm flows. Let me ask a different question.

When you have a wetted channel and then, say, a reduction in the length of that wetted channel, would there be corresponding reduction in the level of the groundwater downstream from the wetted front? Does that also recede?

MR. CUSTIS: Would you make assumption that the infiltration in the bed of the channel is adding to the groundwater table? And assuming there is no other source of -- not knowing how much groundwater is being recharged from the side of the basin, yeah, you would have a reduction in the groundwater table, 'cause you are losing flow.

MR. PELTIER: Is that a reasonable assumption to make?

MR. CUSTIS: I think in the Alto Transition Zone that is a reasonable assumption. The data that I have read does not talk about any large recharge from the sides of the channel, groundwater recharge.

MR. PELTIER: That covers my questions.

MS. DORIN: I was just wondering if you can go through the 37 percent number that you got and on Question 14 of your testimony.

MS. JONES: Basically the information was looked at over a 15-year interval. And the discharge rate from VVWRA started at about 3,000 acre-feet per year, and for the last full year was about 9,000 acre-feet. At the same time the Narrows base flows started at about 20,500 acre-feet per year and then dropped to about 6,000 acre-feet per year. The annual change in VVWRA discharge is, therefore, about 375 acre-feet per year, and the base flow change was about a thousand acre-feet per year.

If all the base flow decreases due to the diversion

into municipal usage and was then captured by the VVWRA plant, the expected discharge should be increasing at about 500 acre-feet per year. But it is likely that some of the flow diverted from the Narrows goes to other locations and uses not linked to the plant. And from the data above the 37 into the 1,000 ratio is an indication of the capture. Therefore, any -- that basically is how the 37 percent comes up.

MS. DORIN: That is it.

H.O. BAGGETT: Any other questions?

If not, before we break, I assume you want redirect after lunch?

MS. MURRAY: Yes.

H.O. BAGGETT: I think it is pretty obvious we are not going to finish this today by five. Accordingly, we can finish tomorrow morning, anyway. With that, let's -- 45 minutes, is that long enough for the parties or an hour? 45. Be back at 1:00. We are recessed.

(Luncheon break.)

---oOo---

AFTERNOON SESSION

---oOo---

H.O. BAGGETT: Back in, and redirect with Fish and Game.

MS. MURRAY: Good afternoon. My name is Nancee Murray, staff counsel for Fish and Game on redirect.

---oOo---

REDIRECT EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY MS. MURRAY

MS. MURRAY: Ms. Jones, do you recall Mr. Hitchings asking questions regarding the 8,500 acre-feet a year figure in our testimony?

MS. JONES: Yes.

MS. MURRAY: What is the -- biologically what is the significance of the 8,500 feet?

MS. JONES: What we want to do is try to maintain the current remnant habitat that exists within the area. As Mr. Custis testified, we would be losing one and a half to two miles of wetted channel along with up to 420 acres of riparian habitat. This would result in impacts to aquatic invertebrates, fish, amphibians, birds and mammals using the river area, and also alter the food chain relationship.

There are over 350 different animal species that are known within the Mojave River area. Of those 279 are dependent on the riparian areas. Most of those will be

found in the areas in DFG Exhibit 14, has your highest diversity of habitat. And as we have mentioned before that this picture was taken down near Bryman Road. We would probably be losing at least a mile and a half of this type of habitat which would be used by just about all those species that I have mentioned and most of the ones that are listed as sensitive.

This is so valuable because you do have the flowing water. You have here willows in thickets along here which is excellent for nesting. And then you also have your tall cottonwoods, which are good for all your raptor and larger species.

MS. MURRAY: Does the 8,500 acre-feet fully protect all species in the vicinity?

MS. JONES: No. I don't believe that it would. We have already lost habitat within the area. As we have mentioned before, there is quite a bit of the habitat that is currently stressed out there.

MS. MURRAY: Kit, you mentioned in response also the question about 8,000 and his questioning about 6,000 acre-feet there was a 7,300 acre-feet ET component. What else is a component of the 8,500 acre-feet besides the 7,300 acre-feet ET?

MR. CUSTIS: The 7,300 was basically assuming water is delivered to the plant, put right on the plant. To get the

water down the river to the plant you have to have a certain amount of flow that is going to carry that water down the channel. And so the 8,500, the difference from the 73-, would be the carryover water that is bringing the water down the channel. Also you have maintaining the habitat as the standing water in the river for aquatic habitat as opposed to riparian.

MS. MURRAY: Mr. Hitchings asked you about phasing. Do you recall that?

MR. CUSTIS: Yes.

MS. MURRAY: Are you aware of any commitment in the current petition that speaks to phasing of the project?

MR. CUSTIS: No, I am not aware of any commitment in writing or on the table defining that.

I also want to add in the last question, one of the other components that is in the Bilhorn Report is the ET off the standing water. That is in that table; it is around five and a half feet per year for the acreage. So you are looking at -- they list 200 acres, five and a half. That is a thousand acre-feet just to take care of evapotranspiration of the standing water.

MS. MURRAY: Becky, Mr. Hitchings asked you about studies that had been done after Lines Bilhorn Report. Do you recall that?

MS. JONES: Yes.

MS. MURRAY: Does DFG generally do annual aerial photos in conjunction with Mojave Water Agency?

MS. JONES: Yes. In the past year we have been doing annual photographs along the river corridor.

MS. MURRAY: Kit, Mr. Yamamoto asked you about an infiltration rate. Do you recall that?

MR. CUSTIS: Yes.

MS. MURRAY: And you testified that you could have an infiltration rate of 1,100 and another number was 1,500, and as high as 1,800 in the area. Do you recall that?

MR. CUSTIS: That is calculated from the data that we have, yes.

MS. MURRAY: How do you explain the loss of -- your estimate of 1.5 to two miles based on these wildly varying infiltration rates?

MR. CUSTIS: The difference in infiltration rate is -- first of all, it is not -- it is not linear down the channel where we are making the assumption that equal amounts of water lost as we go down the channel. That is not really the case. It is going to vary based on soil type, whether you have sands or clays and mixtures and layering. It is also important, it is going to vary by the moisture content of the soil in the channel. If it is a wet channel, you are going to lose less water than if it is a dry channel. And so the variation, in fact, this question of wet or dry

climate, a variation is likely due to the difference in the condition of the channel when the water is being released.

If it is in a wet cycle, water will travel farther downstream. The 1,100, which is the least infiltration rate, occurred in the 1993 which is a very wet year. 1,800, which is the most infiltration rate, occurred in 1989 which was a deficient year in precipitation, but it still was in the wet cycle, cumulatively; it is still considered a wet year.

MS. MURRAY: Becky, Mr. Mona asked you a question about the biological resources trust fund, and you answered that you believed that the fund was used to enhance the area. Do you recall that?

MS. JONES: Yes.

MS. MURRAY: Isn't it more correctly put that the fund is used to mitigate for impacts; it is a surcharge on impacts and it is a way to mitigate for those impacts rather than enhance?

MS. JONES: That was the reason the fund was originally put on, was to mitigate for the impacts.

MS. MURRAY: And to clarify, again talking with Mr. Mona you mentioned 8,500 as what VVWRA was discharging at the time of the petition. Do you recall that?

MS. JONES: Yes.

MS. MURRAY: Is 8,500, in fact, less than what VVWRA

was discharging at the time of the petition?

MS. JONES: It is a bit less.

MS. MURRAY: Do you know why the Department asked for a bit less than what was being currently discharged?

MS. JONES: When we -- I don't recall how much less it was is the problem and that figure --

MS. MURRAY: That's okay if you don't recall.

MS. JONES: I don't recall.

MS. MURRAY: That is all. No, it is not all. Sorry.

VVWRA has proposed a new Exhibit 8.

Have you had time to briefly review it over the lunch break?

MS. JONES: Yes.

MS. MURRAY: Does it contain a description of the project proposed under the negative declaration?

MS. JONES: No, it does not.

MS. MURRAY: Does that exhibit contain the description of the proposed project alternatives?

MS. JONES: Yes, it does. Wait. It gives, it refers to some of the alternatives in here, but does not give a good description of them.

MS. MURRAY: Do you see in that proposed new Exhibit 8 the Regional Board comments that concern the impact to aquatic habitat associated with changes in the location of discharge?

MS. JONES: Yes.

MS. MURRAY: Would you read the Regional Board comments.

MS. JONES: The project includes relocating the discharge point from its current location. The current discharge supports wetlands and other aquatic habitats which maybe impacted relocation of the discharge point. The potential for impact to aquatic habitats associated with the project should be addressed. (Reading.)

MS. MURRAY: Would Fish and Game normally have similar concerns where a project of this type as you currently understand what the project is?

MS. JONES: Yes.

MS. MURRAY: Do you see Page 68 of that new proposed Exhibit 8 which appears to be Adelanto's response to the Regional Board concern?

MS. JONES: Yes.

MS. MURRAY: Does that response appear to indicate that alternative one, whatever that is, would indicate a new discharge by Adelanto at a different location which would provide for habitat?

MS. JONES: Yes, it does.

MS. MURRAY: Would that response be adequate for the

concerns that DFG might have had?

MS. JONES: Yes.

MS. MURRAY: And the page marked as 69 of that new proposed Exhibit 8, where it appears that Adelanto project does not indicate increased consumption by the use of reclaimed water, do you see that?

MS. JONES: Yes.

MS. MURRAY: Would that factor impact whether Fish and Game would have approved the Adelanto project or factored in our comments, the fact that they don't plan to reuse the reclaimed water; they plan to discharge it to the river?

MS. JONES: Yes.

MS. MURRAY: No further questions.

H.O. BAGGETT: Thank you.

Recross, Mr. Hitchings.

MR. HITCHINGS: Thank you. Good afternoon.

---oOo---

RECROSS-EXAMINATION OF DEPARTMENT OF FISH AND GAME

BY VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

BY MR. HITCHINGS

MR. HITCHINGS: Ms. Jones, I believe that one of the first questions you were asked on redirect was the significance of the possibility of losing 1.5 to two miles of wetted channel.

Do you recall that question?

MS. JONES: Yes.

MS. MURRAY: Actually, the question was the significance of the Department's request. So if this is recross, it is not an accurate reflection of what my question was.

MR. HITCHINGS: I was simply setting the stage. There was a question regarding what the potential impacts would be of losing up to 1.5 to two miles of wetted channel.

Do you recall that question? Do you recall that topic, you discussing that topic?

MS. JONES: Yes. That wasn't the question, but --

MR. HITCHINGS: If the project is brought on line gradually as is anticipated and as Mr. Gallagher testified, do you believe that there would still be a decrease in the wetted area downstream of VVWRA's treatment plant in the transition zone?

MS. JONES: Yes.

MR. HITCHINGS: Why do you believe there will still be a decrease in the wetted area?

MS. JONES: Because you're still going to be removing water from the river. There will be less that will be going out.

MR. HITCHINGS: What if you have 21,000 acre-feet of surface flows in addition to VVWRA's discharge flows to the transition zone?

MS. MURRAY: Just to clarify, this is a hypothetical?

MR. HITCHINGS: Correct.

H.O. BAGGETT: Okay.

MS. JONES: Does that include current pumping as it exists? I am assuming you are talking about the 121 coming through the Lower Narrows.

MR. HITCHINGS: The 21,000.

MS. JONES: The 21,000.

MR. HITCHINGS: Coming through the Lower Narrows, correct.

MS. JONES: Does this hypothetical include --

MR. HITCHINGS: Include under current conditions.

MS. JONES: Under current conditions. Without changing groundwater depth, no increase in pumping?

MR. HITCHINGS: Under current conditions, what they are today.

MS. JONES: If there was 21,000 coming through the Lower Narrows and a gradual decrease in discharge from VVWRA at what is proposed, then it would not harm the current conditions.

MS. MURRAY: Can I --

H.O. BAGGETT: This is his cross.

MR. HITCHINGS: We have redirect or reredirect and Fish and Game has that ability to do that.

As far as the City of Adelanto where their treatment

plant is now, do you know how they discharge their effluent or where they discharge their effluent?

MS. JONES: I do not know. This is the only thing I have seen on the project.

MR. HITCHINGS: Have you ever seen anything from the Regional Water Quality Control Board asking for comments on the tentative waste discharge requirements order for that project?

MS. JONES: No, I have not.

MR. HITCHINGS: Do you know whether Adelanto discharges to a natural stream from the treatment plant?

MS. JONES: No, I do not.

MR. HITCHINGS: You don't know whether they also discharge to perc ponds from the treatment plant?

MS. JONES: No, I do not.

MR. HITCHINGS: You had mentioned annual photographs that have been taken since the Lines Bilhorn Report. Do you recall that testimony?

MS. JONES: I mentioned in the past we have done annual photographs of the river.

MR. HITCHINGS: Do you know when those annual photos have been taken since the Lines Bilhorn Report?

MS. JONES: I believe there might be one set in '99, but I have not seen anything that was assessed off of those.

MR. HITCHINGS: We had talked earlier, then, about a benchmark, if there is any benchmark by which Fish and Game evaluates the health of the riparian habitat. Your testimony on redirect was that in addition to the Lines Bilhorn Report there have been annual photos that have been looked at since that time; is that correct?

MS. JONES: There have been annual photos that were taken. I believe there was a set in 1999. We have not, as far as I know of those photographs, have not been assessed to compare them to photographs taken earlier. So the most current I have is from, I believe, '98.

MR. HITCHINGS: Has Fish and Game relied on those photographs to evaluate the health of the riparian habitat in the transition zone?

MS. JONES: That has been done by our consulting hydrologist.

MR. HITCHINGS: But not by you?

MS. JONES: No.

MR. HITCHINGS: Mr. Custis, has that been done by you?

MR. CUSTIS: No.

MR. HITCHINGS: From that annual photo, at least the one in 1999 that you referenced, did you observe or did Fish and Game observe any loss of habitat due to the decrease in flows resulting from Adelanto withdrawing its waste discharge stream?

MS. JONES: As I mentioned before, to the best of my knowledge, these photos have not been assessed.

MR. HITCHINGS: That is all I have.

Thank you.

H.O. BAGGETT: Mr. Ledford, do you have any?

MR. LEDFORD: No.

H.O. BAGGETT: Mr. Kidman?

MR. KIDMAN: No questions.

MR. YAMAMOTO: Nothing.

H.O. BAGGETT: Done with Fish and Game.

MS. MURRAY: Our exhibits are already in evidence.

H.O. BAGGETT: Were there additional exhibits on cross?

MS. MURRAY: VVWRA has proposed one, but not us.

H.O. BAGGETT: VVWRA proposed one.

Your exhibit for cross-examination, want that admitted?

MR. HITCHINGS: I would move to have that admitted into evidence.

H.O. BAGGETT: Any objection?

If not, it is admitted.

Mr. Ledford.

MR. LEDFORD: Good afternoon. My name is Gary Ledford, and I am a developer in Apple Valley, California. I am developing the Jess Ranch, which is a 1,400-acre master planned, primarily seniors community. The project currently has approximately 800 sewage connections to the Victor

Valley Wastewater Authority. I am also the president of Jess Ranch Water Company, and Jess Ranch Water Company is a stakeholder in the adjudication for water rights in the Mojave River basin.

We have an interest in this proceeding. I have with me today Mr. Jack Beinschroph. Jack is a civil engineer, a building contractor and a farmer. Both of us have experience in engineering background. We both have farming experience, and Jack specifically has more than 40 years of experience in the Mojave River basin.

---oOo---

DIRECT TESTIMONY BY JESS RANCH WATER COMPANY

BY MR. LEDFORD

MR. LEDFORD: We believe that the Mojave -- that the Victor Valley Wastewater Authority has no legal right to change the purpose of use except as provided under the adjudication. There are four entities currently that sit on the Victor Valley Wastewater Authority Board of Directors, and each of those legal entities are stipulating parties to the adjudication. What I would like to do is to review for you the evidence that we have provided by way of exhibits, which we think are meaningful to the overall decision-making process that you will be going through.

Our first exhibit is composed of actually three exhibits which -- the first exhibit, the VVWRA exhibit of

the proposed project. They are proposing to build a 18-inch pipeline in their plant to a lake. During these proceedings the project seems to have changed some. I think Fish and Game described some of the changes, but the project emanated, at least in our minds, when there was a project called the High Desert Powerplant Project that was being proposed, this is also part of our Exhibit 1, about three years ago and which was ultimately approved by the California Energy Commission, right across the street. We participated in those hearings as well. That project has since been approved with a 24-inch pipeline from the 48-inch aqueduct which is shown in blue on this plan. That pipeline goes to the High Desert Powerplant Project which can be seen here, the rather large red dot right in the center. And you can also see the 18-inch pipeline. Victor Valley -- in fact, they run in the same street, side by side, the 24-inch pipeline and 18-inch pipeline.

All that has been testified here at some point in this hearing. The point being that this pipeline, this 18-inch pipeline that they have described to you as being a pipeline that is going to provide for 1,400 acre-feet of water over ten years is a tremendous amount of overkill. If they were going to propose to use 1,500 acre-feet of water over a ten-year period for a golf course and greenbelt, they wouldn't build it with two 250 horsepower motors.

Their CEQA analysis never addressed the cumulative impacts. It never addressed the alternatives and never addressed the financial circumstances of what might happen with these various different entities.

In addition to that, we now have a new 18-inch pipeline that is not precisely an 18-inch pipeline because the testimony before us has been that the NWRK proposed to build a 24-inch pipeline into the transition zone with a discharge point next to the VVWRA point.

The evidence will also indicate there was a lawsuit by the Victor Valley Wastewater Authority and ultimately a settlement agreement that that pipeline would not be put in. However, times have changed and there is a new plan to build on to the 24-inch pipeline -- this is still in the analysis stage at this point.

MR. KIDMAN: Mr. Chairman. Not an objection but a point of clarification. I am wondering if this is opening statement or if this is testimony and if Mr. Ledford is going to be subjected to cross-examination on the evidence that seems to be being presented now.

H.O. BAGGETT: Mr. Ledford.

MR. LEDFORD: I have submitted and all parties have my prepared testimony. These exhibits are all part of my prepared testimony. And I was the person that prepared the exhibits.

H.O. BAGGETT: So you will be available for cross-examination?

MR. LEDFORD: This is testimony at this point. I started with a little opening statement which I didn't --

H.O. BAGGETT: Okay.

MR. KIDMAN: Thank you.

MR. LEDFORD: So our Exhibit 2, which is in this overhead, shows the 48-inch pipeline in blue, the 24-inch pipeline in brown and the proposed 18-inch pipeline from VVWRA to the lake.

It also shows in O's and X's two different alternative routes for an 18-inch pipeline to be connected to the now proposed High Desert Power Project, 24-inch pipeline, to go into the transition zone.

The point being that there is a lot of environmental issues that circulate around the use of water in this very congested area; and the very word "transition" having such a strong meaning to the overall balance of this basin.

Our evidence starts back in 1983 when a letter was written to Larry Rowe of Mojave River Water Agency by the Victor Valley Wastewater Authority. This is before the adjudication went into effect. This is the important part of this letter. They recognized that they were proposing reclaimed water and reclaimed water could do a lot of things.

The last sentence in the first paragraph that is significant to the stakeholders here is that the valuable resource can be used for recharge in the Alto subarea.

MR. HITCHINGS: Excuse me, Mr. Baggett. Could we just get a reference as to what exhibit it is? I can't tell.

MR. LEDFORD: I'm sorry, Exhibit 3 on Page 2.

H.O. BAGGETT: Thank you.

Continue.

MR. LEDFORD: Their conclusion in the next paragraph which says it is therefore our collective responsibility to utilize reclaimed water to the maximum extent possible to minimize groundwater overdraft.

Being a part of the adjudication process, we believe that when the water rights were ultimately adjudicated that the adjudication covered that issue and that it continues to cover that issue in every report that is made to the Court that shows that the recharge water at 50 percent consumptive use water is being credited.

In Exhibit 4, which is Mojave Water Agency's response to their letter, Mr. Caouette -- this is on the bottom of Page 2 -- says that discharges from the VVWRA plant currently provide a source of recharge to the Alto subarea. Although technically since VVWRA discharges were extracted in the Alto, they are not a newer outside source of discharge. So, again, the whole point of this evidence is

that the water was accounted for as a part of the whole water management plan. These letters relate to the water management plan, and the water management plan is all a part of the adjudication process.

In Exhibit 5 on Page 3, and this is a letter from all of the producers: Victor Valley Water District, Town of Apple Valley, County of San Bernardino. There was five separate producers that signed this letter. And, again, they are looking towards reclaimed water for recharge as beneficial use. This again is part of the water management plan.

In Exhibit 6, a letter from the Mojave Water Agency in response to the users. Mojave Water Agency states it is not possible to estimate the impact from reclaimed water without knowing the place and type of use. Introduction or reclaimed water does not always assure that freshwater pumping for specific use may be reduced, but instead may result in water uses which would never have occurred had the treated water not been available.

And, again, what we are seeing happen here is we are seeing a proposal for a change of use when the water basins aren't in balance and where the water that is coming through the treatment plant under the adjudication is anticipated to balance the basin. If the basins were in balance and there was surplus water, it would probably be a different

circumstance.

On Page 5 -- in Exhibit 5 on Page 6, the same letter, the MWA states that consistent with the Basin Plan the LaHontan Regional Water Quality Board should discourage the use of septic tanks and encourage the use of public sewage facilities in all future developments. Treated effluent from a wastewater plant is far more effective in recharging a river basin than septic tanks scattered all over the basin.

Again, the view of the Mojave Water Agency at the time was that this treatment plant was going to be used for recharging the basin.

The most recent report to the Court, which is our Exhibit 8 on Page 19, it describes that the VVWRA delivers treated wastewater effluent to the Mojave River downstream from the Lower Narrows. The water is credited towards the Alto subarea obligation to the Centro subarea and accounted to 8,744 acre-feet for the 1998 water year. And the importance of this is that it is a part of the adjudication, it is a part of the report to the Court, it is part of the balance of the basin.

In Exhibit No. 9 on Page 8, which is part of the Webb Study, we can see that in the Alto Basin, and I believe this is not the 1998-99 water year, the verified production at the very top of the page on Line 6 was 85,000 acre-feet and

the production safe yield was 69,000 acre-feet. This demonstrates that the Alto Basin is at least 20,000 acre-feet out of balance.

In our Exhibit No. 10, which is a memorandum from -- I believe this is a memorandum from the Victor Valley Wastewater Authority to the Board, a letter signed by Randy Hill, and in that letter he concludes that the City of Victorville would benefit $266,000 annually, the VVWRA would benefit $48,000, and the producers would have $151,000 of increased costs.

And we submit to you that, as Mr. Hill testified, his customers would have at least $4.00 per year increase. We think that amount would be significantly greater than that, and, of course, it all depends on what the real cost of water turns out to be. However, Mr. Beinschroph will testify as to what the financial impact on the farming community will be.

This particular exhibit, which is Exhibit 10, which is a graph that was developed by Mr. Hill and presented to his Board of Directors, shows producers' costs are shown at $90 per acre-feet. That might be a reasonable number in the short term, but it certainly won't be a number for the ten-year duration. MWA rates are currently over $170 and expected to raise to over 250 over the next ten years. The actual cost to producers is going to be more than 250,000

per year, and Mr. Beinschroph has some testimony on that as well.

To bring some clarity to where we are relative to the cumulative subarea deficit, this graph was also developed by Mr. Hill for the Victor Valley Water District, and in the 1999-2000 year, based on these numbers, we had a cumulative deficit in excess of 16,000 acre-feet of water. And at a meeting that we had yesterday before the Mojave water master last year's deficit was in excess of 3,000 acre-feet, I believe it was in excess of 3,300 acre-feet.

Again, Mr. Hill developed this graph for his Board of Directors which demonstrates how taking water out of the river will increase the makeup water obligation to the producers, and that is our Exhibit 13.

Our Exhibit 14 is another chart that was developed by the Victor Valley Water District, which in conclusion states that any removal of VVWRA water will increase the makeup obligation.

Mr. Hill also did something that was called a Cost Impact to Water Producers from the Proposed Recycled Project and indicated that the cost may not have been presented to VVWRA, the cities and county when considering the project. This again goes back to the CEQA analysis where in the mitigated negative declaration there was no financial impact study that was ever conducted in that analysis.

And Mr. Hill did something for his Board called a Proposed Recycled Water Project Cost Benefit Analysis. Using the benefit rate of $35 an acre-foot for the City of Victorville and the cost of $90 an acre-foot would show that the costs are greater than the benefits at 2.6 times. We believe that his numbers are quite conservative, and that if you actually use what the real and forecasted cost of water would be, and this is really small but it is our Exhibit 18, that the costs are greater than the benefits over a ten-year project by more than 300 percent.

In conclusion, our position is that the use of the water for recharge is a part of the adjudication and that it meets the highest and best use of water in the Mojave River basin that can currently be used.

With that I'd introduce Mr. Beinschroph.

Mr. Beinschroph, can you summarize your testimony.

MR. BEINSCHROPH: Well, this economic analysis of the makeup water assessments that he made mention to and that I analyzed it on my own basis and I analyzed it on a subarea basis, and the costs are considerable. For instance, in my own case there would make a difference if they used 1,800. I used 1800 acre-feet which is close to what they had. Apparently they settled at 1,650.

In my particular case in the '98-99 year it cost me $9,549 as makeup water on the ranch that I operate. With

this increased 1,800 acre-feet, the increase would be 52 percent. So I would have to pay an additional $4,965.

On an overall basis, Alto subarea where the makeup obligation in '98-99 was 3,439 feet, acre-feet, their cost was $533,182. On the basis of the 1,800 that would be diverted, the overall Alto cost would be $812,182.

MR. HITCHINGS: Objection.

Mr. Baggett, I don't think any of this information is in the written testimony that was presented by Mr. Beinschroph. I think this is new information. So I would object to it has been presented here on direct testimony, and I would move to strike the testimony up to this point that deals with this cost analysis that the witness is testifying to.

MR. LEDFORD: Actually, that is not true. Page 12, Paragraph 37, Mr. Beinschroph addressed specifically the cost of water specifically allocated to him. Since --

Mr. Beinschroph, since you have prepared this testimony back in November of 2000, have you further refined that testimony?

MR. BEINSCHROPH: Yes. I was trying to present it in an up-to-date manner of what actually had occurred.

H.O. BAGGETT: You are saying this is Item 27, Page 12 of your --

MR. LEDFORD: It's actually 37.

H.O. BAGGETT: Thirty-seven.

MR. HITCHINGS: Mr. Beinschroph started to talk about the Alto subarea as a whole and the numbers that he's referring to just don't appear to be at all consistent with this direct testimony that was submitted. This appears to be just markedly different from testimony we are hearing right now. The purpose of this is to summarize his written testimony that we would have had a chance to review and prepare on for this.

MR. LEDFORD: All he is doing is refining it to his own circumstance and --

MR. BEINSCHROPH: In other words, at that time in the testimony we stated estimated cost of what it actually was. These are refined and positive. These are actual costs based on the figures that were put out by the Mojave Water Agency water master. I'm trying to present it in such a way that you can have a visual picture, more explicitly than what was here.

MR. HITCHINGS: I didn't hear the ruling on the objection.

H.O. BAGGETT: I would overrule. If he refined this, monitor this. If you get much beyond that I will have to -- if you can stick to the numbers you've got here. Refining them some, I will allow that.

MR. BEINSCHROPH: That is basically what I was doing.

On the same presumption assuming that the diversions may go to the full amount of the 9,000 acre-feet, then the additional cost for the Alto subarea would be $1,395,000, and the additional, that is. This represents an increase of three and a half times the amount that was actually paid for in the year '98-99.

My cost, while at that time was 9500 and say $50, on that presumption it would be $34,533. So you can see as an individual in a farming community with a farm that represents a good majority of the people that are in the area, it would be devastating to assume this much of an increase.

So, I present this to show that the economics of doing this, of diverting this water and having all these participants in this Alto subarea pay additional makeup water because of the diversion, it would have a tremendous impact.

MR. LEDFORD: Does that conclude your testimony?

MR. BEINSCHROPH: As far as the economics go.

MR. LEDFORD: Would you like to summarize your testimony.

MR. BEINSCHROPH: I would like to make this summary if I may. If you will indulge me two minutes, I will finish.

H.O. BAGGETT: Proceed.

MR. BEINSCHROPH: At the present procedure the highest

and best use, a hundred percent recharge, is being affected. The diversion and irrigation would diminish this recharge by 50 percent. So if they take and move this from the point that it is going now where there is a hundred percent in recharge, and take irrigation, transpiration, evaporation of another 50 percent, they only get 50 percent recharge. In the previous testimony someone spent half an hour in discourse, stating why we should be recycling water and so forth. We are not in a hyperian situation in Los Angeles. This is an entirely different case. This water is now being put into the ground and recharged at a hundred percent. And I wanted to emphasize that.

And the only single entity that would benefit from this is the City of Victorville, while there is thousands of individuals will suffer increased costs for no return or benefit, and as the owner for 40 years of a working ranch that has been farmed historically for a hundred years and has a paramount overriding water right, it would be devistating to incur an additional operating cost of $35,000 a year to accommodate a single entity.

MR. LEDFORD: That concludes our testimony.

H.O. BAGGETT: Mr. Hitchings.

MR. HITCHINGS: Thank you, Mr. Chair.

---oOo---

//

CROSS-EXAMINATION OF JESS RANCH WATER COMPANY

BY VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

BY MR. HITCHINGS

MR. HITCHINGS: Good afternoon, Mr. Ledford and, do I pronounce it, Mr. Beinschroph?

MR. BEINSCHROPH: Beinschroph, yes. A Dutchman.

MR. HITCHINGS: Thank you.

A procedural point, there have been two pieces of testimony submitted, Mr. Ledford's testimony and Mr. Beinschroph's testimony. There was no indication that they were summarizing necessarily that testimony that, in fact, they prepared that. I guess I can go into this in cross-examination. One thing I note on these two pieces of testimony, the text is exactly the same for Mr. Beinschroph's testimony and Mr. Ledford's testimony from questions -- text for questions 27 through 36 of Mr. Beinschroph's testimony is exactly the same as the text from Mr. Ledford's testimony. I would prefer not to cross-examine both the witnesses on the exact same text. I would move to exclude or strike the testimony from either one of the witnesses or the other or else I can go through and do a cross-examination of both of them, assuming it is their own independent testimony.

H.O. BAGGETT: You understand the --

MR. LEDFORD: I would be more than happy to clarify the

record.

H.O. BAGGETT: Okay.

MR. LEDFORD: I prepared the testimony originally in concert with Mr. Beinschroph assuming that he would be the only witness. There came a time when we weren't sure he could make the hearings. So, ultimately when I wasn't sure that he could be here, I prepared the testimony so that either one could present it.

The answer is we present ours as a panel and you can cross-examine either of us on any question you like.

MR. HITCHINGS: What I would like to do is move to exclude at least the written testimony. And it sounds to me if Mr. Beinschroph is here to answer the questions I can direct my cross-examination to him on those questions that are exactly verbatim as far as the text of your written questions.

H.O. BAGGETT: Mr. Ledford.

MR. LEDFORD: For the most part I say that should be fine. There may be a time when there is some issue where I may know the answer better than he.

H.O. BAGGETT: What were the questions, 20 to 30?

MR. HITCHINGS: The matter, what I propose is that we move to exclude from the record the text and written testimony of Mr. Ledford for questions 4 through 13.

MR. LEDFORD: Let me take a quick look.

H.O. BAGGETT: That remains in the record as the testimony of Mr. Beinschroph.

MR. LEDFORD: I think either one of us can answer the questions. That is fine.

H.O. BAGGETT: Okay.

MR. HITCHINGS: Mr. Ledford, is VVWRA an actual party to the adjudication?

MR. LEDFORD: No.

MR. HITCHINGS: Is there any term or condition in the adjudication that requires VVWRA to continue discharging at its current location?

MR. LEDFORD: It is my belief that the adjudication in its drafted form requires VVWRA to continue to discharge to the river until such time as there is a surplus of water, at which time VVWRA could make a request to the water master or subsequently to the Court if there was a dispute, which there certainly could be.

MR. HITCHINGS: Can you point to any term or provision in the adjudication that would require that of VVWRA?

MR. LEDFORD: No. But what I can point to is because the VVWRA is not a party to the adjudication and the adjudication covers all of the water that is produced by all of the producers and each of the member agencies is a stipulating party and each of those member agencies is excluded from changing any point of use or not balancing the

basin, they actually have a responsibility, each of those parties has a responsibility to balance the basin, that then for some entity that is not a party to the adjudication to assert some right to the water, to either sell it or transfer it or change its point of use, is contrary to what the adjudication actually states.

MR. HITCHINGS: I am going to point you to -- I don't know if you have a copy of the adjudication in front of you.

MR. LEDFORD: No, but go ahead.

MR. HITCHINGS: It was attached as an exhibit to Mr. Gallagher's testimony as well as to Mr. Fudacz's testimony and there is a specific provision under Page 11 of the adjudication, and I am looking at Exhibit 3 to the testimony from Mr. Fudacz, and there is a provision in there that defines purpose of use and defines the broad category -- it defines purpose of use as follows: the broad category of type of water use including but not limited to municipal, irrigation, industrial, aquaculture, and lakes purposes. A change in purpose of use includes any reallocation of water among mixed or sequential uses excluding direct reuse of municipal wastewater.

MR. LEDFORD: And, again, our position --

MR. HITCHINGS: I'm presenting a question here based upon that as foundation for the question.

Do you contend that the direct reuse of municipal

wastewater requires to get approval from the water master for a change in purpose of use related to that, under the adjudication?

MR. LEDFORD: For a party? Not for a party. In other words, if you were a party to the adjudication, assuming you were the town of Apple Valley, you are a party and you built a new treatment plant, or the City of Adelanto in this particular case who did that, or assuming that the adjudication would apply to that party, Victor Valley Wastewater Authority, whose plant was already in place and the water management plan and the adjudication already anticipated what was going to happen with that water.

MR. HITCHINGS: Are you saying a party to the adjudication would not have to get permission for a change in purpose of use for treated wastewater, but non parties do have to get permission from the water master?

MR. LEDFORD: What I am saying is that we went through the process of determining how to balance the basin, the Wastewater Authority's water was anticipated to be a part of the balancing plan. And each of the member agencies was a stipulating party. There was thought given to new subregional plants that would be outside of the river basin, and there was even sewage plans that were done. Each of those plans as a part of the water management plan would have to go through its own CEQA analysis and make a

determination as to whether or not those projects would work, as was testified by your client.

What I am saying is that the Wastewater Authority's plants was not a part of the adjudication. Those four member agencies can't create a more intense use of the water that creates an imbalance in the basin and provides a financial hardship to everyone else in the basin.

MR. HITCHINGS: You can't point to a specific term or provision of the adjudication that would require that; is that correct? And that is a yes or no answer.

MR. LEDFORD: I can't, no.

MR. HITCHINGS: So your answer is that you cannot point to a specific term or provision that would require that?

MR. LEDFORD: Right.

MR. HITCHINGS: Does Jess Ranch divert downstream of VVWRA, your diversion point?

MR. LEDFORD: No.

MR. HITCHINGS: I am sorry, what was that answer?

MR. LEDFORD: No.

MR. HITCHINGS: Does Jess Ranch put to beneficial use any of the water that VVWRA discharges to the river?

MR. LEDFORD: It doesn't put to beneficial use. It doesn't put to specific beneficial use, but it has a beneficial entitlement by the fact that Jess Ranch is a part, a producer in the Alto Basin.

MR. HITCHINGS: Jess Ranch does not actually deliver any quantity of water that VVWRA discharges from its treatment plant; is that correct?

MR. LEDFORD: That isn't correct. We are, Jess Ranch leases water to Apple Valley Ranchos Water Company. Apple Valley Ranchos Water Company is the municipal purveyor. We have 800 homes that provide water, that goes directly to VVWRA. So the answer would be we do provide water that goes to VVWRA.

MR. HITCHINGS: That wasn't my question. My question was whether you, whether Jess Ranch diverts water that VVWRA discharges from its treatment plant?

MR. LEDFORD: The answer is, yes, we do through the sewage system. Our produced water goes through your sewage system.

MR. HITCHINGS: I am saying that if you don't have a discharge point that is downstream of VVWRA's discharge, you don't have a diversion point that is downstream of the VVWRA's discharge points, how do you divert water that is discharged from VVWRA?

MR. LEDFORD: We don't divert discharged water, no.

MR. HITCHINGS: Thank you.

If VVWRA's petition is granted in this matter, will Jess Ranch's right to pump and divert water be impacted?

MR. LEDFORD: No.

MR. HITCHINGS: If the petition is granted in any matter, will Jess Ranch still be able to divert the same amount of water that it currently diverts and uses?

MR. LEDFORD: Yes.

MR. HITCHINGS: If this petition is granted will the quality of water that Jess Ranch currently produces be impacted?

MR. LEDFORD: No.

MR. HITCHINGS: If this petition is granted will the rate or the flow of the water that Jess Ranch produces be impacted?

MR. LEDFORD: No.

MR. HITCHINGS: Is it fair to say that the only injury that Jess Ranch is claiming in this proceeding is an economic injury?

MR. LEDFORD: Correct.

MR. HITCHINGS: In your direct testimony you referred to the High Desert Power Project. Do you recall talking to that?

MR. LEDFORD: Correct.

MR. HITCHINGS: And you're familiar with the California Energy Commission decision that approved the application for certification of that project?

MR. LEDFORD: Correct.

MR. HITCHINGS: Are you aware of any conditions in that

petition which specifically precludes the use of treated wastewater from VVWRA?

MR. LEDFORD: Correct.

MR. HITCHINGS: And is it your understanding that this decision by the Commission actually does preclude the use of treated wastewater from VVWRA for that project?

MR. LEDFORD: Correct. But I am informed by the California Energy Commission that all the High Desert Project needs to do to make a change is to come back for an administrative change. It is not a full hearing process.

MR. HITCHINGS: But currently that is a condition of the California Energy Commission's decision; is that correct?

MR. LEDFORD: Presently it is a condition. It is a condition that we asked to be imposed and it was imposed. And we were informed that although it was put in there in that way that it could likely be changed depending on what the outcome of this particular case might be.

MR. HITCHINGS: In any event, the project that is involved here does not in any manner request a change in place of use or purpose of use to serve treated wastewater from VVWRA to the High Desert Powerplant; is that correct?

MR. LEDFORD: It does not presently.

MR. HITCHINGS: In Paragraph 3 of your testimony, Mr. Ledford, you quote to several letters and you had gone

through them in reviewing the various exhibits that are attached to your testimony while you gave your direct. And in those letters that are from the VVWRA general manager, those aren't policies of VVWRA itself that are articulated in those letters, are they?

MR. LEDFORD: I would assume since he was the general manager at the time that he was writing a letter that reflected VVWRA policy. The letter was not to me; it was to the Mojave Water Agency.

MR. HITCHINGS: In any event, you have attached as Exhibit 3 a letter from VVWRA to Larry Rowe of the Mojave Water Agency, and you specifically cited to Page 2 of that letter. In the second full paragraph it talks about the immediate potential for irrigating golf courses, parks, cemeteries, pools and freeway medians, and it goes on to state that this value resource can also be used to recharge the Alto subarea.

Is it fair to state that those letters reflect at least the position of the general manager of VVWRA that this treated wastewater could be used for either of those purposes?

MR. LEDFORD: Except if you go on to read the next paragraph, which states that it is our collective responsibility to use reclaimed water to the maximum extent possible to minimize groundwater overdraft. And keeping in

mind that this particular letter was written a significant period of time before the adjudication actually was finalized and that the VVWRA could have petitioned the Court to intervene and become a party at any time and did not.

MR. HITCHINGS: Did Jess Ranch submit any comments on VVWRA's adoption or on VVWRA's proposed CEQA document for this project?

MR. LEDFORD: We did not receive the CEQA document until after it was finalized. We knew the petition --

MR. HITCHINGS: That was the question, whether you submitted comments on the CEQA document within the time -- this is the question and it is yes or no.

Did you submit any comments on the VVWRA's CEQA document for this project within the time frame permitted?

MR. LEDFORD: The answer is no.

MR. HITCHINGS: Did Jess Ranch submit any comments on the CEQA document for the City of Adelanto's treatment plant project?

MR. LEDFORD: No, we did not know about that project.

MR. HITCHINGS: In Paragraph 13 of your testimony you state that there is no water available for appropriation from the Mojave River; is that correct?

MR. LEDFORD: Correct.

MR. HITCHINGS: Are you aware that the purpose of this hearing is not to take action on an application to

appropriate?

MR. LEDFORD: Well --

MR. HITCHINGS: Let me rephrase that and withdraw that question.

Does this proceeding involve application to appropriate water for an appropriative rights permit?

MR. LEDFORD: Not to the best of my knowledge.

MR. HITCHINGS: Do you know whether the State Water Board has ever acted on any application by VVWRA to appropriate water for this project?

MR. LEDFORD: There was some application for appropriation at some point. I am somewhat vague as to what the outcome of it was.

MR. HITCHINGS: If the project in this case is implemented gradually as is anticipated and as stated in Mr. Gallagher's testimony, such that the deliveries to SCLA would be offset by increases in flows and treated and discharged by VVWRA, could that still result in an economic impact to Jess Ranch?

MR. LEDFORD: If the base flow was maintained, the economic impact would be reduced. Our opinion is that if there is surplus water that can be transferred, if that is a determination, then the surplus water should be made available to all parties that contribute water to the wastewater authority. And by way of example --

MR. HITCHINGS: I think you're getting off from what my question was. My question was whether there would still be an economic impact to Jess Ranch if the project is implemented gradually as anticipated.

MR. LEDFORD: The answer is, yes, but if there was a base flow maintained. If 8,500 feet, for instance, was maintained, so that was the base number, it would be a reduced impact, but there would still be an impact.

MR. HITCHINGS: Is it fair to say that Jess Ranch opposes VVWRA's petition to ensure that Jess Ranch continues to receive the economic benefit of VVWRA's flows without paying for this benefit?

MR. LEDFORD: No, I don't think that is a fair statement.

MR. HITCHINGS: Mr. Beinschroph, in Question 17 of your testimony you discuss the Mojave Water Agency water management plan?

Do you see that there?

MR. BEINSCHROPH: Yes.

MR. HITCHINGS: Do you believe that VVWRA is bound to adhere to any provision or term of that plan?

MR. BEINSCHROPH: Mojave Water Agency water management plan includes the wastewater discharge as part of replenishment, recharge for the makeup water. Whether at the current time legally they have a right to say that, yes,

you can or, no, you can't, it's a -- we are in an area where there is no definition has been made. I think that the court, Kaiser and the court will settle that. But at the present time Mojave Water Agency, I feel, cannot state that you do this or do that. Because the only thing that they have connection with you people is that the parties who are members of the board, the VVWRA, are parties to the judgment. But the VVWRA is not as an entity a party to the judgment. It's an area that is a little cloudy and it needs to be clarified.

MR. HITCHINGS: Let me just ask this more simply.

Mojave Water Agency does not have any authority to require how the VVWRA, how its wastewater is used; is that correct?

MR. YAMAMOTO: Objection. We have a series of questions that are going to the legal consequences of the stipulated judgment which has been admitted as one of the VVWRA's exhibits. It will be offered as an exhibit for Apple Valley, and it will be in the record. We can talk and perhaps through opening statements or briefing about the legal consequences of different provisions of the judgment, but it doesn't really make sense for extended questions to be asked of an engineer.

H.O. BAGGETT: I would sustain that objection.

MR. HITCHINGS: In Question 34 of your testimony --

MR. BEINSCHROPH: Yes.

MR. HITCHINGS: Actually, I don't have a question about that.

And actually, that concludes my cross-examination.

Thank you.

H.O. BAGGETT: Thank you.

Ms. Murray, does Fish and Game have any?

MS. MURRAY: No questions.

H.O. BAGGETT: Mr. Kidman?

MR. KIDMAN: No.

MR. YAMAMOTO: No questions.

H.O. BAGGETT: Do you have any redirect?

MR. LEDFORD: 'Cause I can't really answer questions from myself, I do have some clarification based on the questions that he asked.

The question was asked whether or not I could point to any place in the adjudication that required VVWRA to or prevented them from doing it. Probably more importantly there is nothing in the adjudication that addresses all of the production of all of the water in the entire Mojave River basin that allows the Victor Valley Wastewater Authority to transfer water. I think that is the most poignant part.

We have an adjudication of judgment that deals with all the water. There is nothing in that adjudication that

allows them to do it. However, for every other water producer they are very meticulously controlled.

The issue relative to the CEQA document, a question was asked whether or not we'd ever commented on the CEQA document. We were notified of the application to the State Water Project and we even got documentation on that. We never received any CEQA documentation until long after it had already been submitted to the State Clearing House. I submit that we were an interested party and that we were excluded from receiving CEQA documentation.

That concludes my recross of myself.

MR. HITCHINGS: I don't have any recross.

H.O. BAGGETT: Thank you.

MR. LEDFORD: Thank you.

H.O. BAGGETT: That is quite refreshing after days of Bay Delta hearings, very intense legal arguments and cross-examination and so on, the way our process works.

I appreciate everybody's patience.

Mr. Kidman, you are up.

I assume you would like to offer into evidence, your exhibits into evidence.

MR. LEDFORD: I would like to offer our exhibits into evidence.

H.O. BAGGETT: Any objection?

MR. HITCHINGS: I have no objection other than the

written testimony that is duplicative.

H.O. BAGGETT: We'll make those corrections on the written testimony.

With that, they're so admitted.

MR. KIDMAN: I wonder if it would be reasonable to take our afternoon recess before we start into this. Your call.

H.O. BAGGETT: That is fine with me. Let's take -- how long do you anticipate? An hour?

MR. KIDMAN: We'll have 20 minutes of opening statement and 20 minutes of testimony from one witness and that's it.

H.O. BAGGETT: Except cross-examination.

MR. KIDMAN: Right.

H.O. BAGGETT: Well, let't take ten. We will recess.

(Break taken.)

H.O. BAGGETT: We have at least two rebuttal witnesses that we are going to plan on continuing tomorrow morning for a very short morning, to do rebuttal. We won't do any rebuttal today. Hopefully we will get to all the rest of it.

Tomorrow, if we are going to come back, it is my preference to allow each party ten minutes to do a closing. Is there a preference of any of the parties, five-ten-minute closing?

MR. KIDMAN: I would personally much rather do a closing brief.

H.O. BAGGETT: I would also allow a closing brief.

Anybody want to make closing comments tomorrow, it appears that we are going to be here for an hour or so? So I will allow parties five minutes for closing.

MR. HITCHINGS: I am fine waiving the closing argument and making arguments in our closing briefs.

MS. MURRAY: I'm fine waiving it and making a closing brief.

MR. YAMAMOTO: Fine.

H.O. BAGGETT: We will have no closing comments. Just do rebuttal tomorrow and anything we don't get finished with today.

Proceed.

MR. KIDMAN: Good afternoon. My name is Art Kidman. I am legal counsel for Southern California Water Company and the City of Barstow, who are parties who are in opposition to the petition that has been the subject of these proceedings. I want to make three very quick points before we get really into the business of the day and they all relate to the California Supreme Court decision in the City of Barstow versus Mojave Water Agency.

There it was confirmed, the trial court's findings were confirmed that we are dealing in this Mojave River system with an integrated system of interconnected surface water and groundwater. The trial court made findings to that

effect and that was recited and confirmed by the Supreme Court.

Secondly and interestingly, even though the court adjudication applies to surface water, the Supreme Court specifically reserved to the State Water Resources Control Board jurisdiction. That is a footnote, like, on the first page of the opinion. So, there is really no question or no argument that the State Board has authority to be involved, where it is granted by statute.

The third point relative to the Supreme Court decision is I would like to correct or at least offer a correction of an error that I think is in the notice of hearing. And that is in the section entitled background on Page 2 of the notice of hearing under the heading "The Mojave River Adjudication." The last sentence of that paragraph says, and I quote:

> The Court of Appeal held and the Supreme Court recently affirmed that the fiscal solution could not be imposed on those water right holders who did not stipulate to the judgment, but the judgment was binding as to those parties who stipulated to it.
>
> (Reading.)

That actually, the phrase, could not be imposed on water right holders who did not stipulate to judgment, is

not correct. The court, the trial court, after trial did, in fact, impose the judgment upon a number of parties who did not stipulate only two of which or two groups of which appealed. Those that did not appeal, since the judgment is not reversed, and the judgment is still on the books, those that did not appeal are, in fact, bound by the judgment. And in lawyer language that is res judicata. In everybody else's language it means that they are bound.

So, I think that it would be just well worth noting and reviewing the California Supreme Court opinion on this as it relates to the proceedings here that the Court did only reverse the application, the judgment, as to a very limited number of defendants and did not reverse it as to all nonstipulated defendants.

However, having said all of that, I will make an admission that not everybody in this room is prepared to make, and that is no matter how you slice it, that judgment is not applicable to VVWRA, per se. They are not a party. They are not a nonstipulating party; they are not a stipulating party. They are flat not a party to the judgment. So the judgment, per se, as a judgment is not binding on them. That is the way court judgments work.

So we can't compel VVWRA to continue to discharge recycled water in the transition zone under the judgment. But the judgment does establish legal users, legal water

rights to a hell bunch of people, and the issue that is here for the State Water Resources Control Board is whether or not this change petition will affect those users. There is a statutory scheme that has to do with recycled water. It says that changes in the point of discharge of recycled water from wastewater plant are required by, that is Water Code 1211, to be processed by the State Water Resources Control Board in accordance with Water Code Section 1700, et seq., as though they were changes in place of use of a water right permit or license.

The applicable legal standard under Water Code Section 1702 is whether the petition, if granted, will operate to the injury of any legal user of the water involved. VVWRA has attempted to obfuscate this standard by playing an elaborate shell game with the Board. Instead of keeping focused -- on talking about a shell game, we are talking about that thing that we used to see on TV in the old west where the flimflam man came in and had three walnut shells, and under one there is a pea. And the other two are empty and he scrambles them around and then you're supposed to pick out which one has the pea under it.

That is the kind of shell game that VVWRA is playing with the Board. Instead of keeping focused on the narrow and simple factual question, that is the pea under the shell, so to speak, VVWRA has cleverly attempted to distract

the Board with a number of false arguments: Which one of these fast moving shells has the pea under it? But watch out, the hand is quicker than the eye. For none of them that have been presented has the pea that we are looking for.

First, VVWRA presents the empty shell argument that VVWRA is the true and rightful owner of the recycled water, and that is according to Water Code Section 1210. However, VVWRA conveniently omits that the Section 1210 declaration of water rights in recycled water is as against, "As against anyone who has supplied the water discharge into the wastewater collection and treatment system." Water Code Section 1210 has nothing whatsoever to do with injury to other legal users of water, water that currently is being discharged into the surface waters of the state. This argument is empty shell. Ownership of the water is irrelevant to injury to legal water users of the water involved.

Next VVWRA argues that the policy and in Water Code Section 13550 supports use of recycled water from the VVWRA plant for golf course irrigation. This empty shell also has nothing whatsoever to do with the question before the Board. It does not answer the question, "Well, granted the petition operates to the injury of any legal user of the water involved."

The third empty shell is VVWRA's factual assertion that the petition if granted will not change the flows of the river in the transition zone under Mojave River adjudication. VVWRA uses here very fuzzy math and faulty assumptions to arrive at this conclusions. When all the evidence is in, it will be clear that this argument is an empty shell.

The next empty shell argument advanced by VVWRA has to do with other people's water rights. VVWRA asserts that if its recycled water is used for the golf course, well, the water well that currently irrigates that golf course is going to be shut off. But their own witnesses admitted that this argument is an empty shell. There is currently no legal requirement to shut off that well. And the evidence is going to show that in the overdrafted system it is very likely that that well is going to keep on being produced.

There is another argument about the mass balance will remain unchanged because -- not again, because the well owner is going to cease all the production of the well. Really, that is the case where the hand is quicker than the eye.

Another empty shell argument by VVWRA has to do with whether or not an economic injury to legal users of water is an injury within the meaning of the Water Code. The question is is an injury within the meaning of Water Code

Section 1701 does that injury arise from an economic injury such as some users being required to pay assessments under the Mojave River adjudication or to pay more for substitute water. That empty shell argument is about ignoring the fact that in our legal system of laws injuries are routinely reduced to and converted to economic terms.

The fact that the Mojave River adjudication already made the conversion, in essence liquidated the damage, does not mean that the injury is not within the realm of Water Code Section 1702. The arguments is another empty shell.

Yet another empty shell is VVWRA's argument that there are other ways to solve the overdraft in the Mojave system, like using State Project water as a substitution for water produced from native water. Even if this argument were true, the argument has nothing whatsoever to do with whether or not the VVWRA petition, if granted, will operate to the injury of any legal water user. The argument is an empty shell.

And the empty shells go on and on. In fact, we had a couple more put out here today. One, for instance, that, gee, there was another project a while back that the Department of Fish and Game didn't object to, so that must mean this project is not going to cause an injury.

Step right up, folks, under the shell we have the argument that there will be more recycled water in the

future, so don't worry about whether or not the small amount that is being diverted by this project causes injury because it is all going to come out in the wash later on. The pea is not under that shell.

There is other shells that are out here. One is that VVWRA will guarantee certain recycled water releases to support riparian habitat. But, wait a minute, there is actually three more shells there. How much water is required for the riparian habitat? And how much water is VVWRA really willing to dedicate to that purpose? And how much water is that that they are willing to sell to somebody to use for that purpose?

And as though it has something to do with the injury that would result from this project, we have had another shell opened up today of, golly, there is this environmental mitigation fund under the judgment and why can't you use that to buy our water. That is VVWRA saying: our water is for sale and you need to pay us for it. We don't have to keep discharging it into the stream for free. Well, under our state law they might have to if the State Board feels that that is an injury to legal users of water.

Southern California Water Company will present testimony in Mr. Tom Stetson. Mr. Stetson is an expert in water resources who has testified before this Board numerous times, before the courts of this state and courts of other

states and the federal courts. He has worked on the Mojave River basin system for nearly 40 years and was instrumental in developing the physical solution under the Mojave adjudication judgment, and is thoroughly familiar with its workings.

Mr. Stetson will testify that in addition to the habitat protection provision, the judgment includes special provisions to protect a water bridge in the transition zone between the Alto subarea and the Centro subarea. He will testify that the discharge of recycled water from the VVWRA plant helps to maintain the water bridge in the transition zone, and he will testify that if the amount of recycled water that VVWRA discharges is diminished, the water bridge will be injured. He will testify that if the water bridge is injured either/or both the water users in the Alto Basin or the water users in the Centro basin will be injured.

The underlying issue here really has plagued water law since the beginning in California. The basic issue that is presented in this case was presented in E.D. versus Simpson, a 1853 case of the California Supreme Court. To the best of my knowledge is the very first reported water law case in California juris prudence. There it was held that an appropriator who had relinquished control over water after once having used it for mining purposes could not reclaim and reuse that water after a downstream water user had

commenced to rely upon the water for his own mining purposes.

For the point of view of those opposed to VVWRA's petition, that is an awfully good case. However, a different rule was announced in Stevens versus Oakdale Irrigation District in 1939, where it was held that an irrigation district water appropriator could not be required by a downstream user to continue to allow irrigation returns to flow downstream. In this case, however, neither one of those precedents is controlling because here we have a state statute that tells us what the rules should be.

You have a state statute which clearly directs the owner of a wastewater treatment plant must petition the State Water Resources Control Board before it can change the place of discharge of or use of recycled water. And in this case we have another statute which requires the Board to disallow the petition for a change in the place of use of the recycled water if the Board finds that to grant the petition will operate to injure a legal user of water. It does not matter that the state policy favors the use of recycled water in substitution for potable water. It does not matter that VVWRA owns the recycled water as against any water provider who delivered that water to its plant. It does not matter that VVWRA is not a party to the Mojave River adjudication judgment.

All of the other empty shell arguments advanced by VVWRA do not matter. All that matters is that water users in the Mojave system relied upon the undiminished discharge of the recycled water from the VVWRA plant. All that matters is that those users are legal users of the water, and all that matters -- excuse me, I got tongue twisted there.

All that matters is that some people rely on those flows, and all that matters is that the uses that they rely on are legal and that their claim to using the water is legal. All of the empty shell arguments need to be set aside and we need to look at the evidence of who is being harmed or injured by what is being proposed.

Southern California Water Company calls as a witness Mr. Tom Stetson. And for this testimony I am going to sit down and ask the questions from over here.

---oOo---

DIRECT EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY MR. KIDMAN

MR. KIDMAN: Mr. Stetson, would you state your full name for the record, please.

MR. STETSON: Thomas M. Stetson, S-t-e-t-s-o-n.

MR. KIDMAN: What is your occupation?

MR. STETSON: I am a consulting civil engineer.

MR. KIDMAN: Did you take the oath last month in this

case?

MR. STETSON: Yes, I did.

MR. KIDMAN: Referring to Southern California Water Company Exhibit 2, which is -- is that your qualifications?

MR. STETSON: Yes.

MR. KIDMAN: Is that statement of your qualifications true and correct?

MR. STETSON: Yes, it is.

MR. KIDMAN: Have you prepared and submitted written testimony in response to the Board's notice of hearing and statement of key issues in this matter?

MR. STETSON: Yes, I have.

MR. KIDMAN: Is Southern California Water Company Exhibit No. 1 a true and correct copy of your written testimony?

MR. STETSON: Yes, it is.

MR. KIDMAN: Are all of the statements set forth in your written testimony true and correct to the best of your own knowledge, information and belief?

MR. STETSON: Yes, it is.

MR. KIDMAN: Are Southern California Water Company Exhibits 3 through 11, which are attached to your written testimony, true and correct copies of the documents that they purport to be?

MR. STETSON: Yes, they are.

MR. KIDMAN: Mr. Stetson, will you briefly summarize your written testimony in this matter.

MR. STETSON: Yes, I will.

Southern California Water Company has perfected legal water rights to the Mojave River system and the Centro basin pursuant to three licenses which they now hold, and those licenses are Exhibit 4 in the exhibits.

Southern California Water Company additionally produces groundwater, perculating groundwater from both the Centro and the Alto Basin. Those legal lights were put under jeopardy in the 1980s because of the increased uses of water upstream was reducing the amounts of water running downstream into the Centro area and their well levels were dropping to the point where they were not able to produce as much water as they were designed to produce.

Studies have been made over the years, including studies that I have made as far as back as the 1960s of Mojave River, show that there has been overdraft on that system beginning about 1950 and continuous since then. When the water levels of Southern California Water Company dropped below the usual levels, I was asked by the company to consult with them on that, and as a result it was decided an adjudication should be filed by Southern California Water Company and the City of Barstow jointly against upstream producers to try to force those producers to either

negotiate a settlement by guaranteeing a supply of surface water to the Centro area or to adjudicate the rights of most of the major producers upstream and that way acquire about 30,000 acre-feet of water a year to the Centro area. And also as part of that adjudication to require the Mojave Water Agency to start taking delivery of water that it had a contract to from the State Water Project. It held that contract since the early 1960s, but had taken practically no water up to that time.

Based on the evidence submitted at the trial of this case -- to get to the trial of this case, after that suit was filed, about a year later the Mojave Water Agency filed a cross-complaint and decided to adjudicate all the water rights within the entire Mojave River basin within the boundaries of the district.

Evidence submitted at trial, including the Department of Water Resources Bulletin No. 84, were used to determine that the hydrologic conductivity of the Mojave River and its groundwater basins, the hydraulic connectivity between the five hydrologic units, that is the Este, the Oeste, the Alto, the Centro and the Baja basins. There was a long-term chronic overdraft in all of those basins and that was pointed out in Bulletin 84.

I first became acquainted with Bulletin 84 in the previous Mojave adjudication. There was an adjudication

filed back in the 1960s. At that time I was a consultant to the State of California, Fish and Wildlife, Fish and Game. That case rattled along for about ten years and then it got dismissed, and it got dismissed about 1970 I believe.

The factual determination by the trial court upheld without modification in the opinion of the California Supreme Court, that is the current case, has found in the trial court that the Mojave River provided more than 80 percent of the water supply to the groundwater basins. That surface flow in the Mojave River percolates into the highly transmissive groundwater basin and travels downstream.

Storm events, which cause flood flows, percolates through the bottom of the streambed and the sides and replenishes the basins. But most of that replenishment takes place up in the Alto subarea. Production of groundwater, of course, depletes stream flow and depletes the groundwater storage. In my opinion, except for a few areas where the stream is confined by a bedrock, such as from the Upper Narrows to the Lower Narrows and also in the Barstow area, other than those areas it is a wasting stream, and that all the other water available from the basins is percolating groundwater.

In other words, it is not underflow or subsurface flow of the stream, except in a couple of places. It is clear that less water leaves the Alto subarea as measured at the

Victorville Narrows than enters the subarea up at the forks. It is clear that the amount of river flow at the Victorville Narrows has declined substantially between 1940 and the present.

The Mojave adjudication judgment establishes several requirements to protect legal users of water. The judgment requires water producers to reduce the amount of water that goes through an adjustment to the free production allowance of 5 percent a year. That would be so that they can bring the total production down to where it will come closer to meeting the actual safe yield of the system. This requirement helps reduce the annual overdraft. The judgment guarantees restoration of historic average flows between the subareas of the Mojave River by requiring a makeup water assessment on certain waters that are produced from the upstream areas, subareas, and that is the subsurplus flow or base flow between each of the five subareas. In other words, there is water moving from each subarea into the next downstream subarea and there is in the judgment of the quantities that are guaranteed to go through those areas and to monitor those areas.

All of the monitoring wells have not yet been put in place. To date they are pretty much using the same figures that were developed by Bulletin 84 back in 1967.

The judgment also enjoins producers in the Alto subarea

from interfering with storm flows; that is they cannot divert storm flows and spread it off stream to increase the spreading unless they get the permission of the downstream areas.

That is to keep the upstream area from taking more than its entitlements. I might just add that the way this judgment is outlined and designed to manage the system is not a new method. This method was used starting in 1959 in the San Gabriel River, where the upstream area was using more water than the lower area thought they should. So there was litigation over that. It was settled after five years of negotiations. I happened to be one of the water masters that administers that particular judgment. There is a water master representing the upper area. I represent the lower area and then we have a mutual water master who adjusts between the two of us.

That has been very successful. We are now in our 35th year of annual reports on that adjudication. A similar adjudication was done on the Santa Ana River in early 1970. Because of the hydrogeologic conditions between the Alto area and the Centro area, which is what we call the transition zone, there is a special provision in the judgment to keep the transition zone as full of water as is reasonable, so that when the water passes through the Lower Narrows, the surface water, it can make it down as far as

the Centro basin, and that boundary is down at Helendale and is called a water bridge. You try to keep enough water in there to keep the water moving on down, especially the flood flows, which is the only water they get down in the Centro area.

The current uses of recycled water which are discharged in that particular area are vital to keeping that transition zone so that it will transfer wet water down through that particular area. The current uses of recycled water that are discharged from the VVWRA plant do not require potable water. That water is used now to maintain the riparian vegetation and to maintain the groundwater recharge. So there are two beneficial uses to which that water is now being put, so there really isn't any water to transfer to another use upstream.

Besides the environmental requirements of maintaining riparian vegetation and maintaining the water bridge through the transition zone, the continued discharge of VVWRA recycled water benefits the legal users of water in both the Centro and Alto subareas. Unless that is done, the water rights in the Alto area as well as the Centro area are going to be impaired by not providing that water from the treatment plant.

Loss of water in the transition zone to recharge the groundwater in the transition zone will injure legal water

users in one or both of the following ways: Carriage of base flows, storm flows through the transition zone will be diminished unless native flow of the Mojave River will pass through the transition zone with reasonable beneficial uses in the Centro basin. And then, of course, if that doesn't happen, then the Alto users will have to make up the lack of water, the 23,000 acre-feet per year that is supposed to go through there. If it doesn't appear and isn't made up, the Alto users of water will have to pay for water to replace that because that is their requirement under the judgment.

I think that summarizes my testimony.

MR. KIDMAN: Thank you, Mr. Stetson.

Would you just clarify for the Board what is the general difference between base flow and storm flows?

MR. STETSON: The general difference between base flows and storm flows is in this particular adjudication it was decided to use scalping of water at the point where the base flow moves from one area into the other. They scalp the storm flows off of the base flow. That is how they get the 21,000 acre-feet of base flow.

MR. KIDMAN: Just for clarification, the makeup water requirement between Alto and Centro is a requirement that relates to base flow?

MR. STETSON: Yes. Base flow and subsurface flow.

MR. KIDMAN: The surface base flow is 21,000 acre-feet?

MR. STETSON: That is 21,000 acre-feet.

MR. KIDMAN: What is the subsurface flow?

MR. STETSON: 2000 acre-feet.

MR. KIDMAN: So there is a total of 21,000 acre-feet annually supposed to be guaranteed from the Alto subarea into the Centro subarea?

MR. STETSON: As base flow, plus the 2,000 acre-feet of subsurface flow that is also guaranteed.

MR. KIDMAN: There is a requirement to not interfere with storm flows?

MR. STETSON: That is correct.

MR. KIDMAN: Which would be over and above base flows?

MR. STETSON: Yes, that is true.

MR. KIDMAN: Can you briefly explain the idea of induced recharge?

MR. STETSON: Induced recharge would be pulling the water tables down by pumping to increase the percolation of groundwater -- of surface water during storm flows.

MR. KIDMAN: Stated another way, if the groundwater table is being brought down just by use, would that induce more recharge from the stream than if the water table were held higher?

MR. STETSON: Yes, because it creates storage space for

that surface flow to percolate down into the groundwater basin and be stored there.

MR. KIDMAN: You used the term "wasting stream." What is a wasting stream?

MR. STETSON: A wasting stream is usually a stream that as you move downstream less and less water is appearing as surplus flow because it's percolating underground.

MR. KIDMAN: Does wasting stream take place when the water table is up at the level of the surface flow of the stream?

MR. STETSON: In the area wherever there is surface water already up there it does.

MR. KIDMAN: And back to the 21,000. Is it your understanding under the judgment that if 21,000 acre-feet pass the Lower Narrows in a year, is that the end of it?

MR. STETSON: No. Because that 21,000 has to go through on the water bridge and get down to the Helendale Fault which is the boundary with the Centro basin.

MR. KIDMAN: If the bottom of the -- let's say if the water table is lower than -- is reduced to a point where it is lower than the stream, is that a situation where the stream would be wasting?

MR. STETSON: Yes, it would be leaching out.

MR. KIDMAN: If the stream is wasting in that section, would it be accurate to say that a water bridge is being

maintained in a given section of stream?

MR. STETSON: In a given section.

MR. KIDMAN: Let's go through that again. If the water tabling is down and there is recharge being induced from the surface stream, now is that a wasting stream?

MR. STETSON: That is a wasting stream for that until water comes up to the surface throughout that whole section.

MR. KIDMAN: If 21,000 is going in to the transition zone and some reaches of the transition zone are wasting, what is going to happen, how much water is going to come out the other end?

MR. STETSON: Something less than 21,000 as surface flow.

MR. KIDMAN: Under those circumstances are the makeup water requirements being met if 21,000 is going in and less than 21,000 is coming out? Is the water bridge being maintained and is the makeup water obligation being maintained?

MR. STETSON: No, it is not.

MR. KIDMAN: Is it your opinion that the discharges from the VVWRA plant at current levels are contributing to maintenance of the water bridge?

MR. STETSON: They are contributing to it, yes.

MR. KIDMAN: If those discharges are reduced, will that

have an injury to the water bridge?

MR. STETSON: Yes.

MR. KIDMAN: I don't have any further questions on direct.

H.O. BAGGETT: Mr. Hitchings.

---oOo---

CROSS-EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

BY MR. HITCHINGS

MR. HITCHINGS: Thank you. Good afternoon, again.

Good afternoon, Mr. Stetson.

MR. STETSON: Good afternoon.

MR. HITCHINGS: The 21,000 acre-feet of surface flow, the surface flow component of the base flow subarea obligation, is that to the Centro subarea or is it to the transition zone under the adjudication?

MR. STETSON: It is both. Historically, from 1950 to 1990, it was found that the base flow at that point averaged 21,000 acre-feet, and the idea was to continue that under the judgment. And the idea of the transition zone and water bridge is to move that 21,000 down to the Helendale Fault, which is the boundary with Centro, so that water would enter Centro.

Keep in mind in the earlier adjudication, the initial adjudication, we were asking for 30,000 acre-feet of surface

water at that point.

MR. HITCHINGS: Under the expressed terms of the adjudication is the subarea obligation from the Alto subarea obligation from the Alto subarea to the Centro subarea to provide for that 21,000 acre-feet to the transition zone?

MR. STETSON: Well, it is if they keep the transition zone full of water like they are supposed to. There are supposed to be monitoring wells out there and putting water in that area to keep it at that level so that it will be able to carry the water down to Centro. That is why they call it the water bridge.

MR. HITCHINGS: Who is responsible for monitoring those wells and making sure the levels are where they are supposed to be? Is that the Mojave Water Agency?

MR. STETSON: No. Mojave Agency water master.

MR. HITCHINGS: The Mojave Water Agency acting as water master; is that correct?

MR. STETSON: Yes.

MR. HITCHINGS: Does Southern California Water Company put to beneficial use any of the water that VVWRA discharges to the river?

MR. STETSON: Well, they have wells in Alto in the Apple Valley area, but their production in the Alto area is, I think, about 900 acre-feet of water a year. Their wells in the Barstow area, they produce about 9,000 acre-feet of

water a year down there.

MR. HITCHINGS: Is any of the water that is produced from any of those wells water that VVWRA discharges into the Mojave River?

MR. STETSON: Sure, probably is. Is mixed with the other water in the river which gets down to the Centro area and it would be replenishing the Southern California Water Company wells along the river.

MR. HITCHINGS: If you looked at the 1,680 acre-feet, which is the maximum amount of water that is the subject of this petition, is it your opinion that some of that 1,680 acre-feet would be pumped at the diversion point by Southern California Water Company?

MR. STETSON: If it was able to get down past the Helendale Fault as surface water, it would then be replenishing that reach of the river between the Helendale Fault and the city of Barstow, and that is where their wells are, so it would be contributing to those wells.

MR. HITCHINGS: If VVWRA's petition is granted in this proceeding, would Southern California Water Company's ability to pump and divert water be impacted?

MR. STETSON: It would be impacted, yes.

MR. HITCHINGS: In what manner?

MR. STETSON: By less water coming down to them through past the Helendale Fault. Also, if assessments were levied

to maintain the transition zone, then their system in the Alto subarea would have to pay some costs.

MR. HITCHINGS: What I am saying is that if 1,680 acre-feet are approved under this petition, would that in any way impact the maximum quantity of water that Southern California Water Company is able to pump and divert?

MR. STETSON: It would contribute to it, yes.

MR. HITCHINGS: I am not asking whether it would contribute to it. What I am asking is whether if this petition is granted whether Southern California Water Company would be unable to pump and divert the maximum amount of water that it would otherwise be able to in the absence of this project?

MR. STETSON: It may be able to pump the water, but it would be more costly to them.

MR. HITCHINGS: In what manner would it be more costly?

MR. STETSON: Because the less water that gets down to Centro, the higher they would have to lift the water, for one thing. If they don't get enough water, they may have water shortage because that is their only source of water down there.

MR. HITCHINGS: VVWRA discharge isn't their only source of water; is that correct?

MR. STETSON: No, there is other natural water coming down, the base flow, the sub flow and the flood flows.

MR. HITCHINGS: If the petition it granted in this matter, would the quality, the water quality of the water that Southern California Water Company pumps be impacted?

MR. STETSON: The water quality of the water they pump in the Barstow area would not be significantly impacted.

MR. HITCHINGS: What if the project is implemented on a gradual manner as has been testified to, such that the deliveries to SCLA would be offset by the increases in the flows treated by VVWRA, would there still be any effect on Southern California Water Company's ability to pump and divert water pursuant to its water rights?

MR. KIDMAN: I am going to object to the question. It is an incomplete hypothetical. We don't know what the gradual means and we don't know what the offset is. It is impossible to answer this question.

H.O. BAGGETT: Sustained.

MR. HITCHINGS: Assume that a circumstance that has been testified to where this project is anticipated that, for instance, say, in the first year 400 acre-feet that year delivered to SCLA and at the same time VVWRA experiences an increase in the level of flows that are delivered to its plant for treatment and discharge that would be equal to or greater than that 400 acre-feet that is delivered to SCLA.

Do you follow me with this portion of the question or this scenario at this point?

MR. STETSON: You are saying if the plant pumps treated water, treated reclaimed water, and instead of releasing all to the Mojave River or the transition zone they pump 400 acre-feet up to the golf course, is that what you are saying?

MR. HITCHINGS: Let me use VVWRA exhibit -- one of the exhibits attached to Mr. Gallagher's testimony. I think it will help in this question here. This is VVWRA Exhibit 1N, as in Nancy, and this is the scenario that I was referring to, that if the project is implemented in this manner as anticipated, such that if you look at this exhibit you see in the year 2000 you have got a total discharge of 9,731 acre-feet with no deliveries to SCLA. Then in 2001 you have a discharge of -- a total discharge of 10,156, but you minus 400 which would be the deliveries to SCLA and you still have a discharge to the river of 9,756.

Do you see those columns, the three columns on the right?

MR. STETSON: Yes. In other words, you are saying that the total discharge from the plant is in the third column from the right and then you are going to take a little bit more water every few years upstream of the pipeline?

MR. HITCHINGS: There would be increasing deliveries to SCLA as indicated in the second column from the far right, but you would still have discharges indicated in the third column from the right.

MR. STETSON: You are saying would the difference between the figures in the left column and the extreme right column, you'd gradually be discharging to the transition zone increasing quantities, but not the total amount.

MR. HITCHINGS: Correct. And my question is that under this scenario as indicated in this exhibit, would there -- would you still believe there would be an impact to Southern California Water Company's ability to pump and divert under its existing water rights in the wells that are in issue here?

MR. STETSON: If the discharge was discharged to the transition zone in gradually increasing quantities, it would certainly help the wells downstream in the Centro area. Whether it would be enough, I don't know. I don't think anybody knows.

You would be gradually increasing over the present levels of discharges to the transition zone.

MR. KIDMAN: Mr. Chairman, we would be willing to stipulate that there is no harm to Southern Cal Water if VVWRA is willing to guarantee or accept the term and condition in the granting of their petition that they will never decrease the amount of water that is being discharged below what is being discharged today. We can resolve this right now. I don't know why we are going through these unintelligible questions, asking him if we provide more

water and make up for the amount we are diverting --

MR. FUDACZ: We second that.

H.O. BAGGETT: Mr. Hitchings, three people are ready to stipulate here.

MR. HITCHINGS: Your understanding of this project the most that would be diverted to SCLA, Southern California Logistics Airport is 1,680 acre-feet from VVWRA's discharge; is that correct?

MR. STETSON: I don't know that that is the most. My understanding is that is what the plan is.

MR. HITCHINGS: That is the project in the proceeding that is before this Board; do you understand that?

MR. STETSON: I think so.

MR. HITCHINGS: You mentioned your experience serving as a water master and also your experience with the terms of the adjudication that are intended to protect legal users of water.

Do you recall testifying to that?

MR. STETSON: Yes.

MR. HITCHINGS: Within that realm of experience are you aware of any judicial or State Water Board decisions that treat economic injury as an injury to a legal user of water?

MR. STETSON: I have not had an experience with the State Board where that issue came up that I can recall.

MR. HITCHINGS: Is your answer that you are not aware

of a judicial or State Board decision?

MR. STETSON: Right, I am not.

MR. HITCHINGS: I have no further questions.

Thank you.

H.O. BAGGETT: Thank you.

Ms. Murray, Fish and Game have any?

MS. MURRAY: No questions.

H.O. BAGGETT: Mr. Ledford.

---oOo---

CROSS-EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY JESS RANCH WATER COMPANY

BY MR. LEDFORD

MR. LEDFORD: Afternoon, Tom.

Are you familiar with how much water the VVWRA purchased for recharge last year?

MR. STETSON: No, I am not. I haven't been involved in it as much since the trial.

MR. LEDFORD: Are you familiar with the Rock Springs outlet?

MR. STETSON: I've heard of it, but I have not seen it.

MR. LEDFORD: Do you have any knowledge as to what the design flow of that outlet is?

MR. STETSON: No. That is for State water?

MR. LEDFORD: Correct.

MR. STETSON: No, I don't.

MR. LEDFORD: You testified about the San Gabriel Water Basin. Can you tell us how that basin is worked relative to its starting out in overdraft and where it is at today?

MR. STETSON: It goes back and starts in 1959 when the City of Long Beach and the City of Compton and the Central Basin Municipal Water District filed a lawsuit against about 25 appropriators of groundwater in the Upper San Gabriel Valley, claiming that they were overproducing and reducing the amount of water that used to flow downstream. And I was hired to represent the upstream people in the litigation.

And what we did was we negotiated a settlement where, based upon historic conditions, I believe we took a 25-year period, and said, "Okay, we will guarantee and deliver to you at the Whittier Narrows, which is the boundary between those two systems." I think we delivered, guaranteed them 98,415 acre-feet each year depending upon the amount of rainfall. That is some complicated calculations to make.

But the whole idea was to make them whole and we give them a guarantee. If the guaranteed quantity does not get there in a year, then we have to make it up to them. If we deliver -- if more gets to them than was guaranteed for that year, then we get a credit. In fact, right now we have 200 some-odd thousand acre-feet of credits on that system. But that has been going on since early 1960, and it's worked

very well there.

There the equivalent of the Lower Narrows here would be Whittier Narrows, a gap about a mile wide, about a thousand feet deep. There is subsurface flow and there is surplus flow, and we measure both of them every few months.

MR. LEDFORD: Is that where the key well is?

MR. STETSON: No. The key well is further up in the basin. The key well is part of a subsequent adjudication of the groundwater in the basin itself. The key well is in the middle. That is a well that has been there for over a hundred years.

MR. LEDFORD: Can you tell us -- have you been importing water into the basin?

MR. STETSON: Yes. The main San Gabriel Basin, when it was adjudicated, had practically no MWD, Metropolitan Water District, connections and pipelines in the basin. So we adjudicated the basin on the assumption that Metropolitan would deliver us untreated Colorado River water or state water, which is the lower cost water. So we adjudicated the basin so that each party got a share of the water in percent of total, and you could pump all the water you wanted to each year. But if you pumped more than your share, then you had to pay an assessment so we could buy imported water and replace it, and we do that every year.

MR. LEDFORD: Is that water basin based on a 50 percent

consumptive use theory as well?

MR. STETSON: We don't use consumptive use.

MR. LEDFORD: In reality does it work that way?

MR. STETSON: It could, but for example we have gravel pits in that basin, a number of them, and they all have water rights. A gravel pit only uses its water to wash gravel, and it goes right back in. And so we gave the gravel pit owners a choice that they could have a water right, that would be marketable water right when they went out of business, or they could pump all the water they wanted and all they had to do was pay us for the consumptive use of it, which would have been 10 percent of the cost, 5 to 10 percent. They all chose to go for the water right because they knew sooner or later they were going to close the gravel pits and sell the water rights.

MR. LEDFORD: Isn't it true that the San Gabriel Water Basin is in balance?

MR. STETSON: It's always in balance.

MR. LEDFORD: There is actually a surplus to it, to the original balance provision of the basin; there is more water in the basin now than there was?

MR. STETSON: We have some restrictions on how high. We will not put imported water into the basin if the key well elevation is above 250 feet. We do that so that we don't buy a lot of imported water, put it in the basin and

the next year is wet and all our free water went to the ocean. We keep a space in there where we can store all the water. It works very well.

MR. LEDFORD: Isn't some of the basin balancing in the San Gabriel Basin --

MR. HITCHINGS: I would like to interpose an objection. This is way off track on the issues that are involved in this proceeding.

H.O. BAGGETT: It is fascinating, but it is getting late. Can you --

I would sustain the objection.

MR. LEDFORD: I don't have a lot of questions. This is directly in relation to how this basin can come into balance and why is it not coming into balance. I don't have a lot more questions, but I do think it is germane to where we are leading globally in attempting to balance the Mojave Basin. This particular application would work.

MR. HITCHINGS: I would still make the same objection. That doesn't necessarily speak to the key hearing issues that the Board noticed for this proceeding.

H.O. BAGGETT: Sustain.

If you can sort of bring it back to the issue presented for this particular hearing. I understand the broader issues; it's interesting.

MR. LEDFORD: I only have a couple more questions.

We were looking at Exhibit 1N. Can we put that back up? Maybe we don't need to. Let me try without it.

The question that was posed was if VVWRA puts the water into the river and Mr. Kidman magnanimously said that we will stipulate if it was the same amount, that we can all go home.

What would happen -- we have a pumping depression. I don't know if you were here for the last hearing. We have a pumping depression above the plant. What happens if those wells pump more water or additional wells get put in above the plant? The evidence -- this is a hypothetical, I guess. The evidence here this morning was that as more pumping happened in the Upper Alto Basin conversely there was more discharge at the plant.

My question to you is: If there is more pumping above the plant, would it necessarily be true that the water bridge would benefit?

MR. STETSON: If there is more pumping upstream, it is going to reduce the amount of flow at the Narrows. And so that will interfere with the guarantee through the transition zone.

MR. LEDFORD: The answer would be that it is not necessarily true that an increase in flow through VVWRA plant solves the problem?

MR. STETSON: Not necessarily.

MR. LEDFORD: Thank you.

H.O. BAGGETT: Thank you.

Mr. Yamamoto.

MR. YAMAMOTO: We are willing to put on our case in chief, but we are concerned about how much cross-examination there would be. We would like to finish it today. We are wondering how long --

H.O. BAGGETT: Why don't we finish this cross-examination here first.

Do you have any?

MR. YAMAMOTO: Sorry, I misunderstood. We don't have any.

H.O. BAGGETT: Any redirect?

Staff might have a few questions.

---oOo---

CROSS-EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY STAFF

MR. PELTIER: Good afternoon, Mr. Stetson. I am Tom Peltier. I have a couple questions for you. I am trying to get a better understanding of the relationship between the groundwater in the Upper Alto subarea and the flows in the Mojave River, and I asked a couple witnesses previously some questions about this, and I am going to try to touch on the same kind of question with you here.

In your opinion, under normal conditions if the basin

wasn't in overdraft, is the water that is being pumped in the Upper Alto subarea, would that normally be discharged to the Mojave River at some point?

MR. STETSON: The water that is being --

MR. KIDMAN: I would like to ask for a clarification of the question before the witness answers. Upper Alto, I know Alto and I know transition zone. I don't know Upper Alto.

MR. PELTIER: Let's just say the Alto sub basin. I am just trying to get an idea of absent the pumping and overdraft, would that groundwater normally discharge to the Mojave River, in your opinion?

MR. STETSON: Absent the pumping, the groundwater would probably be -- you would have rising water at the Narrows and larger, much larger quantities than you have now.

MR. PELTIER: Larger quantities than would you say greater reach of the Narrows?

MR. STETSON: Yes. It would be through -- well, it's slightly canted, and then if this is the Narrows down here, if you have water up here, you are always going to have rising water going down through there, depending upon how far -- as that rising water went through there, it would help the transition zone and help move the water down to Centro. When the basin is pumped down, you don't have that risk water.

MR. PELTIER: So the water -- that groundwater is

pumped and used in the basin and some of the waste flows or all the waste flows that are treated, other than the Adelanto we heard about, those go to treatment plant, the Victor Valley Wastewater Treatment Plant, is that your understanding?

MR. STETSON: My understanding is that there are a number of entities that have producers who are inside the VVWRA and their water goes through the treatment plant. Their water, when they pump their water, let's say a household, normal size house, takes maybe half an acre-foot of water a year, maybe out there a little more than that because it is a hotter climate. If they have a sewer system, all of the -- we usually estimate that the water that is used at your home, half is used inside the house and half is used outside the house for irrigation and washing down the driveway and so forth.

All of the water that goes inside the house usually ends up in the sewer. So that is going to leave, go to the sewer treatment plant. So that is 50 percent of your water from that half acre-foot has gone to the sewer plant. The other half acre-feet was partly used in your outside area, but not all would be consumed, maybe half of that would be consumed. It wouldn't be a 50/50.

There the amount of water consumed in your outside as well as exported through the sewer would probably be more

than 50 percent of the water that was delivered to that house.

MR. PELTIER: So then of the discharges from the treatment plant, to the extent that that originates as groundwater in the Upper or in the Alto subarea, all of that water would have, in your opinion, been discharged to the river under normal circumstances?

MR. STETSON: Depends on the condition of the basin. If they are overpumping the basin --

MR. PELTIER: Let me stop you. Let's assume the basin is in balance and is not being overdrafted for this purpose.

MR. STETSON: Then whatever water they pumped and used and that water ended up going through the reclaimed water plant, would go back into the system in the transition zone.

MR. PELTIER: I think that answers my question.

Thank you.

H.O. BAGGETT: Mr. Kidman.

---oOo---

REDIRECT EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY MR. KIDMAN

MR. KIDMAN: On redirect, Mr. Stetson, are you familiar with the term "subarea obligation"?

MR. STETSON: Yes.

MR. KIDMAN: And in the case of Alto and Centro, can you explain subarea obligation?

MR. STETSON: The subarea obligation there is based upon the average annual subsurface flow that went through the Narrows and over the period from 1950 to 1990, and that was 2000 acre-feet, I believe.

MR. KIDMAN: Can you explain the term "makeup obligation"?

MR. STETSON: The makeup obligation is making up the water that is needed to reach the 23,000 acre-feet of obligation between subarea Alto to subarea Centro.

MR. KIDMAN: The subarea obligation and makeup water obligation are really different expressions of the same duty; is that right?

MR. STETSON: Yes. My understanding is that the makeup obligation is to make up the deficiency in the subarea obligation.

MR. KIDMAN: Is the transition zone physically part of the Alto subarea or the Centro subarea?

MR. STETSON: Alto subarea.

MR. KIDMAN: It is not in between the two subareas?

MR. STETSON: No.

MR. KIDMAN: Actually, is it part of the Alto subarea?

MR. STETSON: Right.

MR. KIDMAN: There is really no such thing under the

judgment as a base flow obligation. Is that part of the subarea obligation and the makeup obligation?

MR. STETSON: The base flow obligation is part of the subarea obligation.

MR. KIDMAN: In the case of the transition zone, where is that obligation measured?

MR. STETSON: Measured at the Lower Narrows.

MR. KIDMAN: Why is it measured at the Lower Narrows?

MR. STETSON: Because there is no other place to measure it downstream until you get to Barstow. At the Lower Narrows is the last place on the stream, going downstream, that has an adequate section for a measuring device. As you go downstream, even at Barstow, you don't have a good measuring device except the river is usually dry there. They have excellent accuracy on the flow because it is dry. When you have water flowing through there, you have to measure it.

MR. KIDMAN: The reason why the Alto to Centro makeup obligation involves the Lower Narrows at all is because that is where there is a measuring gauge?

MR. STETSON: That is exactly right.

MR. KIDMAN: There is no measuring gauge at the Helendale Fault?

MR. STETSON: No, there is not.

MR. KIDMAN: You just said a minute ago that the makeup

obligation is a duty of Alto to Centro?

MR. STETSON: Right.

MR. KIDMAN: It is not a duty of Alto to the transition zone?

MR. STETSON: No.

MR. KIDMAN: What is there in the judgment, let's go through that again that assures that water that is measured at the Lower Narrows gauge actually gets into the Centro subarea?

MR. STETSON: You have what is measured as base flow at the gauging station, where they do the scalping. You know what is coming out of the VVWRA plant. And the other thing is they have to monitor wells in that transition zone to keep the water levels up. So you have the water bridge to get it down to the Helendale Fault.

MR. KIDMAN: Whose duty is it to make sure that the groundwater levels stay up in the transition zone so that that subarea obligation water gets from the Lower Narrows down to the Helendale Fault?

MR. STETSON: It's the responsibility of the water master.

MR. KIDMAN: Under the judgment the water master doesn't pay. Who would be paying to do that?

MR. STETSON: Alto.

MR. KIDMAN: Whose duty is it?

MR. STETSON: The Alto producers.

MR. KIDMAN: Producers within the Alto subarea?

MR. STETSON: Yes.

MR. KIDMAN: Is that part of a makeup obligation, do you know, or is it part of a replacement obligation?

MR. STETSON: Initially to keep the transition zone in balance it is a replacement obligation. Other than that, it is a makeup obligation.

MR. KIDMAN: Coming back to the questions that Mr. Hitchings was asking and the questions that you answered on direct, if 21,000 acre-feet of surface water passes the Lower Narrows is that the end of the question?

MR. STETSON: No. It has to go through the transition zone and get to the Helendale Fault.

MR. KIDMAN: Your answer -- just explain that, what has to happen to make sure that water gets through there?

MR. STETSON: They have to maintain the transition zone at certain levels which they haven't really done yet. So that there is enough water there to form the water bridge to take it down to Helendale.

MR. KIDMAN: In your opinion, is the water bridge currently maintained in the Alto transition zone, including taking into consideration that there are discharges from the VVWRA plant?

MR. STETSON: I am not sure I can give you a final

answer on that because I don't know where they stand now on the monitoring in the transition zone. I have not talked to anybody at the water master to find out.

MR. KIDMAN: You were here for testimony in December?

MR. STETSON: Yes.

MR. KIDMAN: There was some testimony that the stream is a -- I forget the word that Mr. Carlson used. But the way you and I talk about it it is a wasting stream between the Lower Narrows and the VVWRA plant?

MR. STETSON: Yes.

MR. KIDMAN: That area, if 21,000 is introduced there, is 21,000 going to get to Victor Valley Wastewater, VVWRA plant?

MR. STETSON: Most of the time it would not.

MR. KIDMAN: In that reach the water bridge is not currently maintained.

MR. STETSON: Right.

MR. KIDMAN: So, it is relevant to the overall maintenance of the water bridge in the transition zone, whether or not the VVWRA discharges continue? Let me rephrase. I'm sorry.

In the area below the VVWRA plant is the water bridge being better maintained or the same or worse than the area that is above the plant and below the Narrows?

MR. STETSON: It is probably less maintained than up

above the Narrows.

MR. KIDMAN: Not above the Narrows. The section, the reach of the stream between the Lower Narrows and the VVWRA plant, that is a wasting stream?

MR. STETSON: That is a wasting stream.

MR. KIDMAN: The losing water that goes in there, the water bridge is not being maintained in that reach?

MR. STETSON: That's right.

MR. KIDMAN: Below the plant, to the north of the plant on the stream system, is VVWRA's discharges helping the water bridge?

MR. STETSON: Yes, it is.

MR. KIDMAN: Some questions were asked you whether or not Southern California Water Company actually makes use of the water discharged by VVWRA. If the water discharged by VVWRA is helping to maintain the water bridge downstream from the plant, is that helping Southern California Water Company to enjoy its water rights?

MR. STETSON: Yes, it is.

MR. KIDMAN: Now we had questions about gradual reductions.

MR. STETSON: Yes.

MR. KIDMAN: You also had some question about if you are familiar with what the injury standard is. What I want to ask you the question: Are you aware of any court case or

any State Board proceedings that allows a gradual injury to a legal user of water?

MR. STETSON: No, I am not.

MR. KIDMAN: We had a question from staff that assumed the basin is in balance, and based upon your experience working in this basin and what the current conditions there are, even though we have the judgment in place for six or seven years, is that basin overall still in overdraft?

MR. STETSON: Yes, it is.

MR. KIDMAN: The basin is not in balance today or at least not in balance yet?

MR. STETSON: No, it is not in balance.

MR. KIDMAN: That is all the questions I have.

H.O. BAGGETT: Mr. Hitchings.

MR. HITCHINGS: Just a few.

Thank you.

---oOo---

RECROSS-EXAMINATION OF SOUTHERN CALIFORNIA WATER COMPANY

BY VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

BY MR. HITCHINGS

MR. HITCHINGS: Mr. Stetson, just a couple follow-up questions. You have spoken on your redirect regarding what the subarea obligation is from Alto to Centro and what that quantity is and just exactly what the adjudication states as to what that subarea obligation is, and I want to go back to

this briefly.

Is the way that the subarea obligation articulated in the adjudication to provide flows, the required base flows, to the transition zone or is it to the Centro subarea?

MR. STETSON: To the Centro subarea.

MR. HITCHINGS: Is there any provision in the adjudication that talks about the base flows being required to go to the transition zone?

MR. STETSON: Yes. To the extent that they show how much water was base flow that year, how much water was subsurface flow and what they call other water which is usually VVWRA water.

MR. HITCHINGS: I am going to read to you from Page G-2 of the adjudication, the judgment, and this is an exhibit from Mr. Gallagher's testimony. And Exhibit G which is part of the judgment, that is the portion of judgment that talks or speaks to the subarea obligations and articulates what they are.

MR. STETSON: Yeah.

MR. HITCHINGS: I will direct you to Page G-2 of that.

MR. STETSON: G-2, yes.

MR. HITCHINGS: I forgot you had a copy attached to your testimony, too. G-2.

MR. KIDMAN: G as in golf course.

MR. HITCHINGS: If you look at Subparagraph E at the

very top, it states, "Alto subarea producers." This is within the section articulating what the subarea obligations are, and it states:

> An average annual combined subsurface flow and base flow of 23,000 acre-feet per year to the transition zone. (Reading.)

Do you see that language there in the judgment?

MR. STETSON: Yes, I do.

MR. HITCHINGS: Later on in that same paragraph it states:

> In any year Alto subarea producers shall have an obligation to provide to the transition zone a minimum combined subsurface flow and base flow as follows. (Reading.)

Do you see that language?

MR. STETSON: Yes.

MR. HITCHINGS: Does that, as far as you understand the adjudication, indicate that the subarea obligation itself is to provide those levels of flows to the transition zone?

MR. STETSON: That is what it says here, to provide to the transition zone. Well, the minimum amount that they have here, is they use 80 percent of the 23,000. In other words, if you don't have enough for the 23,000, you can have -- the minimum amount you must deliver is 80 percent of the 23,000 plus. I think it is one-third of any carryover from

any previous year. That brings you down to the 18,400.

MR. HITCHINGS: In any event, whatever the quantities are, the way that it is articulated in the adjudication, at least under this provision, is provide those flows to the transition zone; is that correct.

MR. STETSON: Exactly, yes.

MR. HITCHINGS: If you have 21,000 acre-feet of surface base flows measured at the Lower Narrows and those levels of flows don't reach the Helendale Fault, where would that water go?

MR. STETSON: They would probably be recharging the underground between that point and the Helendale Fault.

MR. HITCHINGS: So somewhere between Lower Narrows through the transition zone down to the Helendale Fault?

MR. STETSON: Right.

MR. HITCHINGS: Is there currently any place now to measure surface flows at the Helendale Fault?

MR. STETSON: Yes.

MR. HITCHINGS: What I mean, is there a gauge in place that is used to currently measure surface flows at the Helendale Fault?

MR. STETSON: My recollection is that it had gauges there in the past, but they don't last very long because it is not a very good cross section. When the flood flows come along, they get wiped out. They do and can send

hydrographers out there and make what we call spot measurements. If there is a median flow going through that is not too deep, they can get out there in their waders and measure it. I don't know how much of that they do today, but that is one way to do it without an actual stream gauge. So you can spot flows.

MR. HITCHINGS: It sounds as though at least on a continuous basis you have a good set of data that can be collected at Lower Narrows?

MR. STETSON: Yes.

MR. HITCHINGS: As far as getting a good sense of or having a large data pool of the water surface flows through the Helendale Fault, there is not a great deal of data on that?

MR. STETSON: No, that is correct. My recollection is that at one time there was a gauge at Hodge, but even that gauge had to be abandoned.

MR. HITCHINGS: So once the flows are measured at Lower Narrows and let's say you do have 21,000 acre-feet of surface flows, there is no way to really tell at any given time whether those flows have reached the Helendale Fault; is that correct?

MR. STETSON: Yes, unless you went down there and made a visual observation and a measurement.

MR. HITCHINGS: Thank you very much.

MR. STETSON: You're welcome.

H.O. BAGGETT: Any other parties have?

With that I need to take a couple minute break. I just got a flash message here that our building is closed. We can't go back to it. I have to find out what is going on for tomorrow before we decide. Let's take five minutes.

(Break taken.)

H.O. BAGGETT: Let's reconvene here.

State of the state buildings. I think we are going to have to recess because I was just told our building, we will absolutely be locked out of at 5:00. I assume that might be the same for the Resources Building. Those of us who have to get back --

This is Pete Silva, by the way, Board Member that stopped by.

I figure about an hour of rebuttal, 20 minutes, 20 minutes. I assume Victor Valley will have some rebuttal.

Is that a valid assumption?

MR. LEDFORD: I am going to need 15.

MR. HITCHINGS: I would request that we have the opportunity to present rebuttal last since it is our matter. At this point we do not have any rebuttal, but we may.

H.O. BAGGETT: There is an hour of rebuttal and I don't think --

MR. Yamamoto, you said you didn't have any rebuttal?

MR. YAMAMOTO: Correct.

H.O. BAGGETT: Your case in chief, how long will that take?

MR. YAMAMOTO: I think it can be done in an hour, depending on how long the cross is. If the cross-examination is quick, we should be done in an hour.

(Discussion held off record.)

H.O. BAGGETT: Let's try to reconvene at 9:00.

Exhibits?

MR. KIDMAN: I would move the introduction of the Southern California Water Agency Company Exhibits 1 through 11, I believe it is.

H.O. BAGGETT: Any objections?

If not, they are so admitted.

We will reconvene at 9:00 and hopefully get out of here by noon.

We are recessed until tomorrow.

```(Hearing adjourned at 4:15 p.m.)

---oOo---

`
```

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA)
) ss.
COUNTY OF SACRAMENTO)

I, ESTHER F. WIATRE, certify that I was the official Court Reporter for the proceedings named herein, and that as such reporter, I reported in verbatim shorthand writing those proceedings;

That I thereafter caused my shorthand writing to be reduced to typewriting, and the pages numbered 432 through 633 herein constitute a complete, true and correct record of the proceedings.

IN WITNESS WHEREOF, I have subscribed this certificate at Sacramento, California, on this 1st day of February 2001.

_____
ESTHER F. SCHWARTZ
CSR NO. 1564