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California's Water Future

Assembly Committee on Water, Parks and Wildlife

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ASSEMBLY WATER, PARKS AND WILDLIFE COMMITTEE

CALIFORNIA'S WATER FUTURE



Interim Hearing
July 20, 1982

State Capitol
Sacramento, California

COMMITTEE MEMBERS

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Assemblyman David G. Kelley, Vice Chairman

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WATER, PARKS & WILDLIFE

Tuesday, July 20, 1982
State Capitol Building

CHAIRMAN NORMAN WATERS: First of all, I would like to welcome and thank all of you for coming and especially thank those of you who have agreed to testify before our hearing today. The Wildlife Committee on California's Water Future -- stated another way, this hearing asks where do we go from here?

Some of the members of the Committee, including myself, have worked hard to defeat the Peripheral Canal, with the exception of Mr. Kelley, and please don't take offense, Dave. They felt that the Canal was a threat. Many of us felt that the Canal was a threat to our future water supplies, the economy, and the environment. And other members of this Committee worked hard to support the Canal.

The voters of this state made the decision, the 50 counties that were in the 'no' column. The average vote was 9 percent 'yes' and 91 percent 'no'; I thought that was an interesting figure. But in the eight counties that were in the 'yes' column, the average vote was 62 percent 'yes' and 39 percent 'no'.

Even though the Peripheral Canal was decisively rejected by the voters, the issue does not go away. I think that is obvious. Southern California is still going to lose some of its Colorado River water sometime during 1985 to 1990.

Southern California and Northern California are continuing to grow in population. Agriculture in the San Joaquin Valley still has the need for substantial amounts of water. And for our water future I don't want to see a Peripheral Canal. I would rather see these areas in need turn to water conservation, reclamation, desalinization, new reservoirs in their own areas, and better use of existing facilities. At the same time, I fear that during the next drought Southern California will simply mobilize its large voting strength to run over Northern California. I certainly don't want to see this in my water future.

The principal purpose of this hearing is to open up a dialogue on this very difficult issue, and I don't think I have to tell you it is a very difficult issue. I would like to note that I do not want to turn this hearing into a forum, either for or against the water initiative. I'm sure you're aware of the initiative that will, as qualified, be on the November ballot. The initiative is an important issue and this Committee may hold, may indeed hold, one or more hearings in the near future. For this hearing I prefer to stay away from this controversial subject and stick with the more positive aspects of trying again to open up a dialogue on our long-range water future.

We will break for lunch at Noon and we will reconvene at 1:30, and the people who would like to testify early, if they have plane reservations or commitments, we will try to accommodate you. And with that, I think we'll get on with the hearing.

Our first witness is Mr. John De Vito from the Contra

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Costa Water Agency. I think before I proceed with the hearing I would like to introduce the members of the Committee. On my right is Larry Stirling from San Diego, on my left is Dave Kelley, and on my immediate left is the Committee Secretary, Betty Johnson, and the Consultant to the Committee, Clyde Macdonald. On my extreme left is Bill Betts, Consultant to the Minority Committee. With that you may proceed, sir.

MR. JOHN DE VITO: Honorable Chairman and members of the Committee, respectively, for the record it's the Contra Costa Water District. The Board of Supervisors is the Water Agency and I believe you've heard there is some difference.

CHAIRMAN WATERS: I stand corrected.

MR. DE VITO: I say that respectfully.

CHAIRMAN WATERS: I stand corrected. I probably just read it wrong.

MR. DE VITO: Mr. Chairman and members, the Contra Costa County Water District has the responsibility by two sources of providing water to some 300,000 citizens in seven cities, some 23 industries that employ about 14 to 15 employees and 250 small farms. Quality, of course, is a major factor for us, as well as it is for all beneficial uses in the Delta. May I point out that historically the municipal, industrial and agricultural economy was well developed prior to the introduction of the Central Valley Water Project. This goes for the entire Delta, all of the agricultural, municipal, and industrial uses in Contra Costa County. Certainly, they had some bad years of water quality. Let's take 1924 and 1931. But like anyone else in an economy, they foresaw a bad water year. There was no snow pack

that year. There was no runoff. It was a year of this type that U.S. Steel produced well in advance the template necessary for the canning industry of the Valley. It was these two years, as well as other dry years or low flow years, that the paper industry, both Crown and Fiberboard, and their records have been submitted to this Committee many times in the past, produced substantial quantities of their high quality paper line before the water quality went bad.

You've all seen the maps of 1924 and 1931. It shows a 1,000 part line in Sacramento. What it does not show is that water quality was very unusable many months before that. For example, the records of the East Contra Costa Irrigation District, as well as the records of the Byron-Bethany Irrigation District, as well as Steel and Crown, show that water quality did not exceed 150 parts per million until the end of June. It did not exceed 200 parts per million until the end of July. By that time these high quality product lines were already in the warehouse. By this time all major corps in the Delta and in Contra Costa were well irrigated and harvested. And by this time the University of California, Davis, records show, as well as these districts, that the Butte irrigation for the following year was out of the way. So we actually had a usable water supply even in those years. They just planned for it.

Now there is no question about it that the Central Valley Project first provided substantial benefits as far as eliminating those severe years of 1924 and 1931. However, we in Contra Costa County Water District experienced another ill effect as a result of the operation of that project. It was

simply a case of the pumps at Tracy. I'm talking about the federal pumps now first. During the period from 1959 and to later years caused severe reverse flows in the Delta. You just couldn't get the water through the Walnut Grove cut, assuming the natural consumption in the Delta and the reduced flows in the summertime. It's these reverse flows that cause substantial water degradation to the Contra Costa County Water District. For example, we pump in a year of 1979 about 28 to 30 thousand tons of salt into our district. In 1979 we had public notices up for chlorides in exceeding 100 parts per million some 163 days. One way of stating it is that the 1924 and 1931 experiences were like a fever of 105 or 106. It's this fever of 100 year after year that will kill you.

In summary I'd just like to say that in general due to project operations, due to export operations, that water quality for the citizens of, and agriculture, and industries of Contra Costa Water District have substantially diminished. It is obvious that we need some type of quality assurance. Let me point out that we, of course, depend wholly and totally on the Delta for our water supplies through two sources, the federally owned Contra Costa Canal at Rock Slough and Millard Slough permit in West Pittsburg. Unfortunately, the Delta itself in our opinion has a certain incompatibility for human use and industrial use. There is no question about it, the Delta is an ideal water source for agriculture. During the summertime they take advantage of the beneficial uses of water free irrigation, and during the wintertime we have drainage. Now this is a necessary function in order to maintain the utility of agricultural

lands. We respect that. These lands must be drained from their high salts that would affect the productivity of next year. But it is during the wintertime that humans need a water supply, as well as industry. For example, during this last winter, due to the heavy rains, although it was very beneficial for leaching those islands, we had public health notices some 97 days because of chlorides exceeding 100 parts per million.

I'd like to point out that we believe very seriously that due to this lack of compatibility that this Committee could very well go a long way to correct, what we think, are certain necessary adjustments. For example, the State Water Resources Control Board set standards in 1485. Now during those months that the standards are set for Delta agriculture, our fisheries, we enjoy an excellent water supply. But on July 15, when the Contra Costa Canal intake human consumption controls, the chlorides suddenly move up to 250 parts per million. Now by anybody's standards the Environmental Protection Agency, the American Academy of Sciences, my own State Health Department, 250 parts per million is unfit for human consumption, simply because you cannot remove the sodium. Sodium is roughly 70 percent of the chloride level, and I think you've all seen the Environmental Protection Agency's standards, which suggest that when the sodium levels exceed 20 milligrams per liter or 20 parts per million, it certainly is adverse to those people who already have a problem with hypertension, vascular, liver, whatever the case might be, and certainly pregnant women should not use this water. However, in recent years, and this has come out in the Federal Register, by way of findings of the

Environmental Protection Agency, epidemiology people -- they point out that those people who are susceptible to sodium health concerns should not drink too much water that exceeds 20 milligrams per liter. In other words, if you are not a victim and you are susceptible, you could be one. So we think that this position of the State Board is not consistent with the Burns-Porter Act that created this Board and certainly not this Committee in the 1950's.

I'd like to further point out that this Committee was responsible many years ago for 12202 of the Water Code, which clearly points out that the State of California does have the responsibility for water supply in the Delta for the municipal, industrial and agriculture uses. This Committee was the author of the act which describe legislature meets and bound descriptions. It also pointed out that the state had the responsibility for a water supply and I assume they meant usable water supply for municipal, industrial, and water users. And if it was found not economical to do so, then it should be provided by an overland supply. And I think, frankly, that the Department of Water Resources has not been acting consistent with the direction of this Legislature years ago and should be reminded of that Act and the intent of that Act, so that those water users in the Delta, the beneficial users, can in fact avail themselves to the intent of the Legislature at that time.

Let me just say, as far as assurances in the Delta, I would have to say that your Committee acted very very wisely in making sure that certain acts of the Legislature, for example, the Delta Protection Act, the Counties of Origin, and the Watershed

Protection Act had some capability of survival. You've heard my testimony many times before. What good is an act in the Legislature to protect a bill when two-thirds of the Legislature represent districts south of the Delta. In other words, it can be changed when push comes to shove. And I commend this Committee for their action of processing Assembly Constitutional Amendment 90, which later was Proposition 8. Unfortunately, it didn't survive. But we believe that with the capability of the Constitutional Protection, with the capability of legal enforceable contracts, your activity at that time by way of the ACA and Proposition 8 did provide the areas of origin, the Watershed protection area in the Delta, some reasonable and forcible protection.

Let me comment, if I may, on your Article III, or your item III, which simply speaks to water conservation, water reclamation, and water development must be given equal consideration. I would only add one comment. The Water District has spend about six million dollars putting together a reclaimed water project, none of it grant reimbursable. This is by way of a joint project with a sanitary district. Now our studies and anyone's studies clearly indicate that water reclamation is a clear function of water quality. So I would respectfully suggest that in the course of your policy setting that a clear assumption can be made that, as you effect legislation and project development to provide water quality, you enhance substantially the capability of reusing that water many many times for industry. Secondly, I believe and have always said before this Committee, as well as Washington, water quality is first

line or is the major contributor for water conservation. We all know that as you introduce water quality in our district, as well as down in the valley, it takes additional water. We put our people on notice to use at least 20 to 25 percent more water as the chlorides exceed 100 parts per million, in order to save their lawns, gardens and trees. And I think you and the agricultural community know that it takes more water for leaching necessity in order to maintain the utility of that soil. So my point is that I think the record is rather complete with data over the years. Reclaiming water for industrial use, that's reclaiming domestic sewage. The higher the quality, the higher the utility, the more cycles of that water for industrial use and, likewise, the higher the quality the less water is used for other beneficial purposes.

Thank you for this opportunity to comment and I'd like to submit a written report for the record, if I may.

CHAIRMAN WATERS: I'd like very much to have that. Are there any more questions or comments by the Committee?

ASSEMBLYMAN KELLEY: Let me ask a question, sir, if I may. I'm confused on that sodium chloride, and you talk about 100 parts per million, and 250 parts per million being maximum or something that has been set by law. Those of us that farm and operate in Southern California, I figure with certain chloride contents in the water, much higher levels than that, now can you explain, is there a difference what your're talking about and what we understand down in Southern California, or at least that I understand, is there a difference? Because I know that I'm using water that has twice the sodium chloride or

salt content that you're referring to. If I had water at 100 parts per million, I'd be tickled to death.

MR. DE VITO: Mr. Kelley, we may or may not get together. Maybe I didn't make myself clear. I'm speaking about the chloride iron of 250 parts per million.

ASSEMBLYMAN KELLEY: Sodium chloride?

MR. DE VITO: Chloride iron.

ASSEMBLYMAN KELLEY: Just the chloride, itself? O.k., alright.

MR. DE VITO: What we're pointing out is that it is harmful. The chloride iron itself is very harmful to industrial products when it exceeds 150 parts per million. It virtually destroys the steel product line, as well as prohibits its production, as well as certain paper lines. We find and we've developed this information through the University of California, Davis, during the major salt water intrusion of 1959 due to the reverse flows, that water should not be put on the land for either domestic irrigation, domestic irrigation to us is lawns, gardens, and flowers, or for irrigated agriculture, be it plants or trees, if it exceeds 150 parts per million without a proper leaching process or without using more water in each irrigation to push it past the red zone. Now that's the chloride iron with respect to industrial... the chloride iron, Mr. Kelley and members, as far as industrial and agricultural use in our experience, has adverse effects on the industrial product as it exceeds 100 to 125 parts per million. For example, a steel plate line does attack the steel place, which is later used for the canning industry and is lost with contact with moisture. In

other words, it penetrates the tine and you lose...

ASSEMBLYMAN KELLEY: Right. I understand that. What are you talking about then. In your water on your TDS, you total desolved salts?

MR. DE VITO: I wasn't addressing total desolved salts.

ASSEMBLYMAN KELLEY: I know, but what are you talking about in...

MR. DE VITO: 150 parts or a 100 chlorides, depending on the year, is about 250 total desolved solids.

ASSEMBLYMAN KELLEY: 100 chlorides and 250 total desolved.

MR. DE VITO: Yes, yes. And I will grant that there's plenty of evidence that with lesser chlorides you can use water up to 600 or 700 total desolved solids. What I'm pointing out Mr. Kelley and members is that under municipal, industrial, and human health, chlorides in itself in excess of 100 is a damaging element in the water supply. For two reasons: one, its effect on the product lines and the fact that sodium in our experience, and we test this regularly, is somewhere in the order of about 70 percent of 100. So if you have 100 parts per million chloride iron, you generally have about 70 parts of sodium and then, as it goes up to 200, you've got a 140 parts sodium and 250, of course, is more than that. I was merely pointing out the totally nonsense State Board standard of 250 parts chloride, because you cannot separate the sodium that's in there.

CHAIRMAN WATERS: Mr. Stirling.

ASSEMBLYMAN LARRY STIRLING: Mr. De Vito, why don't you just put in a water reclamation plant and purify it on the

spot before you distribute it?

MR. DE VITO: You mean for domestic and industrial use?

ASSEMBLYMAN STIRLING: For anything that your district is going to provide the water for. Why don't you just build a plant and whatever quality you get purify it before you distribute it.

I think you could say that for the intake of the State Water Project, as well as the..I am speaking of not only our water supply but I'm talking about the water supply of the State of California. When you pick up your water though, and before you distribute it, were you concerned with all these health notices and the safety of the embryos and that sort of thing. Why don't you just build a nice plant and clean it all up before you distribute it.

MR. DE VITO: We're talking about a product cost of about \$300 an acre-foot, and my point was...

MR. STIRLING: Presently, or with building a plant like that?

MR. DE VITO: Well, our reclaim water operation for domestic use is going to produce water between \$200 and \$300 an acre-foot.

ASSEMBLYMAN STIRLING: Pretty expensive.

MR. DE VITO: It is expensive, yes.

ASSEMBLYMAN STIRLING: I'm just wondering why people in Northern California think it's cheaper for Southern Californians to reclaim it than people in Northern California. Thank you, Mr. Chairman.

MR. DE VITO: That was not my position.

ASSEMBLYMAN STIRLING: I didn't say it was. I just thought it was significant that the premise, first of all the Chairman, but gee, I'd like to see desalinization and that sort of thing. The problem is that it costs us a ton of dough to do that. Thank you.

MR. DE VITO: Mr. Chairman, if I may add to that question. What is happening to Contra Costa Water District is well on its way to the state pumps. We will soon release a report that was prepared by our consulting engineers in cooperation with three other agencies depending on the Delta and who are state contractors of the Santa Clara Valley Water District, who will probably testify here. The Alameda County Water District, and the Alameda Valley Flood Control and Conservation District. That study will show that the number of days of poor water quality that we're experiencing in Contra Costa County will, within seven years, find their way to the state pumps.

CHAIRMAN WATERS: Thank you very much Mr. De Vito for your excellent testimony. Our next witness is Paul Kilkenny, Mike Chrisman, I stand corrected, of the California Cattlemen's Association.

MR. MIKE CHRISMAN: Thank you. It's nice to be here, Mr. Chairman. Mr. Chairman and members of the Committee, my name is Mike Chrisman. I'm a farmer and a cattleman from Visalia and Tulare County. I'm also Chairman of the California Cattlemen's Association Water Committee. I appreciate being able to be with you today and to discuss state water policy as pertains to not only agriculture but the livestock industry here in California.

It's appeared to me as a farmer and livestock producer that, of course, we all know that water will be the principal limiting factor to agricultural production in California, in the San Joaquin Valley in the 1980's and beyond. The paramount question then becomes how best to manage this water supply so that people, agriculture, municipal, and industrial users, fishing, all the recreational users, and all others who use this most valued resource, can continue to do so while maintaining the quality of life that we've all come to expect here in California. Implicit in that quality of life, of course, is a continued growth and strengthening of our economy on one hand, while protecting our environment on the other. As I look across the state, numerous issues relative to water development and its use stand out and must be recognized.

No discussion of water for agriculture would be complete without at least beginning the discussion with the issue of energy. There are two major concerns that are important to livestock producers that I'd like to bring to your attention today. The first is limited primarily to Northern California where hydroelectric is a major source of electrical energy. There's been some discussion about reserving flows in a given stream for power generation. The day may soon come when the state will be forced to make decisions on whether to allow diversions of water for irrigation or prohibit the diversion and reserve the water for that power production. I would hope that when that day comes the state of California recognizes that when a farmer is denied the right to produce, you also take away his ability to utilize his land at its full potential to make a

living as well. Livestock producers try to use surface waters as much as possible and gravity flows where practicable. However, in recent years we have seen the increased use of wheel line pivots and other types of sprinkler irrigation systems, all of which require some type of energy, usually electrical, for their operations. Pumping of ground water also requires energy. When energy was cheap, this was not a problem.

Unfortunately, we are seeing some areas of our state where pumping costs for crops such as irrigated pasture, alfalfa, have reached the point where production of these crops may no longer be economically feasible.

On my operation in Tulare County, our costs for pumping are in the neighborhood of 15 cents per acre-foot per foot of lift. I'm talking about growing a crop of alfalfa. We're talking about \$80 to \$120 an acre-foot over a year, \$80 to \$100 an acre over a year I should say. If the alternative for higher return field crops is not available, and in some areas they are not, then some acreage that is highly productive just a few years ago may certainly go out of production.

I've already mentioned to you the Cattlemen's Association's concern over reserving water for power generation. Another similar problem keeps coming up year after year; that is, instream appropriations for fish, wildlife, and other recreational uses. Our association believes that water for agricultural, domestic, and industrial users should maintain the high priorities as it does today. It is a policy of our association that the wise development and use of water resources is essential for the future life and development of our state.

Any water plans should contemplate the eventual development and use under a multiple use concept, such as power, irrigation, or recreation, of all available water resources which are deemed economically feasible.

As the population of California increases and the need for water also increases the state must exercise caution in developing its water resources. First rights for water should be reserved for the ultimate and reasonable needs of the areas of origin where it can be beneficially and most economically used. In addition, title to the beneficial use of water rests with the users and is pertinent to the land on which it is used. In other words, water rights belong on the land in which they are beneficially used, when such water rights are acquired in accordance with the law. Only that's where the land resources the state be developed most fully and efficiently.

As the state plans to develop its water resources, it must recognize the water needs, present and future, for all the segments of agriculture. To limit the ability of the state's leading industry to grow and or to utilize new technologies that are developed could seriously jeopardize our economy in California. When water is taken from an area of origin, it must be replaced if and when needed at a reasonable cost to its users. The people who benefit directly from water projects should bear the major burden of repayment. This should be accomplished through sale of water, power, recreational rights, or other similar by-products of a given project.

One of the final areas that I feel will take on an even greater importance in the future is the use of ground water.

It is imperative that water conservation and ground water management in this state be combined with ongoing programs to obtain supplemental water to solve overdraft problems. Where possible service water resources should be developed to alleviate the need for pumping an already depleted ground water basin. To this end our association opposes any extension of governmental authority to dedicate water to instream uses. The ultimate decision on ground water must rest in the hands of those most affected. We would oppose out-of-basin transfers of ground water but would support voluntary transfers of water by individuals or water groups within ground water basins, or stream systems, up to the quantity which could be reasonably used on an overlaying or riparian lands under their jurisdiction. Ground water management is a controversial subject, not only for state government but also within California agriculture and our association, certainly. We feel that the adjudication of ground water rights within the ground water basins should be handled by the courts, not by a governmental regulatory agency. We would support procedural modifications to the statutory adjudication, which would simplify procedures and shorten that time involved.

There are a number of other areas which I have not touched upon that our association does have policy. We've addressed the issues of wild and scenic rivers, wild river management plans, water rights, land acquisition of federal water projects, land inclusive projects, New Melones Dam, the Peripheral Canal. In light of these policies we have to ask ourselves: what are some issue questions that we and all

Californians will be facing in the years ahead? To what extent will new supplies be developed? Will the State Water Project be completed as envisioned in the Burns-Porter Act? Given post-Proposition 13 economics, what type of federal/state cooperation on water projects can we expect? Given increased soil and water salinity and other quality problems in certain areas of the state, namely, the San Joaquin Valley, what practices and/or projects should be instituted that would help alleviate these problems? Will locally controlled ground water management plans become a part of our water picture here in California.

In conclusion, it's my opinion it's time to again come together, especially in light of the defeat of Proposition 9. Not North versus South, not one interest group opposing another, but by sitting down as we've done many times over the last 25 years and viewing water development from the statewide perspective, helping to reset the priorities, balancing environmental concerns with the need for more water in a growing state. There has to be reasonable compromises somewhere, and what is needed is bold leadership and thinking that will bring those regional differences of the state together. We feel it's time to get back on track with real water development here in California that will benefit all of California. Thank you.

CHAIRMAN WATERS: Questions from the Committee? I had one. I was wondering if it's economically feasible for you to pump or irrigate land now to run cattle on, keeping in mind the depressed condition of the cattle industry and...

MR. CHRISMAN: Absolutely not. I can say that unequivocally, we've used an integral part of our operation over

the last 20 years in taking land, a lot of the land. Our operation is about five miles north of Visalia, taking alkaline land and planting permanent pasture because we did have a cow/calf operation, and used that permanent pasture to reclaim land over a period of time. We happen to be in an area of relatively good water. We practice in our area a good conjunctive use of water. We have appropriate rights from a river, so our water costs are, relatively speaking, somewhat lower. But answering your question specifically, we do not and cannot and it is not economically feasible. Our operation is a cow/calf operation in the hills on dry range.

CHAIRMAN WATERS: Mr. Kelley.

ASSEMBLYMAN KELLEY: Do you have local ground water management programs in your area?

MR. CHRISMAN: No, we do not.

ASSEMBLYMAN KELLEY: Do you contemplate in the future having these programs or not? There's just no discussion of...

MR. CHRISMAN: Oh, there's discussion of it from time to time. Again, in our particular areas, of course, if you get farther and farther away from the rivers the cost of pumping ground water becomes more expensive, certainly, and the energy costs go up. But my own opinion is that it's only a matter of time. I think that the best estimates are that we're in... the water deficit in a given year is about in the neighborhood of 1.2 to 1.5 million acre-feet over draft in our particular area.

ASSEMBLYMAN KELLEY: Do you have subsidence?

MR. CHRISMAN: Not in our area.

ASSEMBLYMAN KELLEY: You said that it cost you roughly

\$80 to \$100 an acre a year for alfalfa. Is that...

MR. CHRISMAN: Round about...

ASSEMBLYMAN KELLEY: \$100 to \$80 an acre-foot, or an acre?

MR. CHRISMAN: No, an acre.

ASSEMBLYMAN KELLEY: An acre of land per year?

MR. CHRISMAN: Per acre, per acre.

ASSEMBLYMAN KELLEY: To irrigate your alfalfa?

MR. CHRISMAN: That's right.

ASSEMBLYMAN KELLEY: How many acres of feet do you put on? What does that convert back to cost per acre foot of water?

MR. CHRISMAN: I can't tell you what it does on...

ASSEMBLYMAN KELLEY: You're pumping 15 cents an inch per foot?

MR. CHRISMAN: That's right. We're looking at about \$15 to \$20 an acre-foot. That's what it figures out to.

ASSEMBLYMAN KELLEY: Oh, man, and I have...

MR. CHRISMAN: You would like to have that, wouldn't you?

ASSEMBLYMAN KELLEY: I would love to have that, I would love to.

MR. CHRISMAN: The pumping cost, just the pumping cost on my ranch alone...

ASSEMBLYMAN KELLEY: Energy, that's the energy cost alone?

MR. CHRISMAN: Just the energy cost. It doesn't include depreciation or anything, and we're looking at lifts around 350 feet, 400 feet, something like that.

ASSEMBLYMAN KELLEY: I don't know what your lifts are.

MR. CHRISMAN: My lifts are about 60 to 70 feet.

That's the difference. Now that's my lifts. The farther away from the rivers you get in other parts of the country, of course, they become less. In the southern part of the county they have lifts two, to three, to four hundred feet. Also down on the border of Kern County. Just to give you an example, district water and certain areas of the area that I represent run upwards of \$300 an acre-foot and they're actually farming it. On my particular operations where I own my own wells, we're looking at \$60 to \$70 an acre-foot, just energy cost, no depreciation included or anything.

ASSEMBLYMAN KELLEY: Yes.

MR. CHRISMAN: I'll tell you what it's doing in our particular area. Of course, economics is playing a large part in this. Our particular area is gradually phasing out a lot of row crops, going into more of the permanent crops. We're seeing a large increase in table grapes, wine grapes, tree crops, tree fruit, walnuts. We're also seeing a tremendous use in the lazer technology. We've used it on our place and the amount of cost saving has just been astronomical in terms of labor and in terms of the amount of water that we've been able to save. So because of the water, because of economics, we're seeing this change.

CHAIRMAN WATERS: Thank you very much.

MR. CHRISMAN: Thank you, Mr. Waters.

CHAIRMAN WATERS: Our next witness is Mr. George Basye, an attorney who represents a number of water districts, I understand. Mr. Basye.

MR. GEORGE BASYE: I'm George Basye. I represent a number of water districts as the Chairman has indicated, including the North Delta Water Agency and the Sacramento River Water Contractors Association, and several other water districts and irrigation reclamation districts in the Sacramento Valley and Delta. I have with me this morning my associate, Ann Snyder, who has assisted me in the preparation of these remarks. I appreciate very much the opportunity to testify before your Committee.

I'd like to speak today to your Committee about the concern of the Sacramento Valley and Delta area in regards to the area of origin protection statutes. We have, of course, in the State law a number of such references to the protection, which should be afforded and recognized for the area of origin. Specifically, there is Water Code Section 10505, which is called the County of Origin Protection Law, and has to do with the nature of assignments of state filings. As you know, most of the water development in the Sacramento Valley of the larger projects have been made under the assignments of state filings made in 1927, either assigned to the Bureau of Reclamation or used by the department itself, or assigned to other local developers and that section, of course, contains the concept that the counties of origin should be protected in the assignments made. Water Code Section 11460 through 11463 is the Water Shed Protection Statute. Water Code Sections 12201 and 12203 are the Delta Protection Act. These are the three main sources of the area of origin protection. In addition to these statutes, the area of origin protection terms and conditions have been included

in some permits issued by the State Water Resources Control Board and its predecessors, and Congressional authorizations of some projects contain area of origin protection provisions. The area of origin statutes have been interpreted in the Attorney General opinions, law review articles, and other secondary sources, but the case law review of the statute is very limited. Some issues may be addressed in the pending Delta lawsuits. Interpretation of the area of origin statutes is one of the most important issues that will be considered by the State Water Resources Control Board in its pending term '80' Water Availability Study hearings, which are now just getting underway.

The area of origin concept is very simple. To reserve, for areas in which water originates, some sort of right or claim to water which can be asserted to meet needs as they arise paramount to the use of the water and areas outside the area of origin where the water first was used. Although the idea is simple, there are numerous questions which have never been answered. What areas are actually protected by these three statutes to which I have referred? What quantities of water can be claimed by the protected areas? Must users within the protected areas pay for water claimed pursuant to these statutes? Is there any price preference for the areas of origin? Can areas of origin rights be condemned by the state, federal government, or other agencies?

CHAIRMAN WATERS: Mr. Basye, on that point, if I might interrupt you. County of origin rights recently ran into a problem with the federal government or the Bureau of Reclamation on water rights on the American River. We thought we were pretty

well home free on it, and all of a sudden the Bureau is demanding or indicating that they have rights, certain rights there. Is this a common practice that the Bureau files protests or asks to supersede those county of origin rights? This is on the S.O.F.A.R. project that I'm referring to.

MR. BASYE: Mr. Chairman, the position of the United States, I think, has traditionally been that they would conform to state law where it was not inconsistent with the intent of Congress. Like the uncertainties I'm talking about in the area of origin, the uncertainty as to the intent of Congress is an important question. As to which project Congress has expressed its intent to be paramount or subordinate to state law, that's something that would have to be clarified by federal courts in regard to each project now going on, of course. New Melones hasn't yet been resolved in that situation.

CHAIRMAN WATERS: Maybe it's their concern for the flows in the Folsom Dam and maybe it's a customary thing that they do whenever there's a project that could adversely affect one of their projects that's upstream from it.

MR. BASYE: Mr. Waters, the practice, of course, of the Bureau is in general to protect, before the Water Resources Control Board, almost any additional development in the watershed. You want to add to that, Ann?

CHAIRMAN WATERS: I don't know that they filed a protest.

MR. BASYE: Oh, yes.

CHAIRMAN WATERS: They did file a protest?

MR. BASYE: Yes.

CHAIRMAN WATERS: And they're demanding payment of about nine dollars an acre foot for which the people in El Dorado County feel belongs to them. I thought it was rather an unusual thing, but maybe it isn't.

MR. BASYE: No, I think it's the general policy of the Bureau at this time to take that position and not to recognize, in general, that the watershed protection acts are part of the state law to which they're subject, except to the extent that Congress has indicated in a particular project an intent to do so. There are terms which can be found in the permits for a number of the federal projects which do have specific watershed protection language. D990, the permit issued on the Shasta Dam operation, and the CVP Primary Development and Use, has within it a provision which purports to incorporate the area of origin concept. The extent to which that's effective is yet to be determined, and whether the United States would recognize that as being effective really hasn't been straightened out. But their position, I think, would be that the intent of Congress is probably to the contrary.

CHAIRMAN WATERS: The only way to probably resolve that would be to litigate it, I suspect.

MR. BASYE: There are two ways, I suppose, Mr. Chairman. One would be litigation which would have to be in the federal court to be effective against the United States. The other would be some congressional modification to clarify the intent of Congress as to how the project should be operated in regard to the watershed protection concept.

CHAIRMAN WATERS: Thank you, and I apologize for

interrupting your presentation there.

MR. BASYE: Briefly, the other concerns. I mentioned the question of whether rights can be condemned. That is a problem which we have to be concerned about in the area of origin. Even if we have these rights, can another governmental agency come and condemn them and take them away? Do the area of origin statutes apply to the federal government? We've commented on that. Does the constitutional requirement of Article 10, Section 2, limit or cut across, presumably in some manner it does, the effect of the area of origin provisions. Can we say that we're protected if it could be determined that the uses we make in the area of origin are for some reason under the constitution not reasonable? That's a broad concern which we must have in the area from which the water largely originates.

I've talked about Section 10505, which has to do with the state filings. It presumably affects the federal government, but only if they would so recognize. Sections 11460 through 11463 have been made, by subsequent act of the Legislature, purportedly affective upon any agency of the state or federal government, but again we have problems with federal power. The Delta Protection Act, of course, is one which expresses itself broadly. It does have a definition as to what area is protected, and it does apply to any person not simply to the state. So in that sense, also, it's broad.

Mr. Chairman and members, the thing is if we were to ask for some improvement of the present uncertainty in regard to area of origin and watershed protection, it would be that we would ask if it could be accomplished, that there would be

protection which would be provided through the state constitution rather than through statute. We have, of course, in the area of origin the concern of the legislative impact upon changing these laws. They now fall in the Water Code, which the Legislature could change tomorrow, presumably. More certainty of what the area of origin, statutes, and county of origin statutes mean would be helpful. I would have to say candidly from the standpoint of the Sacramento Valley and the northern part of the state, we might be concerned about that certainty being made by legislative action because, if it were made more certain by those who would like to take the water away from the area of origin, it could be more a problem than a solution. Better means of implementation of the area of origin statutes would be helpful. How are they to be enforced? There are some means to do so, of course, through the Water Source Control Board but, beyond that, the way in which they may be enforced is something which we've never really been able to establish.

Finally, the last two points would be protection against condemnation. If we have an area of origin protection for the Sacramento Valley, for example, which can simply be bought out by the state or the federal government, or another agency of the state, has it really any significant protection for us? Finally, of course, the issue which the Chairman has mentioned, the federal affordability. To what extent do the federal projects use those that presently exist, or those developed in the future, fall under the concept of area of origin protection. These are our concerns, gentlemen, from the Sacramento Valley from which a large part of the water supply

of California originates.

CHAIRMAN WATERS: Mr. Basye, in your opinion would they have filed a protest if it had not been the fact that they had a dam below, or do they do that on all projects? Now this is a county project, a local project.

MR. BASYE: There are others far more familiar with S.O.F.A.R. in this room than I.

CHAIRMAN WATERS: Well, I'm not speaking of S.O.F.A.R. in particular. I mean, if a local entity wants to build a project on a stream, this happens to be on the American River, do they automatically file a protect? I think that is my question.

MR. BASYE: I think protesting any upstream development on the Sacramento. Is that your understanding, Ann?

CHAIRMAN WATERS: You know, that puts a terrible burden on local enterprise, local entities, too. They have to go to court.

MS. ANN SNYDER: Well, the reason that the Bureau has been protesting all proposed development or appropriation almost anywhere in California is that any additional appropriations will affect how much money goes out to the Delta. And the response has been so far to impose term 91 on any permits that are granted by the State Water Resources Control Board. And term 91 is a way to protect the Bureau and the state project from having to release water from storage to meet the demands of these new appropriations. So a way has been worked out on a temporary basis, on an interim basis, to take care of the Bureau's protest, but they do, as a regular procedure, protest.

MR. BASYE: Anything of any substance, the small ones

they don't bother.

CHAIRMAN WATERS: Questions of the Committee?

Mr. Kelley?

ASSEMBLYMAN KELLEY: Is there, in discussing the area of origin and the right, the ownership of land by a private individual versus a public entity. Is there a difference between me or private people owning land and a right to the water, as a public agency owning land and that water and having the ability to transport that water out of that jurisdiction or out of that area?

MR. BASYE: Are you asking, Mr. Kelley, from the standpoint of the protected area or the export area? The one who wants to hold the water or the one that wants to move it, which one?

ASSEMBLYMAN KELLEY: Let's use an example. The City of Los Angeles owns vast amounts of land in Owens Valley. Now, they have a right to that water by the ownership of that land. They're transporting that water down to Los Angeles. There's some problems there. I'm sure you're aware of that.

MR. BASYE: That's an understatement.

ASSEMBLYMAN KELLEY: Understatement, right. Now, if a private individual owned that land and was to sell that water and transport it down to Los Angeles, would there be a difference in the law as to what public entities do as against what private entities can do?

MR. BASYE: Well, the sections that I have been referring to, Section 10505 for example, wouldn't apply to that at all because it has to do only with state filing. So that

wouldn't be applicable. The other section is 11460 and following, which have to do with supposed watershed protection, affects the state and according to subsequent amendment by the Legislature, affects the federal government and state agencies, but it does not expressly relate to a private individual and the limitation on that person's rights. That's one of the uncertainties that perhaps has to be addressed and considered. You mentioned the Delta Protection Act, which does say any person, and so in a sense that is broader when it speaks about export. But talk about export by private individual, except for the Delta protection, I don't see that any of these really reach that.

ASSEMBLYMAN KELLEY: So there is no clear understanding what a private individual can do.

MR. BASYE: Can or cannot do.

ASSEMBLYMAN KELLEY: Can or cannot do. So that an individual that wants to sell water out of an area of origin is now prohibited from doing that even though there may be opposition to it.

MR. BASYE: Under these acts, it's difficult to get at that kind of an activity. That's right and that's part of the uncertainty.

ASSEMBLYMAN KELLEY: Well, during the drought out here a few years ago, wasn't there an individual that had, or a company that had a substantial amount of water that they were willing to put into one of the transportation systems and take it out of the basin and sell it to whomever was willing to purchase it. Isn't that right, Clyde, that there was?

CLYDE MACDONALD: Anderson Farms.

MR. BASYE: You might say how. I can tell you why, Mr. Kelley. That was a proposal to extract ground water from an area adjacent to the Yolo Bypass, west of Sacramento. And the reason for not allowing it to be exported was that it was considered that it was not, I think, broadly in the state's general interest. I think that's finally what the Water Resources Control Board said. It was subjected to a procedure. The Water Resources Control Board was able to get a hearing on the issue and in effect deny it. But I have to say in retrospect, and it was recognized really at that time, that the extent to which the Board had really direct jurisdiction over that kind of an issue was really not at all clear, even at that time.

ASSEMBLYMAN KELLEY: And it's not clear today, even though they went ahead, even though they did...

MR. BASYE: It's not clear today. It was not done. The Board said, "No, we would not approve it." And it was not pursued.

ASSEMBLYMAN KELLEY: I see.

MR. BASYE: Perhaps, partly because of local opposition. There were a number of ways the county was opposed to it and there were various kinds of approvals which could not be obtained by the proponent of the export. But none of these sections directly applied to that situation and it got before the Water Resources Control Board. I don't recall procedurally how that was done at the time, but they purported the exercise jurisdiction. They did, and I must say to the relief of the area of

origin, we were glad they did. There are times when we would not be anxious to have the Water Resources Control Board exert jurisdiction. That was one that we were...

ASSEMBLYMAN KELLEY: Yeah, you would have welcomed it. But the definition or how do you arrive at area of origin or is that pretty loose. Is that not defined? How do they determine...

MR. BASYE: What is the area of origin?

ASSEMBLYMAN KELLEY: Yes, what is an area of origin?

MR. BASYE: Well, the Delta Protection Act has a map...

ASSEMBLYMAN KELLEY: Not just for that particular area.

MR. BASYE: There is a legislative definition of what the Delta Protection Act applies to. There's no such definition of what the other two sections are intended to apply to. So what is the county of origin, what is the watershed? A watershed presumably can be defined by a geologist, who can define what areas are tributaries of the stream.

ASSEMBLYMAN KELLEY: In other words, there has to be a legislative definition or description of what an area of origin is to determine what it actually is then.

MR. BASYE: It could be defined under the existing statutes by the courts, if they had to construe it, Mr. Kelley. But there are uncertainties as to that and there have been disputes about what is or is not within the area of origin of a particular...

ASSEMBLYMAN KELLEY: Thank you.

CHAIRMAN WATERS: Thank you. Are there any further questions of the Committee. If not, thank you very much for

your excellent presentation.

MR. BASYE: Thank you, Mr. Chairman.

CHAIRMAN WATERS: The next witness is Jerry Gilbert, General Manager of East Bay Municipal Utility District.

MR. JERMOE (JERRY) GILBERT: Mr. Chairman, it's good to be with you and the Committee here today. I'd like to paraphrase my formal presentation, which will provide the Committee with a few comments on some of the activities that East Bay MUD is undertaking in the area of water management, and how they might give some indication of ways that some of the problems that you've identified on your announcement of this hearing can be solved.

There are three points I'd like to make this morning. First, in the wake of a recent election and the general concern for a better system of water management in California, we think that there are three areas that need special attention. One, the area of improving local water use efficiency. Second, greater concern for water quality, generally, and particularly for water quality for human consumption in determining project priorities and in planning future projects. Third, greater emphasis on specific project authorization in the context of state planning, but developed with groups of partners at a regional or local level.

Some of East Bay's actions in these areas would start, first, with the subject of water efficiency. We are in cooperation with the local waste water agency implementing the first significant reclaimed waste water program in the East Bay for golf course irrigation and, in one of our hotter areas where

the per capita consumption is very high, we are on the threshold of several more similar projects. They should save, perhaps, as much as five to 10 million gallons a day in high quality fresh water that's now being used for that purpose. Our water conservation programs which have, particularly in the educational areas, been pioneering are now turning to harder retrofit programs. Not the general mailing approach which does have some benefits, but a program which we put together with the Contra Costa Water District and others are trying to do in the way of improvement of water use efficiency for individual residences. We're continuing our education program, which we think should be expanded both statewide and nationally. Leak detection programs, which have been emphasized by the Department of Water Resources, can yield additional improvements even in tight systems such as ours. Sewer rates at the district, which have been used on a flat rate basis are now being looked at for conversion to basis of water consumption. And we're looking at our water rates to see whether or not they do reflect the true cost and, hence, assure that people will consider that when they use water. There is a problem, however, that as long as we stay with a cost-based water pricing system, the ability to charge rates high enough to discourage use is very questionable.

The district has taken a position that it is opposed, generally, to subsidies in any form with regard to water use. But you get into a little trouble when you talk about waste water reclamation, because one of the ways to encourage that kind of use is to average the cost among a variety of supplies.

The second point I mentioned is the area of water

quality. While there has been much publicity, almost daily, in the metropolitan areas of the state, and even in some of the areas of the Central Valley regarding health effects of water supplies, there has been inadequate consideration of water quality for human consumption in water resources planning and how we select projects and how we divert water. It's been a consideration but it hasn't been one that has been put up front where people are given the option of perhaps paying more for a water supply or using less of an existing supply in order to preserve high quality. I think that's a very important factor of recent studies in the Delta and some of the continuing work that our district is doing, and others in that area, and will lend great emphasis to in the future. In addition, we have to provide water which is of a suitable quality for the particular use we're talking about. Most state water programs in the past, despite the Porter-Colonge Act and the greater integration of quality or quantity considerations in the State Board, haven't resulted in considerations of water quantity that really considers quality, except in a very general way.

We need to tailor the water used for the specific purpose. Industrial water needs a lower quality but if it gets below a certain point, as the northern users on the northern shore of Contra Costa will tell you, it creates real problems for the operation of their processes and the people who operate power plant cooling systems will also tell you that. So that's true but they also don't need the highest quality water that we can provide.

The third element that I want to emphasize, again, has

to do with the subject of developing new sources. As you know, we have had for some years a contract for American River water, and the quantity that we will need and the location of the diversion are matters that we now have under a study in a comprehensive water action planning program. It includes a look at Delta quality, the security of our aqueduct system crossing the Delta, and the cost of the various alternatives. Our Board will consider looking at drought frequency with which to design the system that will be used to convey additional water, should additional water be needed in the next 10 or 15 years. All of these things can't be done by individual agencies and I see a greater tendency toward both local and regional cooperation, and I want to give you some examples of that and then urge that be given greater weight in the state water management in the future.

The first central valley ground water study is the one that is just now getting under way in eastern San Joaquin. East Bay is a partner in that. That study serves as a model in a way of a start on a ground water management program that was developed with specific legislation and we hope that it will be successful in balancing the amount of water that we currently provide into that ground water basin as part of our obligation and the long-term yield of that basin. We're cooperating with the Contra Costa Water District on the Delta water quality studies that I mentioned and, perhaps, the most comprehensive one related to the cost and health effects related to human consumption, at least up to now, has been undertaken in California.

We find ourselves in a variety of agreements with other agencies. I mentioned the waste water agreements, the need for regional cooperation. I don't know if you're aware of the Bay Area Water Resources Council, but it represents the water provoyance throughout the San Francisco Bay area. They're just completing an exchange agreement with regard to emergency supplies and equipment and we're about to follow-up on the Department of Water Resources' study of water supply inter-connections with a study that we will initiate to see if we can provide both the physical enter ties and the agreements necessary to exchange water between San Francisco, Santa Clara, East Bay and Bay Area utilities. These exchanges, which took place in an emergency basis during the drought, should become an integral part of California's planning, I think. Not just in terms of the Bay Area, but in terms of our North-South relationships. The district has always kept the public informed of its water planning activities and we can tend to continue to do that. We've formed a special committee representing the various areas within the boundaries of the district to review all of the matters that I've just described to you. That work will take place in the next two or three years and we're looking forward to that cooperative public study process. I think some of these elements can provide at least some indication of areas where, on a statewide basis, we can overcome some of our adversarial relationships that have developed in the last year or so, particularly, and head toward a more constructive management of our water resources. I'll be glad to answer any questions that you might have.

CHAIRMAN WATERS: Any questions from the Committee? If not, thank you very much Mr. Gilbert. The next witness is Duane Georgeson, who is the Chief Engineer for the Los Angeles Department of Water and Power. Duane, I wonder if you might also address the amount of water that you will be diverting from Mono Lake this year, if you have that information.

MR. DUANE GEORGESON: Good morning, Mr. Chairman, and members of the Committee. I'm Duane Georgeson, Chief Engineer of Water Works and Assistant Manager. I didn't catch your question. You wanted to know how much water we're diverting from Mono Lake?

CHAIRMAN WATERS: I was just wondering how much you're going to divert this year from the water that flows into Mono Lake.

MR. GEORGESON: Good point, because we, as you know, divert no water out of Mono Lake.

CHAIRMAN WATERS: That that diverts in. You know what I'm talking about.

MR. GEORGESON: It being three times as salty as the ocean, we're very reluctant to mix that water with the good quality water that's in our aqueduct system. I realize you understand the difference. Fortunately, we have in California the kind of a hydrographic year where there's not only adequate water in our Eastern Share-A-Watershed for the aqueduct system for the 225,000 acres of land which we lease for cattle ranching; 19,000 acres of irrigated land, a number of fish hatcheries and fish and wildlife projects, but water refill reservoirs which were drawn down last year, plus a substantial quantity of water to

release into Mono Lake. It's a little hard to tell for sure what the result will be during 1982, but it's our expectation that Mono Lake will change very little during 1982 because of the abundance of water.

I have a prepared statement, but instead of reading that statement I would like to make a few comments, perhaps picking up where Jerry Gilbert left off, from the standpoint of what Southern California has done in terms of regional cooperation to solve our problems. There are a number of areas. Beginning more than 50 years ago, Los Angeles was instrumental in organizing the Metropolitan Water District. It was created by an act of the State Legislature in 1927 by Los Angeles and 12 other cities. It has expanded now to include almost the entire coastal plain area from Ventura County to San Diego and as far east as the Riverside-San Bernardino County area. Los Angeles, because it has its own aqueduct system from the Owens Valley Mono Basin, which provides about 80 percent of the city's supply, depends to a relatively small degree on the Metropolitan Water District's supply. A normal year, Los Angeles receives only five or six percent of its water from the Metropolitan Water District, split about 50/50 between Colorado River and the State Water Project. However, during drought years like 1977, even with a strict rationing program in Los Angeles, Los Angeles had to turn to the Metropolitan Water District for a little over 20 percent of the city's water supply. I think that it's to be expected that in future drought years we might see that same type of dependence by Los Angeles on the MWD supply. Which brings us to the point that, as MWD loses more

than 60 percent of its entitlement to Colorado River supply, that entitlement and our judgment will have to be made up largely by increased deliveries from the state project.

CHAIRMAN WATERS: 60 percent?

MR. GEORGESON: Well, Metropolitan, between the quantity of water it will lose, say that will be cut from one million and 212,000 acre feet, to 550,000 as the Central Arizona Project comes on line and then the way the Indian Water Rights litigation is going, it's expected that Metropolitan will be cut to somewhere between 450,000 and 500,000 acre-feet a year. In the drought year of 1977, Metropolitan used every drop of one million and 212,000 acre-feet of water, so that during critical times during dry periods Metropolitan will have to increase its use of state project water by the full quantity of entitlement water they're losing on the Colorado. In the experience of the drought, you have the situation where Los Angeles, because of drought on the Eastern Sierra Watershed and litigation problems, Los Angeles, just when Metropolitan was shortest on water, increased its demand from Metropolitan Water District. So the 200 million acre-foot per year contract, which Metropolitan has, which they're using less than half of, I think it's to be expected in future years, within the next 10 years, that Metropolitan will be calling upon the State Water Project for a very large part of that two million acre-feet per year.

It has been mentioned by a couple of previous speakers, it's not just the quantity of water that's important in terms of water that's diverted from the Delta. A key factor

is water quality. We have in the Southern California area increasing concerns with, particularly, ground water quality, industrial pollution. We have dozens, perhaps hundreds, of wells in Southern California whose use is limited by TCE and PCE. And we have recent statements by EPA that the standards for drinking water quality are going to become increasingly strict. I think as plans are developed to move water through the Delta, it's terribly important to keep in mind that it's not just quantity of water that we have to keep in mind but it's the quality of the water. We have a good deal of industrial and agricultural waste water that enters the Delta. I was speaking yesterday with a gentleman from the South Delta area, who was equally concerned about quality in the South Delta area. I think it's important to keep focusing on this quality question because over half of the water that's in the long-term delivered by the State Water Project has to meet drinking water standards. It's our experience in the business of supplying drinking water to the public, the standards are getting tougher and tougher over the years, as there are more chemicals that find their way into the water supply, both surface and ground water.

A couple of comments on what's possible, what's happening in the area of water conservation and reclamation in Southern California. I think throughout the state, all urban areas, particularly those which were on rationing, left the drought with the commitment that they had to continue conservation programs. That's certainly the case in Los Angeles. You may be aware that we had hoped to get a \$400,000 assistance from the DWR Program last year to assist the City of Los Angeles

and our program of spending about a million and a quarter dollars on a program of distributing free retrofit kits to all of the residential customers in the city. As it turned out, dollars were tight here in the Legislature and the city financed that program entirely with its own funds.

CHAIRMAN WATERS: Now, Duane, what's a retrofit kit?

MR. GEORGESON: A retrofit kit, which basically is put together by the Department of Water Resources, includes a plastic bag; well, it's a variation on the break. It's a plastic bag to displace water in the toilet. You can retrofit a toilet so that it uses less water, a shower restrictor, and then tablets for detecting leaks in toilets. It's our experience that that's one of the most common types of leakage, undetected leaks inside the houses. The city has a program of leak detection, of industrial water conservation, public education program, commercial/residential audits in conjunction with our energy conservation program. We're currently working cooperatively with a number of other cities on a HUD grant to try and evaluate the effectiveness of some of these water conserving devices. Preliminary results indicate that the low flow toilets, the mandatory low flow toilets now in California, and shower restrictors, are producing quite a bit less in the way of savings than was earlier anticipated. I think that's, in part, responsible for the fact that throughout California, the urban areas that had substantially reduced their water use during the drought, per capita use of water based on a survey that we've done of urban areas, per capita use of water has returned to relatively near the pre-drought levels. I have

attached to my statement a tabulation which shows the per capita use of water in California cities: Los Angeles, Marin County, the Bay Area, San Diego, etc. And almost without exception, per capita water use has come back to within about 10 percent of the pre-drought levels in spite of the fact that almost all of these urban areas are continuing with water conservation programs. So I don't think we should look to solving a big part of the urban water needs of California solely through conservation.

Second point is waste water reclamation. Quite a number of entities in Los Angeles and Orange County have been working for several years on a cooperative water reuse program. It's a 400 million dollar study. The purpose of the study was to identify opportunities for using reclaimed water for irrigation, industrial, and ground water recharge programs. One of the things that we determined from that study is that the cost of reclaiming the water in a quantity that can be used to meet a feasible use is very high. Metropolitan Water District is proposing to finance a local projects program. All entities, including the City of Los Angeles, have submitted a number of projects to qualify for that MWD financing program. In general, the cost of the water is in the range of \$300 to \$1,000 an acre foot. It's very very expensive water. The reason for the high cost is that Southern California has always had high cost water. We have never had the development in Southern California of industries which are intensive water using industries, and so you don't have much of a concentration of industrial process water in one location. So the cost of transporting the water to

the very diverse, spread out potential users, whether it's irrigation -- the irrigation is largely ornamental irrigation, like freeway landscaping, etc., the cost of transportation pushes the cost up very high.

I might, in closing, make the point that even though Los Angeles presently gets a relatively small part of its supply from the Metropolitan Water District, we get about 80 percent from the Mono and Owens Basin. We're involved in a number of very momentous lawsuits involving both those sources of supply. We've been involved 10 years in litigation on the Owens Valley Ground Water Basin. Involved in that litigation is the right of the City of Los Angeles to pump wells on its own property, wells in most cases that have been there for perhaps 50 years. We're under a continuing court injunction, which prohibits us from using half of our wells; wells which we would like to rely on for dry year supply. The Mono Basin litigation, which involves 20 percent of this city's supply and a large amount of hydroelectric power. We're waiting to hear from the California Supreme Court as to what they're going to do in the Autobahn litigation. Any loss of water from the Los Angeles aqueduct supply and we're talking about something that could be 30 to 40 percent on the average and up to 50 percent in dry years. Any loss of water in the Los Angeles aqueduct system will have to be made up by increased deliveries from the State Project, diversions from the Delta area. If there are any questions, I'd be happy to answer them.

CHAIRMAN WATERS: Any questions? Mr. Kelley?

ASSEMBLYMAN KELLEY: If you diverted water from the

Delta area, would that be primary, secondary, or tertiary water?

MR. GEORGESON: Are you talking about reclaimed water?

ASSEMBLYMAN KELLEY: No. As I understand it, and I'm not sure whether this is accurate or not, but when the prime contractors lose their water in the Colorado River, when the Arizona project comes on line and they have to make up the difference, the water that will be supplied to make up the difference is going to come basically from the agricultural users or tertiary supply of water or that excess water that the project has. Now are you talking about the same source of supply?

MR. GEORGESON: My understanding is that the basic entitlements in the State Project referred to the so-called Table A Entitlements. The firm contracts for water and the Metropolitan has a contract for two million acre-feet per year in the year 1990. Their entitlement for 1982 is perhaps half of that. Metropolitan is taking somewhat less than their Table A Entitlement. In a year like 1982, presumably Metropolitan could take up to their full Table A Entitlement or more because there is surplus water in the state. But in a time of shortage, as happened in 1976, contractors are first. Both Ag and M&I are cut to their Table A Entitlement and then reductions below that. I believe the first cuts are to agriculture up to a maximum of 50 percent in one year and then below that it's kind of on a share and share basis. There are some other complexities in the contract, which depend upon whether the Director of Water Resources has determined that to be a temporary or permanent shortage. So there are a series, and I

don't think of them in terms of primary, secondary, or tertiary. I think it relates basically to the Table A Entitlements and other contract provisions. It's hard to say in the late 1980's just exactly who will be hurt and how, because it will depend upon the kind of a water year it is and how much water the various contractors want.

ASSEMBLYMAN KELLEY: But you will be coming into the Central Valley and the North for water?

MR. GEORGESON: There's no question in my mind that in the late 1980's Southern California is going to be replacing a substantial part of the Colorado River supply by increased diversions from the Delta Pumping Plant to transport the water through the State Water Project to Southern California.

CHAIRMAN WATERS: Mr. Georgeson, has there been any work on desalinization plants and, if so, how expensive is that? I keep hearing about it. Do you have up-to-date information on that.

MR. GEORGESON: There's a lot of work going on around the world on desalting. For example, over in the Middle East where energy is cheap, there's a lot of... even American Companies are doing a lot of work in that area. Countries like Kuwait and Saudi Arabia were desalting a lot of seawater but, as I understand it, even to them the energy to desalt seawater is too much, and so there has been a trend to try and use ground water that brackish. Instead of 30,000 parts per million, they're trying to find ground water that's three, four, five or six thousand parts per million, where they can use processes like reverse osmosis that consume less energy. I think the

economic feasibility of desalting ocean water, except for very unique circumstances like the Middle East, went out the window when the price of oil started to soar back in 1974. As I understand, it takes somewhere in the order of 50 to 75 barrels of oil to get the salt out of an acre foot of seawater, and it takes five barrels of oil to pump an acre foot of water from sea level from the Delta over the Tehachapis to Southern California. So you're talking about 10 to 15 times as much energy and the problem that you have, of course, that's even assuming that you can get the Coastal Commission to give you permission to build a desalting plant on the coastal zone.

CHAIRMAN WATERS: Another question, Duane. What kind of a water conservation program do you have in effect now in the City of Los Angeles?

MR. GEORGESON: In terms of an official program, the City Council has an ordinance which was developed during the drought with a number of phases that would be implemented in a time of severe water shortage, like 1976-77. That's a mandatory program and through that rationing program Los Angeles, in 1977, was able to reduce its water by almost 20 percent. Then what we've had since the drought is a, call it a voluntary program, which is based largely on public education and some of the same types of programs that Mr. Gilbert referred to in East Bay MUD. We have a Leak Detection Program. We spend in excess of \$100,000 a year on leak detections. This is important. Not so much for the leaks that are found in our system, because they are relatively small, but in terms of identifying potential leaks on customer property. Secondly, we have an

annual industrial water conservation awards program where we invite all of our industrial water customers, like some of the breweries and hotels, plating plants, etc., to use their own initiative in the process of developing, through their own imagination, ways to conserve water on plant. Then we give them some public recognition by an annual awards program and that program is scheduled this year for, I believe, September 16th. We have good public acceptance, pardon me, company acceptance of that program. We provide engineers to go out and assist the smaller companies. We loan meters free to assist in that program. We have a program, I mentioned the retrofit kits. We have remodeled our billings so that our customers, each billing period, get a two-year history that identifies on their bill the average daily gallons of water used for the two-year period, so they have an opportunity to see how they are doing in terms of their water use. We have a program of education through the schools. Our effort is to try and reach every junior high school student sometime during the three years they're in school. We have a program of Conservation Speakers Bureau to try and reach groups in the community. But this program is largely trying to increase public awareness. But the point of the tabulation that I have attached to my statement is that I guess the public is concerned about a lot of other things besides water conservation. They're concerned about their power bill and about gasoline prices, and school busing and a lot of other things. And the effect since the drought in Los Angeles and for all urban areas in California has been for per capita water use to head back up

to near the pre-drought levels. And if you're in the business of trying to provide for something as important as drinking water, you can't have an unrealistic assumption about what you can achieve in these conservation programs. Otherwise, you're creating a manmade drought instead of a natural drought.

CHAIRMAN WATERS: Mr. Stirling.

ASSEMBLYMAN STIRLING: Mr. Georgeson, the most fruitful near term opportunity to respond to a drought is going to be surface storage facilities in the county so that water can be imported during wet years to be used during dry years. Does the City of Los Angeles or Los Angeles Water and Power have any immediate plans for increasing their surface storage facilities in the county or, more approximately, the county?

MR. GEORGESON: No. Los Angeles built quite a number of storage reservoirs quite a few decades ago before our communities developed. We have perhaps 10 modest sized reservoirs in and immediately around Los Angeles. Then, of course, we have the reservoirs, like Crawley and Grant Lake, up in our water shed. But far more important than surface storage, as far as Los Angeles is concerned, is the use of the huge ground water basins. The Owens Valley has people tell us 10 to 15 million acre-feet of ground water in storage.

ASSEMBLYMAN STIRLING: Let me ask you this, then. Are there plans to increase your domestic storage capability where there's surface or ground water?

MR. GEORGESON: Yes, as a matter of fact, there are plans to recharge them.

ASSEMBLYMAN STIRLING: Plans to top them off?

MR. GEORGESON: Yes. In the Los Angeles area we have a major ground water basin in the San Fernando Valley. For 20 years we, Glendale, Burbank, San Fernando fought over who had the right to pump that basin. After 20 short years, we finally got a stipulated judgment and since that litigation was settled, we've been able to, the four cities have been able to rebuild about 300,000 of the 600,000 acre overdrafted during the period when we were in the courts. Now, we've been in luck during that period of time because three of the last five years have been relatively wet years. Los Angeles, Glendale, Burbank and San Fernando have had far more than normal local runoff, and you expect the ground water basins to come up during periods like that. In addition, Los Angeles has had some surplus water and our aqueduct watershed, and we've been able to spread and by reducing our pumping, build up about 125,000 acre feet of storage.

ASSEMBLYMAN STIRLING: Is it conscious water management policy now to top off reservoirs, surface or underground, at all opportunities?

MR. GEORGESON: That has certainly been our goal during the last five years when we've had the wet years is to try and bring all...

ASSEMBLYMAN STIRLING: You're the only engineer I know who over answers questions. Is it the policy or isn't it?

MR. GEORGESON: Well, I'm not sure if I know what you mean by that.

ASSEMBLYMAN STIRLING: Fill up the reservoirs during the wet years so that they're available during the dry years.

MR. GEORGESON: Sure. You better believe it.

ASSEMBLYMAN STIRLING: How close are you to achieving that objective?

MR. GEORGESON: Well, we still have another 300,000 acre foot hole in the San Fernando Valley that could be filled up if we had the opportunity.

ASSEMBLYMAN STIRLING: We have the opportunity now. Why is it not being taken?

MR. GEORGESON: Well, I might point out that there's controversy even in programs like this.

ASSEMBLYMAN STIRLING: What was the controversy?

MR. GEORGESON: Well, in the Owens Valley we're being sued because we're attempting to use the ground water basin in the Owens Valley in lieu of building expensive new surface reservoirs.

Secondly, people who are concerned with our diversions from the Mono Basin feel that in wet years we should let the water go into Mono Lake instead of taking advantage of that additional water to rebuild the storage in our local ground water basin in the San Fernando Valley.

ASSEMBLYMAN STIRLING: Is there any way to charge those out of the California Water Project?

MR. GEORGESON: No, sir.

ASSEMBLYMAN STIRLING: They have to be charged off that watershed. That's too bad. Okay, I just want to make a comment. I participated in the water reuse project that was part of the cooperative efforts throughout the MWD area, and I think it's a terribly ineffective, inefficient program and,

if you have anything to say about their program of implementation, you ought to ask them to be a little better about what they're doing. It's a series of pork barrel projects that sound good when they start in and they're really ineptly done, I believe. It's really an embarrassment in that case.

The only other question I have, does a man named Rumpelstiltskin work for your agency at all?

MR. GEORGESON: I'll check our records. I don't recall the name.

ASSEMBLYMAN STIRLING: I think there's a great myth running around here, including around this table, that somehow there's somebody in Southern California that can weave water out of straw, and I think that's the essence of your testimony here.

CHAIRMAN WATERS: Mr. Georgeson, along some of the same questioning that Mr. Stirling had, is there any possibility of building more surface dams or holding facilities in the Los Angeles area or adjacent to from these various watersheds where you might be able to contain or hold water that would suffice your needs?

MR. GEORGESON: First, Southern California, the area around Los Angeles has very few good natural reservoir sites, and the few good reservoir sites we had, Cascade and Pyramid, were constructed as part of the State Water Project. The Metropolitan Water District, as I recall, paid the Department of Water Resources many millions of additional dollars to increase the size of those reservoirs to have, say, the extra storage capacity. But quite frankly, we would like to see

those reservoirs kept full because if you drain them during, say, a moderately dry year like 1976, then you're up the creek if the next year is super dry, like 1977. Up the creek bed.

I'll give you an example of one of the problems we have in terms of local reservoirs. Forty years ago the Corps of Engineers built Hansen Dam on the Los Angeles River to help conserve water. It's a flood control dam, but we're able to store water there during the floods or the heavy winter rains. The silt settles out of the water and then we can put it into our spreading grounds. The spreading grounds are operated by the County Flood Control District to replenish the ground water basin. The problem is, Hansen Dam has silted up about half, particularly during the last 10 or 15 years, and there's a great need to get the Corps of Engineers to accelerate a program of silt removal at Hansen Dam so that we can recover some of the water conservation opportunities that we once had. When the Corps of Engineers built Hansen Dam, in our opinion they made a commitment to keep that reservoir for flood control of water conservation purposes.

Well, I think you're probably right. I think that what's going to come out of this study, which Congresswoman Fiedler was successful in getting some money identified for the Corps of Engineers to earmark for study of Hansen Dam, is perhaps some kind of a cooperative state, pardon me, local, federal, perhaps state programs where there will be local money put in to restoring the ability of Hansen Dam to act as a conservation facility.

CHAIRMAN WATERS: I have one more question,

Mr. Georgeson, and back to water conservation. I've been told by a number of people, so-called experts, that if everybody in Los Angeles put a brick in their toilet, you wouldn't have to divert any water from Mono Lake. Do you believe that?

MR. GEORGESON: No, sir, I don't believe that.

CHAIRMAN WATERS: Thank you, Mr. Georgeson. Excellent testimony.

MR. GEORGESON: I'll leave copies of my statement.

CHAIRMAN WATERS: Please. I'd like to call on Alex Hildebrand from the South Delta Water Agency. Thank you very much, Mr. Hildebrand, for joining us today.

MR. ALEX HILDEBRAND: Thank you, Chairman Waters, for inviting me and the members of the Committee. As you know, I'm a farmer and the Director of the South Delta Water Agency. We sent you a letter here a week or so ago attaching a memorandum by the agency, which addresses this topic, generally, but I don't propose to go through all of this in that. Today I would like to refer to it so if any members of the Committee don't have copies of it, I have a few copies here that could be handed out.

In that memorandum, we indicate that the South Delta Water Agency is convinced that more water development is essential to the food supply and the general welfare of the state's growing population. It also suggests that we make progress on some aspects of water development which appear to us not to involve some of the issues that I would like to discuss in a moment. We further state our conviction that any water development in areas of origin will have to

wait for providing genuinely reliable and readily enforceable protection of the economies and production of food and public welfare in the areas of origin of exported water. Unfortunately, at this time, it is a fact of life that the areas of origin, or however you want to define that, certainly the watersheds of origin can only protect themselves by opposing all water development facilities, which might have the physical capability of exporting water from those areas.

I'd like to illustrate a point by briefly outlining what has happened to the Southern Delta, but I ask you to bear in mind that under our present system of law and law enforcement what has happened to the Southern Delta could happen to other portions of the Delta or to any watershed of origin. At least that or similar things.

The State Water Project, and to an even greater degree, the federal C.V.P., are now causing significant reductions in the crop yields and crop diversity from the Southern Delta's rich mineral soils. These reductions are increasing. They already amount to millions of dollars per year in on-farm value, and it is a serious impact and threatens the survival of one-quarter of San Joaquin County's agricultural economy.

The projects cause these crop losses by the combined effect of three impacts. First, by contributing to a reduction of the San Joaquin River inflows for prolonged periods to less than is needed for the Southern Delta's agricultural diversions.

Second, by increasing the salt load carried into the Southern Delta by the San Joaquin River by as much as

150,000 tons of salt per year. And most of that salt then gets pumped on our land.

Third, by permitting the export pumps to suck down water depths in shallow Southern Delta channels and thereby contributing substantially to the accumulation of these incoming salts which enter via the river from the C.V.P. service area in the San Joaquin Valley.

Furthermore, the drawdown by the export pumps sometimes leaves no water of any quality available for agricultural pumps in some of the internal channels during very low tides.

All of this damage could be corrected without reducing exports and at a cost far below the level of damage. But no restoration has been provided or even committed. As you know, we have numerous laws which are intended to protect the areas of origin against damages of this sort. We have the Delta Protection Statutes, the watershed, and Area of Origin Statutes, riparian and other water rights. Law requiring the State Board to establish protective standards, the C.V.P. Permit requirement, and Reclamation Law requirement that the federal projects must abide by state law. And even a determination by the State Board that the Delta is entitled at no cost to water supply at least equal to what it would have in the absence of the projects.

None of these laws have yet been effective in the Southern Delta. The State Board has not established and enforced any protective standards in the internal channels of the Southern Delta and has not enforced the terms of the

permits it granted to the C.V.P. The Department of Water Resources has not accepted its obligation to protect the Southern Delta from the damage caused by its export pumps.

ASSEMBLYMAN STIRLING: Have you brought a court action?

MR. HILDEBRAND: We finally went to court last week or two weeks ago and filed a court action against both state and federal governments on this. But that's a very difficult proceeding. It's so difficult and so expensive and involves so much preliminary technical work and other work that it's really not an avenue of enforcement that's available to most landowners in the watershed. They just can't afford it.

ASSEMBLYMAN STIRLING: Well, if I understood your testimony correctly, you said that your position is that you are in a position of opposing any kind of water export facility because it tends to degrade or exacerbate the existing low quality.

MR. HILDEBRAND: We feel that the only way that the areas of origin can protect themselves now is to see that there is no physical capability of being damaged.

ASSEMBLYMAN STIRLING: I fail to follow that logic because of the injection ports that were available in the canal that allowed them to pinpoint fresh water.

MR. HILDEBRAND: There was no assurance that those would be utilized. We have facilities now which could protect the Southern Delta, but they aren't utilized. The project operators just don't do these things unless they're forced to by court action. They don't follow the law. That's the

problem, and the Department of Water Resources. First, to refer back to what Mr. Basye said, the State Constitution says that the use of water must be reasonable. Now it appears, from our deliberations with the Department of Water Resources and negotiations with them, that the laws protecting Delta agricultural water supplies can be ignored on the basis that they're not reasonable. So all these laws are qualified by that reasonable clause and, if you take the attitude that the reasonable thing is to send the water to where the most votes are, then the laws are wiped out and the State Board becomes the principal arbitrator of what's reasonable. They're political appointees. They haven't seen fit to provide any of the Delta standards that would require that these laws be abided by in the Southern Delta and so the laws are just ineffective. The Department also apparently feels no obligation to abide by the State Board's determination that the water supply must be maintained at least equal to what would be available in the absence of the project. The Bureau of Reclamation, on the other hand, stated both publicly and in its reports to Congress that it would honor all water rights downstream from Delta Mendota Pool, as required by its permits from the state and by the Reclamation Law. However, the Bureau now claims to have successfully stolen, by inverse condemnation, all of these water rights as referred to in the Southern Delta, even though it previously asserted that it wouldn't do that.

Now a court action, as they say, to force compliance with these laws is extremely difficult, very expensive, and somewhat uncertain in a considerable part because of the two

factors: This reasonable clause in the Constitution and this question of whether congressional intent was that they should indeed take our water rights.

ASSEMBLYMAN STIRLING: Mr. Hildebrand, I understand that that's what you're saying. I would appreciate if it your agency, if you don't consider improper, that you would have your attorney ship me a copy of the...

MR. HILDEBRAND: Be delighted to do that.

ASSEMBLYMAN STIRLING: Frankly, I'm shocked that a Mandamus, which is an equitable action, especially on an urgency matter like this, as I know the water rights issue is a lawyer's lifetime employment act for all those who are lucky enough to get into it, but I'm frankly astonished that you are having these kinds of problems because I can tell you that we in San Diego County voted for Proposition 8 to assure those guarantees and had no covert agenda other than to make sure that those guarantees were in place. I would appreciate...

MR. HILDEBRAND: Yes, I will see that you get a copy of it.

ASSEMBLYMAN STIRLING: Tell him he's making enough money. He doesn't have to charge you for that effort.

MR. HILDEBRAND: Yes. I'd be very happy to furnish you with a copy of that and I assure you that we're as dismayed as you are that any such thing should be necessary. And it's taking years to get to this point. First, because it didn't seem as though it ought to be necessary; secondly, before you can soothe the state and federal governments, you have to have your technical data thoroughly prepared to

demonstrate that they are indeed damaging you and it's a very complex thing to prove. And then you have to exhaust all other avenues of regress to be sure the court won't say that you should have gone to the State Board first or done something else first and, finally, it takes a long time to get a clear statement out of these agencies that they're not going to do anything and you want to keep hoping that it will get settled by negotiation. You eventually give up and have to go to court. So if we're going to have a water development that's needed in California, and we clearly do need it, we first have to devise a system that will protect the areas of origin in a manner that is reliable and that is enforceable without major and uncertain litigation and delay.

ASSEMBLYMAN STIRLING: Pardon me, Mr. Hildebrand, I normally don't try to interrupt testifying, but this term, area of origin, has been used repeatedly this morning and I'm frankly a little vague on it. How much water originates in the Delta?

MR. HILDEBRAND: It doesn't originate in the Delta, but it's part of a watershed of origin. And in the Water Code it is clearly...

ASSEMBLYMAN STIRLING: So in the Delta Protection Act...

MR. HILDEBRAND: Delta Protection Act merely defines it as being part of the watershed, part of the area of origin, and so forth.

ASSEMBLYMAN STIRLING: So you, in effect, staked out a watershed for yourselves.

MR. HILDEBRAND: Well, we're in the watershed. We get flooded by the watersheds. You can't very well say you're not in the watershed if you get flooded during the floods.

ASSEMBLYMAN STIRLING: That's true. I just remembered that creating dams and flood control devices, which were financed by statewide taxpayers, improved the value of the property and helps you to avoid flooding.

MR. HILDEBRAND: That is correct.

ASSEMBLYMAN STIRLING: I kind of see it being had one way. I mean, there's a rumor in the Legislature, there's no right or wrong, there's only winners and losers.

MR. HILDEBRAND: Well, let me give you an example of riparian way. The Friant Dam intercepts essentially the entire main stem of the Sacramento River, which is 30 percent of our total watershed for the Southern Delta. It exports that water out of the watershed and when we need water we don't get a drop but it isn't a very big dam actually. It takes advantage of upstream power dams and the result is that in a heavy winter such as this last winter they do flood us. They overflow that dam and we get tremendous amounts of water. They even built a conduit through from Kings River so they could dump excess Kings River water on us during floods, and yet we've never had a drop of Kings River water.

ASSEMBLYMAN STIRLING: Tell you what, we'll be perfectly willing to take all that water off your hands if...

MR. HILDEBRAND: Well, one of our suggestions is that you do indeed entrap the flood water from the Kings that is dumped on us and take it south instead.

ASSEMBLYMAN STIRLING: So where'd you write that down?

MR. HILDEBRAND: That's in this memorandum.

ASSEMBLYMAN STIRLING: Okay, will you sign it?

MR. HILDEBRAND: Yes. If you want copies of the memo, I have them here.

That's the gist of what I have to say. As I say, we believe that it does have more water development. And we incidentally believe that there also has to be a better Delta transfer system, and we strongly urge that there be one, but not a Peripheral Canal because a Peripheral Canal runs into all these problems of no protection for the area of origin. It has the physical capability of just doing us in completely.

CHAIRMAN WATERS: Thank you very much. Are there any further questions by the Committee? Thank you Mr. Hildebrand for your excellent testimony.

Zack Willey, Environmental Defense Fund.

Mr. Jack Keating from the California Water Resources, you're up next so you might be ready, and we'll take a break after that; break for lunch after that.

MR. ZACK WILLEY: Mr. Chairman, I'm Zack Willey. I'm an economist representing the Environmental Defense Fund here today. I want to summarize my testimony just by touching the main points, and I'll leave the details for later reading, if anyone is interested.

CHAIRMAN WATERS: Thank you.

MR. WILLEY: E.D.F.'s testimony today would focus on two goals that we would like to see guide California water

policy for the next 20 years, and our comments today are within the 20-year time horizon. We believe that policies beyond that are infeasible given that things change so fast. But the two goals that we would like to see emphasized in policy in the next 20 years are: (1) A policy of protection of the economy and environment of Northern California; and (2) A policy which provides for economic, I emphasize economic, supplies of water for all regions of the state. The components that we see in the first policy goal, that is, protection of the environment, really break down into four categories.

First, with respect to the Bay Delta System, we see a production of the Bay Delta System really as a controversy concerning how much different factors have contributed to its decline: diversion of fresh water from the system; discharge of food that goes into it; and revisions or modifications of...

CHAIRMAN WATERS: Excuse me, I'd like to introduce another member of our Water Committee who just joined us, Dick Floyd.

ASSEMBLYMAN DICK FLOYD: From Los Angeles. You may proceed.

MR. WILLEY: As I was saying, the three factors that we see that have contributed to the decline of the environmental integrity of the Bay and Delta system are diversion of fresh water, discharge of pollutants, and modification of its habitats.

In our judgment, even if the political will and research programs existed in 1982 within the state to protect the Bay Delta system, it would require at least a decade of

concerted effort in order to provide a protection of policy. Ultimately, if we are to maintain the Bay and Delta system as a unique estuary system, it will be at some point required to place a ceiling on fresh water exports from the system and to establish a minimum outflow standard for San Francisco Bay.

The scientific and economic information that will be necessary in order to just devise a reasonable policy in that respect doesn't exist at this time. And we have supported over the years, and continue to support, a concerted effort to try to come up with those standards in the near future. But we do think that we're quite a ways from doing that.

Also, with respect to the Bay and Delta, land subsidence and levee failures have been the continuing threat to both the marsh, the Suisun Marsh, and to productive agricultural land in the Delta area. We would like to see an evaluation of the benefits of various levees maintenance programs, which should be undertaken in order to decide which plan of levee maintenance will provide super protection for the marsh and Delta farmlands at the least cost.

The second component of protection for the Northern California environment concerns its north rivers. We're presently in the midst of a skirmish over whether or not there will be guarantees for protection of that system, and I think the skirmishes will go on. Our view is that the best protection that can be afforded the values of the north rivers, is a program which will disallow the development of any water surface diversion from the north rivers until policy goals, which we will describe below, are reached. Those policy goals mainly

being a policy providing effective economic supplies to all areas of the state. Basically, we feel that the north rivers should not be diverted until all options have been exploited and we feel that there are sufficient options to last the state at least through the rest of this century in that regard.

A third portion of the environmental protection, which is required, is the protection of creeks, streams, and lakes. Mostly in the Sierra Nevada, but also in other areas of the North. Presently, there are over 600 applications for hydro-development on creeks and streams in California. Of those developments, once they are undertaken, constitute an irreversible loss of what is left of the stream and creek environment in Northern California. We would hate to see that happen until all alternatives have been developed for generational electricity and there's a vast array of new technologies and electricity generation that are up and coming that we would like to see pursued before the decision to irreversibly destroy the remaining creeks and streams is made. Certainly, a moratorium on that development would provide the State Board with time to develop inflow standards for the creeks and streams in California. And, also, a moratorium of perhaps 10 years would allow us to assess the trends and development of other technology, such as co-generation, solar, and other small scale generation facilities, which are presently being developed. At the same time, most of those hydro proposals are made for peak power purposes, and we feel that there's tremendous potential to load manage and to implement efficiency standards in the state which can, at least for the time being,

avert the need for that peak hydro power.

Finally, we feel that the state should presently be opposing the application of avoided cost pricing policies to new hydro projects, which is presently being proposed in HR-6500, and amendments to the Public Utilities Regulatory Reform Act. We want avoided costs applied to existing facilities, but not to new facilities.

Finally, the last portion of the protection for the North obviously has to do with Mono Lake. You don't need to say much there. We want to see the decline of the Lake halted for the time being at least and preferably reversed. We feel we are rapidly reaching a point of no return on the lake as a unique inland lake system, and its final demise should not come until a considered program of Colorado River usage through water banking, ground water storage, and transfer with Colorado desert irrigation districts for Los Angeles are implemented as fully as possible.

The second goal, the provision of economic supplies of water to all areas of California, is really the best way to attain most of the environmental protection that I just mentioned. That is, the existing system of some 1,250 reservoirs in California has vast potential, which would be managed in a more effective way than it is. We feel that that potential is great enough to buy us 20 years, roughly 20 years, before any decisions on new surface diversion projects have to be made in California. I won't go over the numbers, but there is a little description on page 10 and 11 of my testimony of how that could occur under projected growth rates and

consumptive use of water in California. California, we believe, has the potential to increase deficiency of use of its already developed water supply and accommodate all reasonably and economically projected increases in water consumption without any surface projects during the next 20 years. Furthermore, if policy reforms, which I'll outline below, were actually implemented in the early 1980's, we would be able to evaluate their impacts in the early 1990's and still have enough lead time to make any kind of new surface project development plans that we would need by 2000.

The first reform that we see as necessary, and we advocated this for 10 years, is the water pricing program in the state, which fully recovers cost. We've heard a lot about whether costs are recovered in the SB 200 debate, but the State Water Project does remain with some subsidies, including the Tidelands Oil and Gas, the use of low interest rates for project financing, and the use of property taxes within some districts to cover the expenses of the water districts. We feel that those subsidies should be eliminated and that the full price should be exerted on all users so that we can, at least, establish economic uses of water had those pricing reforms, that is, the lack of any subsidy, been enforced over recent years. It's probably true, as the dispute over SB 200 would never have occurred because few of the State Water Project contractors would have been willing to make the commitment to pay, at a marginal cost base, rates implied by the SB 200 projects. We feel that kind of leverage in future planning can be achieved if the Burns-Porter Act is amended

to allow for rational amount of subsidized pricing.

A second component of the reforms that we think is necessary is with respect to the State Water Project planning. During the SB 200 debate, there was no cost benefit analysis of the SB 200 projects to determine what they would cost relative to what their benefits would be and who would benefit from them. We think that the least cost investment criterion for any project the State Water Project might undertake is absolutely necessary and that the State Water Project in considering projects should not only consider surface stories and conveyance facilities, but also ground water stories, waste water reclamation and other efficiency proving measures within the array of alternatives that are considered as State Water Project facilities. Obviously, all this will require revisions in the Burns-Porter Act as well.

The second portion of the reforms that we think are necessary is, at long last, we think that the conflict between the state and federal governments should come to an end and that the projects, the CVP and the State Water Project, should be efficiently coordinated to expand the effective firm yield of the existing capacity. We would urge that the Legislative Analyst undertake a financial analysis of the problems facing the state and purchasing the CVP, and placing the CVP facilities under the State Water Project. On the surface of it, it would appear that such a purchase could be arranged so that no additional burden to California taxpayers would occur with the purchase being financed out of CVP contractor revenues. Such coordinated operation is essentially equivalent to new

supply in terms of the state's long-term needs and it should be pursued.

Third, a market for the transfer of waters, which has been mentioned over the years many times, is long overdue. A recent study by a number of University of California economists indicated that if a market for transfers existed in California, that increased efficiency and decreased demand for water in California over the next four decades would be the result. Those transfers would be voluntary and the benefits would accrue to both parties of any transfer. There has been some development recently in Assemblyman Filante's bill, Senator Vuich's bill, and Assemblyman Katz' bill to make progress in that direction. But we feel that in order to provide a comprehensive long-term market for water transfers in which people can make investments according to the costs that are reflected in that market, that what's required is some sort of an overall, maybe even an omnibus water transfer bill which would address all the myriad legal issues that seem to be stalling our progress toward a water transfers market. The essential ingredients of that omnibus bill would be that the time period in making transfers would be long enough, 20 to 30 years, so that investors who wanted for instance to invest in efficiency facilities could look at a 20 or 30 year time period in a transfer with assurances that they don't lose their rights and that they could make investments in efficiency to save water and sell it on that market and reap a rate of return. Temporary transfers have too much uncertainty and they discourage that kind of investment among those who would

possible supply water transfers. In addition, obviously wheeling arrangements within the facilities would have to be made with both the federal and state facilities and some kind of compensation or guarantees with respect to the third party claims is also a commonly sited problem with transfers and with legal uncertainties thereof.

Finally, with respect to ground water, EDF believes that the control and responsibility for ground water use is probably best left to local concerns. However, included in such responsibility are the consequences of overdraft. The state and federal government should not subsidize local overdraft by facilitating projects to recharge aquifers after local users have exhausted those aquifers. Overdraft of an aquifer is an economic decision on the pumper's part with an economic consequence which must be considered by the pumper ahead of time and that, if any sources per recharge are to be located and paid for, the pumper should have that responsibility. This probably is the case where the Burns-Porter Act would also need to be amended in order to guarantee that the State Water Project is not used to recharge overdrafted aquifers in that fashion. Those are the major points that we want to make today. I'll be glad to answer any questions, either now or later.

CHAIRMAN WATERS: Thank you. Mr. Stirling.

ASSEMBLYMAN STIRLING: Is it Wiley or Willey?

MR. WILLEY: Willey

ASSEMBLYMAN STIRLING: Mr. Willey, I'm impressed by the quality of your testimony. I think by and large the

environmental movement has lost a lot of credibility by simply being nay sayers and not providing positive alternatives, and that's certainly not the spirit in the intent, I think, of your testimony here. And I pledge to you from, at least, my county that I will honestly evaluate all these as we go along and I do hope that the Environmental Defense Fund would do precisely the same.

One or two comments real quick. First of all, a cost benefit study was done late, I admit, in the SB 200 debate. It was done by Dr. Brian Newberger of San Diego State University and I did distribute that to each member of the Legislature. Since I was doing it at my own expense, I didn't send you one and I apologize for that.

MR. WILLEY: I wish we could have seen it.

ASSEMBLYMAN STIRLING: The one thing that I think is missing in your premise is that the reason that water distribution and the whole fight that's going on here is a problem. The more remote the population is from the supply, the more expensive it is to either transmit it or reclaim it, or anything. That's the energy, It's just a standard law of physics. A law of diminishing returns. So the logical conclusion of what you're saying when you go full-cost recovery and all those sorts of things is to ultimately move the population closer to the supply, which is the Sierras, and the very natural open space and resources and undamaged creeks that you are seeking to protect. So you've really got a bifurcated inconsistent piece of logic going on; almost what they call disjunctive syllogism. You're going to end up undoing the

very thing that you're setting out to protect. You're going to move that population ultimately to where the resource is cheaper, which is where it fails.

MR. WILLEY: Well, I have a couple of things to say. One is that I don't think the cost of water is necessarily a major fact in determining where growth occurs.

ASSEMBLYMAN STIRLING: As you accurately point out, the sprawl has been subsidized. It's been subsidized by existing residents and it's been subsidized by the feds on debt and that sort of thing in the Central Valley Project and the California Water Project. And so in our case in San Diego, we were not remote from the water supply and the food supply. We're also now remote from the energy supply and so, as a result, the very things that are being pointed out here today ought to get full-cost recovery or, ultimately, you're going to make living in San Diego too expensive, which it is already doing in terms of just electric bills. It's going to force the population to relocate closer to the supply. In fact, in 20 years or 30 years...

MR. WILLEY: I think in the 20 year time arising, if you look at the marginal cost, energy and capital for new facilities way in the north, with respect to delivering in Southern California, that there are enough other types of options the cost of which fall below the marginal cost of the far north facilities that the phenomena that you're describing, well, it may be possible. I don't think it would become a major fact until well into the next century.

MR. STIRLING: I'd say you're right. Twenty or 30

years from now that the marginal cost is going to be so extraordinary when it's remote from the source that the consumer is going to move to the source, not going to have any choice. That's why water in Waters' district is how much, \$25 an acre foot? And in Dave's district it's \$300 an acre foot. And the guy from the Delta here almost choked this morning when he said that cost \$300 an acre foot, we're already paying that in Southern California. A marginal cost in the conservation is already in place. Those guys don't make money by wasting water at \$300 an acre foot. They just don't do it. While I applaud your approach, your particular approach, and we've sat in this committee and watched environmentalists and hunters not talking to each other, shouting at each other, and we're not going to get anyplace in California that way. I applaud your approach and I'm gonna have to tell you that I will look at it honestly, but I think you guys ought to take another look at it, too. Thank you Mr. Chairman.

CHAIRMAN WATERS: Thank you very much. Very good testimony. I think in view of the time we'll recess now until 1:30.

CHAIRMAN WATERS: The Assembly Water, Parks and Wildlife Committee will please come to order. The assembly hearing I should say. Our next witness is Mr. Jack Keating from the California Water Resources Association. Mr. Keating.

MR. JACK KEATING: Thank you, Mr. Chairman. My name is Jack Keating. I'm Executive Manager of the California Water Resources Association. We're very happy to come today and give some post Proposition 9 observations and to look

ahead into the future. We feel it's very constructive that this Committee is calling this hearing, at this time, because I think California has to look ahead from now on and not back. Proposition 9 is history, and we have to find some other answers, apparently, to our water problems in California.

I would like to point out that having worked nearly 20 years in this water business promoting water projects that the situation today for anything new in the water field is probably as bad as it has been at anytime in the past 20 years. We not only have a very serious economic recession or depression, the state is in trouble financially and the federal government is also. It would be extremely difficult to raise money for new projects, but we have established some laws in the state and on the federal level, as well, which make it difficult, if not almost impossible, to embark on new resource or water projects.

I cite an example in Marin County today. The Chronicle had quite an interesting story about their situation where they have enlarged the dam and are ready to meet their water shortage problem, and they've run into a bureaucratic situation where they have to release so much water downstream that they can't meet the needs of their populist. And we run into this situation, like the SOFAR project up in El Dorado County. We have several people from El Dorado County on our Board of Directors and other adjacent counties, as well as Sacramento County. We have in Stockton a very severe situation of water shortages. We have serious water problems where new water must be developed for Alameda County, for Contra Costa

County, for Santa Clara County. And these are areas which are not generally considered to be areas where we need more water. All the information we received on Proposition 9, it was largely Southern California and the farmers of the San Joaquin Valley that needed the water.

So there are problems in other areas, particularly in areas of origin where the population shifted. There is a definite population shift from the south to the north in California and the reason is that the tremendous explosion of population south of the Tehachapis has caused some serious environmental problems. I know a number of my friends and a number of business associates who have moved northward to get a better environmental situation, and I think in the years ahead, in a few years, in Northern California you may have the need for development of substantial water and energy projects just to meet this population shift.

Now my Executive Committee has considered this hearing and what I should talk about, and they gave me instructions to accent the need and future needs of this state, both Northern and Southern California, in my testimony to you. They felt that this was necessary because when we had post Proposition 9 post-mortem meetings of our Executive Committee, with public relations experts, it was almost unanimous that the proponents of the Peripheral Canal legislation, if they miss the boat anywhere, they fail to bring to the whole population of the state, north and south, the tremendous need for new water programs in California, for both the population of the north and the south.

So I'd like to give you a few figures today of some

trajectories we have from state bulletins which, I think, are rather sobering. Bulletin 76-81 points out, in the absence of the Peripheral Canal and other additional water supply facilities, the State Water Project will face potential water shortages of between 1.4 and 1.6 million acre-feet per year by the year 2000. Now this State Water Project, as you know, and I'm not telling anybody in this room that doesn't know this, is guaranteed under contracts of about 4.2 million acre-feet a year. The time frame when this actual amount will be needed has been extended over the years because of lower demand and reduced population estimates and so forth. But the figure that's pretty firm with the state statisticians today is a shortage of between 1.4 and 1.6 million acre-feet by the year 2000. Now bulletin 76-81, in producing these estimates, takes into account a savings of about one million acre-feet a year. This is one million out of that 4.2 that the state has contracted for to accrue from reduced demand due to water conservation and reclamation, and slower projected population growth, and was envisioned in 1960 when these contracts were drawn. Even with this huge one million acre-feet a year reduction in demand, which a lot of water people think is really much too high, but it was the estimate of the current administration, the state still faces potential water shortages in the year 2000 of at least 1.4 million acre-feet a year.

Before 1985, dependable water supplies will be unable to meet contract and title demands for the State Water Project, and this is speaking of any period other than a normal water period where you have a water dry cycle, or a water shortage

cycle. Now unless the state moves promptly to fulfill its water contracts, and these water contracts are with entities that supply 18 million people in California their water supply. That's probably two-thirds of the existing population of the state. Not only will a vast majority of Californians be forced to undergo the privation and suffering which comes from an inadequate water supply, but the state itself very likely may become the target of litigation resulting from failure to fulfill its contracts. It should be stressed that major water projects take from 10 to 20 years to build, finance, and plan. Now those who are beating the drums for water reclamation and conservation, and they're laudable goals, and our association strongly supports that and so do our members. They are somewhat diluting the public that these avenues are the sole answer to California's water problems. CWRA believes that there's no substitute for adequate primary supplies. California water agencies both state and local are recognized nationally, if not internationally, as leading this nation in the areas of water conservation and reclamation and this applies not only in the San Joaquin farm areas, but in Southern and Northern California as well. I don't know a water agency member of our association that doesn't have a major water conservation or water reclamation program under way involving expenditure of millions of dollars. Still, without additional water projects to meet future demands there will be crippling water shortages, which are sure to result in crash legislation, which may ignore many of the concerns of today's water project opponents. So I think in the interest of balanced programs, we should do

as the committee is suggesting. Start exploring other avenues and get looking ahead and start moving on instructive plans. Thank you.

CHAIRMAN WATERS: Thank you very much. Any questions? If not, we'll move along. Thank you very much for your excellent testimony. I'd like to call on Steve Wall, attorney for the Kern County. Kern County Water Agency or Kern County?

MR. STEVE WALL: No, Mr. Chairman, Kern County. I'm a lawyer in Kern County. I represent quite a number of interests involved with water, the various districts, etc. However, I have been asked specifically by the Kern County Water Agency to express their great appreciation of being notified of this and having the opportunity to come and meet with you and, of course, I appreciate it very much as do all of my constituents.

First of all, I'd like to say that now Proposition 9 is behind us, I know several others have said the same thing, that it seems to me the biggest lesson we've learned is the time has come that we've got to quit pitting area against area, concept against concept. We're going to have to look at the needs of the state as a whole, the areas of origin, the watersheds, the Delta, as George Basye was saying, the areas where we come from where we're water short. And we believe that the action of this committee in bringing about an initial hearing after Proposition 9, such as this, is really laudatory, and we appreciate it very much. I believe your four framework policies are very well chosen and I'd like to just mention, don't let this frighten you, I'm just going to leave these things, I'll just paraphrase.

Areas of supply have the right to reasonable and strong protections for the water resource economy and the environment. Of course they have. In the law, it cannot be abrogated. They must have and certainly we in Kern County understand that. And, as George Basye said to the committee, the problem is implementation, as well as definition, and we've had the laws there for long enough but the problem seems to be that there cannot be enough agreement generated to get enough motivation, whether it's in the Legislature, and we've tried for five, six, seven years now to get something through the Legislature without success. The environment and the economy both must be kept in balance and they cannot just seesaw back and forth every time the administration changes either here or in Washington, and that commences with dialogue and this committee is starting that.

Second, your topic was areas of water shortage should have a reasonable opportunity to develop the needs of water resources. Well, I go back to the old California water plan that started in 19... Well, the Legislature, in 1947, created a commission. They studied for 10 years huge volumes, tremendous of geology, and engineering. After a 10-year study, they came up with the California Water Plan. It's embodied in Bulletin 3, 1, 2 and 3. I'd like to take the time, if I may, to just read the introduction to the summary conclusions and recommendations following that 10-year study. In 1947, the California Legislature authorized the initiation of a state-wide water resources investigation to formulate a comprehensive master plan for the full control, conservation, protection,

distribution and utilization of all the state's water resources, both surface and underground, to meet the present and future needs for water for all beneficial uses and purposes in all areas of the state to the maximum practicable extent. And, of course, in the 19th and 20th amendment, now Article 10, Section 3 in the constitution, is the maximum practicable extent. Then it goes on as a result of intensive study analysis for engineering a geologic data, and information made available during the planning phase of that investigation, and on the basis of estimates and assumptions discussed here and before, the following summary, conclusions, recommendations are presented. I would urge members of this committee to read that thing. It's not very long.

The summary conclusions and recommendations, and you'd be amazed at how little engineering is left to be done. The engineering studies have been done. Now where we've got to be dealing is in the area of philosophy and politics, and we have just got to get people to view it from my way, where we need the water, to talk with the people that have it, the people that are worried to death they're going to lose it, and we have got to make arrangements that will protect everybody. And if we can't do that, then I suppose there's no help for us.

The third phase that you mentioned is water conservation, water reclamation, water development be given equal consideration. Of course they must. In our area down there, in one of the districts I represent, an agricultural district, we're taking oil field waste water, and the oil company spent a million bucks building a pipeline, and we're taking their

waste water into our system. We're blending it in with the canal water we buy from the State Project, and we're doing that with respect to reclamation.

With respect to conservation, we charge our land-owners \$180 per acre for one and a half acre-feet of water and that gives us the best conservation program you can imagine because they have to pay \$180 per an acre and a half foot of water, and they pay for it whether they use it or not. They're sure not going to turn their pump on and pay the power bill when that water's there. By the same token, they're not going to waste any and we're amazed at how much less water farmers are making do with down in our area.

I also represent some oil companies, and I have one oil company that came to me and said our engineers have developed a way to run a few thousand barrels of water a day from a canal, in through our steam flooding process, and run it right back to the canal with absolutely no impurity whatsoever added to it. Only twenty degrees of temperature rays increase and no water loss, and that didn't come from nothing. I mean they are spending money in all our districts just as the gentlemen ahead of me said.

So then, of course, water conservation and reclamation are just as important as development. But the devil of it is we can't get by if all we do is just allocate the shortages. It just won't work.

Now back when the California water plan was adopted by your Legislature in 1959, and the vote of the people in 1960 on Burns-Porter, they adopted this plan and all these different

projects. The Feather River project was the first one. Unfortunately, that has come to be known as the California Water Project, State Water Project, excuse me. And that was not the case at all in the beginning. But the fact is that we've got all the water. We have the largest water factory probably in the world. The Sierras inject the position with the Pacific Ocean; a tremendous factory of water and the streams running off. Sure, we've got George Basye's, if I may repeat, problem of areas of origin definition and implementation and protection. But once we recognize that it can be done and in that connection we'll need... Personally, I'm so pleased that this committee has called this initial meeting because I think it's going to take something such as this committee to get the dialogue going whether you hold other hearings, or whether you form yourself an ad hoc committee of people around. Whether or not you use organizations like the EDF and the Farm Bureau and others, or whether you go area to area, get them together. I know from talking to some of these guys up here, Tom Zuckerman and Basye and these fellows, we talk the same language. We have people that have to be protected, but all I'm saying is that I think it can be done. I think this committee has an excellent opportunity to take the lead. I know, of course, that there's an election in November, but surely you could leave a legacy for the next committee, the next Legislature that will make them remember you. If you really get this started and get -- force the dialogue.

ASSEMBLYMAN STIRLING: Mr. Wall, Mr. Keating indicated that a lawsuit might lie for specific performance against the

State of California to deliver the water that it's contracted for. In your own professional judgment, would such a lawsuit for specific performance lie and what do you think its chances of success would be?

MR. WALL: Well, I think legally contractual law, yes. The contracts that we sign, our districts sign, my district signed them in 1972 and 1974, I believe it was, are clear-cut contractual obligations. Obligations and duties and privileges and rights on both sides for valid considerations. There's no question that they are enforceable. We have spend millions of dollars in reliance upon them. I represent one district that back in 1965, when one million dollars was a lot of money, we spend 500 and some dollars an acre, over \$23 million, to put in a project to bring water under that contract for our 43,000 acres of land being irrigated. And at that time, you could buy row crop land for on the order of \$1000 to \$1200 an acre. So they hocked themselves to the extent of half the value of their land in reliance of that contract. So there isn't any question from that standpoint. Now it is possible, Mr. Stirling, that some court could say, I suppose that contract, that use of that water, in that quantity, for that purpose, over that period of time was unreasonable under the Constitution and, therefore, maybe they would just give us damages instead of specific performance, for example.

ASSEMBLYMAN STIRLING: Do you suppose with the facts produced by the defeat of Proposition 9 that there is prospective breach... allows the issue to be ripe and bring the suit now?

MR. WALL: I think it does, because there is no question...

ASSEMBLYMAN STIRLING: Have you advised your board to do that?

MR. WALL: No, we haven't. I would not like to strike out alone.

ASSEMBLYMAN STIRLING: Well, we are all striking out together right now. Let me ask Mr. Rogers when he was here on the committee, being from Kern County, objected mightily to, or maybe not so mightily, but objected to the Katz bill that allows water to be treated as a commodity. Why that solid objection from Kern County?

MR. WALL: I'm not certain that is a solid objection for the entire county.

ASSEMBLYMAN STIRLING: Well, let me ask it this way. What does your board feel about the Katz bill and water as a commodity?

MR. WALL: Our board, I think, would believe that it might endanger water rights. We have on our board, we have farmers, and they are very sensitive to their ground water rights, the correlative rights doctrine and all that.

ASSEMBLYMAN STIRLING: Why would those rights disappear if one of the members was allowed to simply sell his water?

MR. WALL: Well, of course, under the various codes various kinds of districts are allowed to sell their water anyway, if it's surplus. We can do anything with our water, if it's surplus. Under our code provision of Cal-Water

districts, for example. But I think, and one of the things I believe, Mr. Stirling, what people would worry about is that they get overpriced. There are people that could pay more for water than they are able to pay for it themselves.

ASSEMBLYMAN STIRLING: But that was a voluntary exchange. One of your farmers said, I can shift from water-intensive crop to a less water-intensive crop and, therefore, have a water future available and sell that and be more profitable to the advantage of everybody. Where is the risk?

MR. WALL: I personally think that day will come. I think that kind of a rule will become...

ASSEMBLYMAN STIRLING: Has your Board taken a position?

MR. WALL: No, it hasn't.

ASSEMBLYMAN STIRLING: Might you recommend that to them, and have them write to Mr. Rogers when they get time?

MR. WALL: That makes good sense. I agree.

ASSEMBLYMAN STIRLING: Let me ask one more question. Also, Mr. Keating indicated that in a water shortage the people would suffer. I'm wondering, legally is it the people who suffer or does agriculture suffer?

MR. WALL: Well, I don't think you can separate...

ASSEMBLYMAN STIRLING: Let me ask it more directly, then. If there is a water shortage, who foregoes their supply first?

MR. WALL: Who foregoes their supply first? Under the contract is the ag users. I'm sure you are aware...

ASSEMBLYMAN STIRLING: Agricultural users?

MR. WALL: Ag users. After Table "A," the firm entitlement then the ag people take the first shortage, of course.

ASSEMBLYMAN STIRLING: So, the problem is that even if there was a shortage that since tomato plants don't vote, and the people do, and they're not short of water, trying to get everybody together into a dialogue isn't going to work for a while.

MR. WALL: Well, I think it has to be started...

ASSEMBLYMAN STIRLING: Certainly started. I think it's been going on for about 30 years. Everybody is communicating very clearly. They don't like each other.

MR. WALL: But, you know, maybe it's just because I'm an optimist, but I kind of believe we have learned a lesson by this Proposition 9 debacle, or whatever it is. I can't believe but that we have. And we in Kern County, and we've got some hardliners down there, and they've got some hardliners up here and in between, but we are certainly going to make an effort to make sure that there is dialogue, but in a meaningful way, not with just a couple of guys. Perhaps this committee, being used as a clearing-house, could take the lead and foster, you could go a long way toward fostering...

ASSEMBLYMAN STIRLING: I certainly congratulate you on your optimism. But so far this morning, I've heard no fundamental changes, no fundamental offers, no real array of alternative solutions. I've only heard a repetition of the lines that we have to protect the line of origin. And the folks that have point of origin or area of origin just drew

the line out so far that the watershed serves them and to hell with everybody else. I don't see any shifting or moving, I see hardening of the...

MR. WALL: For example, I thought we saw a very favorable shift on the EDF. I thought that was one of the most reasonable presentations...

ASSEMBLYMAN STIRLING: Pardon me. Who in the hell is the EDF?

MR. WALL: Environmental Defense Fund. And really from the standpoint...

ASSEMBLYMAN STIRLING: I'm still learning CTA.

MR. WALL: But the areas of origin, of course, it's a problem, because all it is is words in a book.

ASSEMBLYMAN STIRLING: Well, you said the important thing, that everybody thinks the Feather River Project is the California Water Project. What appears to be, as we finish, just enough to take care of the guys in the Delta and to hell with the rest of the state.

MR. WALL: That's right. We just stopped. And I'm amazed that over the last several years, hell, you don't even hear them talk about the California Water Plan. And there are 10 years of effort in that thing. And yet, it evaluates every bit of water, evaluates where it's going to be needed from now on in, in the foreseeable future, tells you how to put it there.

ASSEMBLYMAN STIRLING: Thank you very much.

CHAIRMAN WATERS: Our next witness is Mr. Stan Matsimoto, Contra Costa County Water Agency.

MR. STAN MATSIMOTO: Thank you, Mr. Chairman, and members of the committee. I'm Stan Matsimoto, Senior Civil Engineer with the County's Public Works Department, Environmental Control Division. I'm presenting this statement on behalf of the County Board of Supervisors.

I would like to express my appreciation for the opportunity to present the county's comments on the policies that should guide California's water future. As you know, our county has a long history of involvement in water matters within the state. We depend highly on the Delta as a major source of water for our county's residential, industrial, agricultural and recreational users. With the rejection of Proposition 9, we are given the opportunity to develop a comprehensive, balanced water management plan and put forth a new water ethic for the state. We believe basic reform in the state's law, policies and practices is needed as part of the new water ethic. These basic reforms must be applied in such a way that environmental protection, economic efficiency and safeguards for water supply lie in the wise use of water resources already available. Otherwise, the cost of building more water projects, which would further deplete the dwindling fresh water supply in Northern California, seems likely to continue. Our county is in the process of developing such a water resources voluntary reform program, which will be designed to assure responsible management of the state's water resources, leading ultimately to the protection of the Bay-Delta system.

We have been actively working on this program for quite some time, meeting with environmentalists, water districts,

agricultural organizations, local, state and federal officials and other public interest groups and agencies. We recently co-sponsored, with Northern California counties, a workshop to explore and examine alternatives for effective and efficient water management within the state. The information resulting from our past meetings, forums and workshops will be utilized in developing our water resources program.

The Board endorses a comprehensive approach to water supply, planning and development in the state based on strict conservation measures, ground water management controls and economic efficiency through water pricing reform. However, in the absence of such a specific program, at this time, we would like to present to you, for your consideration, the following established policies of our Board regarding the issues of this hearing.

On conservation: Intensive agricultural and municipal conservation measures must be a component of any serious water management plan. Cost analysis of new water development versus water conservation must be a part of any proposed water project.

Ground water management: Extensive overdrafting of water in several areas in the state seriously aggravates the overall problem of water management. The long-term replenishing of natural ground water basins and the careful management of such basins are important long-range goals. It is especially important to establish a mechanism through which these basins can be managed. It is equally important that a moratorium on any new lands coming to irrigation be imposed until the overdraft problem is solved.

Water pricing policy reforms: The reform of state and federal repayment practices so that water users contribute their fair share of project costs is needed. In connection with this, the barriers to water transfers must be removed to allow the allocation of water in a more efficient manner. The current pricing structure of the State Water Project must be reformed so that all subsidies can be eliminated. The elimination of State Water Project subsidy will encourage economic development of water projects, water quality guarantees.

Appropriate water quality standards must be developed and must be adhered to prior to the export of any water. Legislation should be enacted to assure that the State Water Project and the Central Valley Project release water to the Delta to meet such water quality standards. Absolute guarantees to meet these objectives must be provided. The guarantees must recognize that the areas of origin, which include the Delta, have first and paramount priority over export and that all beneficial uses of the Delta in any year must be protected before any Delta export is made. The amounts of Delta exports must be limited as necessary to meet these guarantees. Delta transfer facilities. This county recognizes that the interests of the state are best served by the most productive use of any surplus water. However, we will continue to register strong opposition to the concept of an isolated facility such as a Peripheral Canal through which to convey these diversions. The flow of water through the Delta and preservation of Delta outflow provides an inherent protection to the Delta and the Bay.

San Francisco Bay flushing flows: Our knowledge of the importance of flushing flows, the Bay-Delta system, is still not understood thoroughly. This subject should be given further study and appropriate water quality standards must be established.

Energy: Energy consideration should be made an integral part of water management planning. Energy impacts must be considered equally along with economic and environmental consideration.

The foregoing summarizes the current position of the policies of the county. As mentioned earlier, we are in the process of re-examining our policies for the purpose of developing a new water reform policy statement which will be completed in a few weeks. This statement will fully address the issues in your hearing notice. We will be submitting the new statement along with additional comments by August 16.

In conclusion, we must begin to build a broad consensus statewide as to how we can best protect San Francisco Bay-Delta system and areas of origin in Northern California while meeting the future water needs of the entire state. As a beginning, we must reach agreement among those within the Bay-Delta region and then seek a unified support of concepts and ideas within Northern California. The rejection of the Peripheral Canal signifies the end of an era of constructing massive projects to transport water from one region of the state to another. We must take advantage of this opportunity to implement a new water ethic for California.

Thank you for giving us this opportunity to present

our viewpoints.

ASSEMBLYMAN WATERS: Thank you for your testimony. Are there any questions? Next witness, Patricia Sheehan Garrett, from the Trinity County Board of Supervisors.

MS. PATRICIA SHEEHAN GARRETT: Good afternoon. As way of background, my name is Pat Garrett. I'm a livestock and hay producer and truck farmer in Hyampom, which is a small town in western Trinity County. Our ranch straddles the south fork of the Trinity River. Because Hyampom has been studied by DWR and the Bureau as a potential dam site, you can appreciate my involvement in grappling with the issues of water development and protection of the river and environment.

Mr. Chairman, I support the points in your opening statement and I will be addressing those points. I'm making the following statement on behalf of the Trinity County Board of Supervisors, who apologize for not being here. Because of diminishing funds, out-of-county travel is extremely difficult.

Chairman Waters and committee members, the Trinity County Board of Supervisors appreciates the opportunity to speak to the issue of California's water future. Certainly the policies, guidelines and legislation that come from our California Legislature will have a dramatic impact on the use and development of California waters now and in the future. That being the case, we would offer the following suggestions for your consideration.

There must be a more efficient use of existing water supplies, water conservation to be given top priority. Farmers and other water users should be given every encouragement,

perhaps, to include program incentives to reduce water consumption. Flood irrigation must be replaced by drip or sprinkler irrigation systems and water recycling for both urban and agricultural users should become commonplace.

The Board supports the idea of off-site storage facilities that could capture water that is spilled down the Sacramento and other rivers. They also urge the recharging of underground basins during wet years. We believe that the California Legislature should demand changes in federal legislation that would require users of Central Valley Project waters to pay the actual costs of development and delivery of that water meant for ag uses. Existing water prices only encourage wholesale waste of one of our most precious resources. Using the Trinity River as a prime example, cost of mitigation should also be included in water pricing. Every year throughout the state, many acres of prime farm land are being converted to other uses while marginal land far from water sources is being developed for agriculture. The California Legislature has the power and obligation to reverse this trend. If, indeed, marginal lands must be developed, surely in the north state close to water sources is a better choice than those far to the south.

Perhaps the time has come to address the issue of the kinds of crops that are grown in California. If we face a water shortage, then perhaps farmers will have to choose the growing of crops that are far less water consumptive. If California has an obligation to provide for the nutritional needs of the nation and the world, then perhaps emphasis should be put on the growing of crops, such as feed grains and

tomatoes, rather than less nutritious crops.

Our Board of Supervisors has and will continue to oppose any effort by the state to develop the rivers of the north coast for inter-basin transfers of water. We believe that the defeat of Proposition 9 was the consideration of the people of California of the costs and merits of the Peripheral Canal and not a mandate to seize upon the rivers of the north coast. Surely the example of the Trinity River demonstrates what a travesty such a seizure could be.

Thank you, again.

CHAIRMAN WATERS: Thank you.

ASSEMBLYMAN STIRLING: Ms. Garrett, I just want to understand one statement. You said you don't want the rivers developed for inter-basin transfer. We don't want them developed, or we don't want them developed for inter-basin transfer?

MS. GARRETT: It would be development of inter-basin transfer.

ASSEMBLYMAN STIRLING: Or inter-basin transfer. Give us our water and to hell with anybody else. Isn't that the short of it?

MS. GARRETT: Yes.

ASSEMBLYMAN STIRLING: If you happen to live out of the basin, then we don't care. Okay, I just wanted to get that clear. There's no right or wrong here. There's just winners and losers. I just want to make sure that we all understand. This is simply self-interest going on here, and we're attempting to fabricate a compromise, which is fine. I just want to make

sure we are on the same ground rules.

MS. GARRETT: That is the policy as of now.

ASSEMBLYMAN STIRLING: To hell with the guys out of the basin. Got it. Thank you.

ASSEMBLYMAN KELLEY: How much do you pay for water in your farming operation now? How much an acre-foot do you pay for water now?

MS. GARRETT: We don't pay for it.

ASSEMBLYMAN KELLEY: You get it free?

MS. GARRETT: The water in the county comes from...

ASSEMBLYMAN KELLEY: You personally, you personally.

MS. GARRETT: I have a well.

ASSEMBLYMAN KELLEY: So it costs you to pump, then.

MS. GARRETT: That's right. I just pay the electrical costs.

ASSEMBLYMAN KELLEY: How much an acre-foot is that?

MS. GARRETT: In my hay fields, it costs me about \$30 per acre...

ASSEMBLYMAN KELLEY: \$30 per acre per year?

MS. GARRETT: Right. During my growing seasons.

ASSEMBLYMAN KELLEY: That's extremely cheap.

CHAIRMAN WATERS: Well, she's raising hay, too, don't forget.

ASSEMBLYMAN KELLEY: We raise a lot of hay down south, too.

MS. GARRETT: I am converting our operation from a hay operation into intensive truck gardening operation.

CHAIRMAN WATERS: Thank you very much. Our next

witness is Jeff Jones from the Tuolumne River. You don't have that briefcase full of testimony, Jeff?

MR. JEFF JONES: No. This is the first time I've ever talked at a meeting this important. I just really didn't know what to expect in terms of what I should bring or what kind of questions I'd get, so I brought a lot of stuff.

I'm not actually from the Tuolumne River, I'm from Tuolumne County. Sorry, I didn't fill you in on the details before hand. I'm a geographer. I have a degree in environmental geography at Cal State Stanislaus, and I'm presently working as a consultant. I'm in my ninth year in the Sierras and I've been interested in the Tuolumne for about six and one-half years. This is partly a personal project and partly because I've been involved with local politics related to the Tuolumne for quite some time.

I do have some handouts for you folks to look at while I'm talking. About three pages, a map and two typed sheets. It's a map that was drawn up by an engineer in Tuolumne County to delineate the projects that San Francisco, Modesto and Turlock have proposed. Now I understand, we've certainly been hearing a lot of basic general statements about water politics within the state itself. What I'm going to try to do is use the situation of the Tuolumne as a kind of module as a means of understanding, perhaps, other issues that are more broad in scope, but I will be focusing mainly on the Tuolumne and then boring you with some other comments on conservation toward the end.

Basically, on that map, you will want to familiarize

yourself briefly with the legend on the bottom. Notice there is one key for the proposed projects and one for the ones that already exist; and for proposed power houses and for the ones that already exist; and also the same for pipelines. It's important to realize that that river already has substantial development and that the proposition by San Francisco, Modesto and Turlock are not for further water yields. So we are not dealing with any kind of conflicts with agribusiness right here, because all the water from hydro-generation would eventually go back into Don Pedro. I wanted to clarify that.

Basically, what we have is an example where this is another one of many rivers in the Sierras that is not protected and it is unique. I have a statement that was made to the State Water Resources Control Board out of the Wild and Scenic Rivers. It says that based upon near natural conditions throughout its entire link and its steep slopes, vegetative variety and free flowing water, as well as the contrast between north and south basin slopes and between rocks and water, highly esthetic values are ascribed to the Tuolumne. Compared with other rivers, the Tuolumne was found to possess remarkably scenic values. They are talking about, of course, esthetics there. But as a geographer and someone who has spent a lot of time and over 50 miles of the river from the headwaters at Lyle Glacier all the way down to Don Pedro Reservoir and below in LeGrange, I can attest to the fact that those esthetic scenic values are also a function of very excellent wildlife and habitat values and, in fact, that is probably the best remaining example in the State of California of that type of

low elevation habitat. Especially when you talk about Hetch-Hetchy down to Don Pedro, below 2,000 feet or 3,000 feet.

I think another thing that the Tuolumne capsulizes is the basic policy conflict. You have essentially, obviously, three jurisdictions. You have the federal jurisdiction from the national park and especially the National Forest Service; you have the local jurisdiction and the local interests of both the people and the Board of Supervisors; and you also have the state jurisdiction. This is obviously something that exists in a lot of situations, but I think it's really going to come to a head with the Tuolumne in the near future. I think one of the real problems with the degree of development that Modesto, San Francisco and Turlock have proposed is that it completely abrogates the multiple use principle that the national forest has operated under for years. That principle involves recognizing the rights of wildlife, fishery, recreation, and I'll be going into all the different types of recreation that both Tuolumne County's economy and the needs of people throughout the state and nation depend on.

Tuolumne County is one of the 12 or 13 counties in the foothills that certainly needs vacation dollars. In the last year or two the Chamber of Commerce in Tuolumne County has very much recognized the need for tourism, especially because of the lag in housing, logging, high interest rates and other factors. The Chamber of Commerce came out with a vote of its entire membership in January of this year, 56 percent in favor of no further development on the Tuolumne. It was worded, no further development by outside agencies, and

the reason for that was because people are very aware of the fact that the real damage to the river would come from Modesto and San Francisco, from agencies that have megabucks and the capacity to really put massive projects in that river. Those are the projects that would injure the tourist economy, the vacationers that come up for the camping and fishing. Small projects that Tuolumne County could afford, if even possible, would have much less impact.

CHAIRMAN WATERS: Jeff, refresh my memory, was there not a measure on the ballot up there most recently and what was the result of that?

MR. JONES: Okay. That was measure "A" and that was designed to be a policy measure. Obviously, since we don't have jurisdiction, it wasn't going to have any direct long-term impact. It was designed to be a policy measure that would allow the Board of Supervisors to have input on all of the bureaucratic and legislative proceedings which would affect the river in the future. We had an advisory vote in 1978 where two-thirds of the people in the county decided they did not want further development by San Francisco, Modesto and Turlock, and this was designed to put that advisory measure into actual ordinance, policy ordinance. The problem with it was that it was written by -- it was defeated by myself and about eight or 10 other people who were not professionals. We consulted lawyers, but we did a poor job of setting up the guidelines so that it was easily made confusing and, in fact, by the end of the campaign, people thought they were voting against the measure to stop the dams. Other people thought if they voted

"yes" on the measure that, in fact, Tuolumne County would not be able to build further projects. I can show you examples of the measure to clarify that that was not the case at all.

Basically, what happened was we were beat out by a very well done professional flyer in the last four days of the campaign. But it remains very clear from the Chamber of Commerce and the Highway 120 Association, which is essentially the Chamber of Commerce for the Groverland area south of the river, both have come out unanimously in favor of no further development on that river, because they recognize the needs of keeping our vacation economy from collapsing.

In that light, before I go into just explaining some of those projects...

ASSEMBLYMAN STIRLING: Just on that point. It's important because if the economic well-being in these communities is at stake, obviously it's a real balance on it. I'm looking at this map and I'm not familiar with the area, and I apologize for that, but there seem to be lakes or proposed lakes on this map. Is that correct?

MR. JONES: Can I get those sheets back along with the map?

ASSEMBLYMAN STIRLING: You might have it memorized. I'm not going to ask any trick questions. Are there dams and lakes developed on the Tuolumne now? And, does anybody go there?

MR. JONES: Okay. Now, they are not for recreation except for Don Pedro. Notice on the map where you have the reservoirs...

ASSEMBLYMAN STIRLING: Why aren't they for recreation?

MR. JONES: They're for water supply for San Francisco and they're for hydro...

ASSEMBLYMAN STIRLING: Nobody's allowed to go there and recreate?

MR. JONES: Well, at Cherry Lake they are, but Don Pedro is owned by an MID and TID.

ASSEMBLYMAN STIRLING: Why are the rest of the lakes not allowed to have recreational?

MR. JONES: Well, for one thing you've got the geardia problem. Geardia is a livestock... ameba, and that's...

ASSEMBLYMAN STIRLING: Geardy?

MR. JONES: Geardia. It's a parasite that gets into water supplies. Now it's in the San Francisco water supply and it's in Hetch-Hetchy reservoir.

ASSEMBLYMAN STIRLING: And that comes from people boating and fishing?

MR. JONES: No. It comes from a lot of factors. The reason they haven't wanted recreation on that reservoir is because it's a water supply reservoir.

ASSEMBLYMAN STIRLING: Wait a second. You mean to tell me that, whoever it is, the water agencies that develop these reservoirs don't let people in them because of water quality problems?

MR. JONES: Right.

ASSEMBLYMAN STIRLING: Adverse to the people or the water?

MR. JONES: Well, adverse to the water. It's just

that...

ASSEMBLYMAN STIRLING: Adverse to the water. They don't clean it down at the other end I take it.

MR. JONES: They still chlorinate the water. They're supposed to process the water before you deliver it.

ASSEMBLYMAN STIRLING: That's crazy. Okay, I understand your point. I'm glad I asked it.

MR. JONES: It gets ironic here because I'm defending Hetch-Hetchy when, in fact, one of the...

ASSEMBLYMAN STIRLING: I think you ought to cut Hetch-Hetchy off. It'll be a real less...

MR. JONES: That's what I'm here to do.

CHAIRMAN WATERS: Mr. Stirling, for your information there are many reservoirs that don't allow recreation in the state.

ASSEMBLYMAN STIRLING: Well, I understand that. I believe that is a myth because you don't process water. I think it's a myth that you're not allowed to allow people in it because the water, once it's stored, goes to a water filtration in a cleaning plant. You can't rely on it not having any poison on the way.

CHAIRMAN WATERS: Well, there are other things that they are concerned about; drownings and that type of thing, too.

MR. JONES: If I can point out some irony in this factor that brings out the plight of the mountain counties. The Pine Crest Lake, which is the main source of water for Tuolumne County, has substantial boating and wind surfing

and thousands of people swimming in it. It's got a lot of people and it's pretty much polluted water. It has oil in it and not all that stuff gets removed. It ends up going down in an open ditch. I think this is a problem that a lot of mountain counties have. Their water supply, what little they can get, we don't even have good quality; whereas, an urban or an agricultural area can be much more strict because maybe it has a federal mandate. That factor, I think, bugs a lot of people up there. And I think that's one of the reasons that maybe you get the parochial attitudes that you refer to from the...

ASSEMBLYMAN STIRLING: Well, this is worth exploring, Mr. Chairman. I think if those lakes are not considered economic assets to the region for recreation purposes, that is a substantial negative that should be investigated. To my knowledge, and the City of San Diego runs a major water system we're the major supplier in the City of San Diego. There's absolutely no reason why you can't allow recreational facilities in storage reservoirs because you process it before you turn it over to the retailer, so that policy is worth reviewing.

MR. JONES: I agree. Everyone of those projects on that map, the new ones, the ones with the hatch marks across them, are not for recreation. Originally, that Wards Ferry project, the one that's just above Don Pedro, MID and TID tried to put something about recreation in there to FERC, but FERC knew they were joking because that is an extremely steep canyon. It would be much more expensive to make...

CHAIRMAN WATERS: I think that's a good point that some of these reservoirs are just not compatible to recreation; isolated, very steep terrain and canyon, and just not compatible to recreation. And, if indeed you'll suggest doing this, then are you prepared or is the state prepared to police it, to care for it, to make sure it's properly policed so that we don't have problems at these certain areas? I think you're opening up a can of worms quite frankly.

ASSEMBLYMAN STIRLING: Well, the whole water issue is a can of worms, Mr. Chairman. I frankly don't think it follows that if we review the policies on limitation, be they tort liability potential and that sort of thing, that we're opening up any can of worms or creating any kind of state or financial responsibility. Many many reservoirs that are water supply systems are used for recreation. There's no reason why all of them can't be.

CHAIRMAN WATERS: They're just not all compatible is what I'm saying.

MR. JONES: The major factor here to be aware of, when you're looking at that map, is that where all those projects are there already is recreation. There are already several types of recreation and those several types of recreation bring in hundreds of thousands of dollars to Tuolumne County and in other examples to other mountain counties. Since we're talking about recreation, I'll go ahead and skip forward on my outline to that subject.

For example, if you look at the Hardin Flat Project on the south fork, and the Tawonga Camp Project on the middle

fork, and the South Fork Project at the confluence or near the confluence of those two forks, there are seven campgrounds in Tuolumne County which would be impacted by those three dams. Okay, three of those campgrounds are, four of them I should say, are owned by cities or private entities. There's the Berkeley Tuolumne Camp that would be flooded by Hardin Flat; there's the San Jose Camp that would have water diverted out of its area by Tawonga Camp and by another one that's not even on our map at Mather; there's the Tawonga Camp, itself, which is the Jewish Community Camp owned by the San Francisco Jewish Community; and there's also an ACI Campground in Hardin Flat, which is an RV campground.

Now I've been in collaboration with the people at San Jose and Berkeley Camps, especially for the last few years, and I just got word from San Jose from the Mayor's office, the fiscal office yesterday, and they compiled proof that they spent about \$76,000 last year in Tuolumne County alone just on supplies. If they spent a round figure of \$125,000 on staff employment, hiring people from Tuolumne County to run their staff, I know several personal friends that work at those places and that \$125,000 includes money that tends to be spent by people when they're in the county. So that one camp, which has 5,000 visitors each year, provides \$200,000 to the county. Berkeley Camp has more people and provides probably more; and, Tawonga Camp and ACI Camp. Now that's four of them at the confluence of the south fork in the Tuolumne. There's four service campgrounds, but yet an average of about 13,000 to 14,000 people a year. Those people drive up and there's all

the factors of grocery shopping and gas and all that.

ASSEMBLYMAN STIRLING: Fundamental fact is, if a lake was there instead of a stream, you'd have more recreation opportunity, more campground, more boating, more fishing.

MR. JONES: Not a fundamental fact at all, no. If you look at what's happened with New Melones and how New Melones campground facilities have been backed up about six years now, and that the Sheriff of Tuolumne County has come out and pretty much said that he doesn't really want the whole thing to be developed because he doesn't know how Tuolumne County is gonna police that many more people in a focused area, and they're not getting any money from the federal government or the state.

ASSEMBLYMAN STIRLING: What you are giving us is inconsistent logic. On one hand you're saying the chambers there voted to oppose development because your experience has been the majority of the development is barren, it's not recreationally oriented; and now your saying, if the lake can develop more recreation capacity, that you're not sure you want it.

MR. JONES: I didn't make myself clear then. No, what I said was that the chamber voted against the development of the Tuolumne because they're aware of how beneficial the multiple uses are to the tourist economy. The present multiple use is...

ASSEMBLYMAN STIRLING: But a lake, it's not inconsistent with that objective as long as it's allowed to be used for recreational purposes.

MR. JONES: As long as it is, and in this case it would not be. None of those reservoirs could be used for recreation. That's a simple fact. They're all peaking power reservoirs. Everyone of them would be fluctuating many feet in a day because they would be flooding thousands of cubic feet per second during peaking hours for three and a half hours, and then they stop, fill up what they could the next day and do it again. You're not dealing with a situation where you could create recreation. That's just the way it is. To go on in terms of...

CHAIRMAN WATERS: We just have to move along, Jeff.

MR. JONES: I'm sorry. We're getting kind of slowed down. Obviously, you have in the Spinning Wheel Range, which is near the area of Hardin Flat and Tawonga Camp Project, and up by the Jawbone Reservoir, two of the major herds in that part of the Sierra, and they both provide a lot of resources for hunters coming up from the Bay Area and in the valley for six weeks in the Fall. And in areas like Groveland and up the hill where I used to live near Long Barn, Pine Crest and Muache, that is the bread and butter. That money those hunters bring up is what keeps those areas going until the Christmas season, until the ski season, and that's just part of the mountain economies. Obviously, there is rafting since the Stanislaus is now flooded. The forest service just doubled the amount of permits on the Tuolumne so the Tuolumne is bringing in now twice as much money, both to rafters in general and to the county, and a lot of the rafting companies do a great deal of their buying through the local supermarkets and whatnot.

Using this module, I'm going to focus in on what some of the inequities that Hetch-Hetchy has perpetrated on the county over the last seven years since the Raker Act was passed in 1913. This was the act that allowed San Francisco to go up in the national park, in the national forest, and create its water and electrical supply system.

First of all, in 1939 there was a decision in the state courts called the El Soyo decision that established that San Francisco is not to take more than 700 CFS of water out of the river. In other words, in its Hetch-Hetchy tunnel. Now they pretty much ignore that and in 1967, when they were finally allowed to build a new canyon power tunnel, that's on your map, that's on the north side of the river going down from Hetch-Hetchy. They built that tunnel. They did two things. Number one, they broke their agreement with the federal government, which was to build the tunnel at 700 to 800 CFS, because the federal government knew about the state water rights. They built it at 1100 CFS. Number one, they were never reprimanded. Number two, they have consistently taken, at certain times of the year, more than 700 and up to 950 CFS out, and what that has done is it is pretty much dried up and killed the area below Hetch-Hetchy down to early intake what used to be a fantastic hunting and fishing area. Now what's happened out of that is that in 1961 they made an agreement with Stewart Udall, the Secretary of Interior, to release a minimum flow and to conform to whatever was determined by the U.S. Fish and Wildlife Service on the determination of how much the fishery and wildlife need it, you know, in terms of flows released

down the river. Well, that study's been out for seven years now and it's still in litigation. It's still in administrative hearings and they still will not do what they agreed to do 20 years ago. The problem with that is that that's another area that use to bring a lot of people into the county and it is now relatively barren. It's still a wild area but relative to what it use to produce in terms of wildlife and fishery, it's relatively barren. I've conducted personal interviews with old-timers that have been going into that canyon for 50 years to help corroborate that fact for the State Water Resource Control Board.

Also, fishery releases from Cherry and Eleanor have averaged 20 percent less than was legally stipulated and they've actually cut off the flow several times. They were supposed to build a series of roads to give better access to recreation in certain parts of the Hetch-Hetchy system and they never did that.

In terms of their hiring policies back in the teens and twenties and thirties, when they were building three major reservoirs, they have had a lot of problems with Tuolumne County in terms of insuring that local residents would be hired on and so what you ended up with was a consistent boom and bust economy, and a lot of the old-timers in business now remember that and that's one of the reasons they don't want the development. They don't want to see situations where everybody else from other parts of the state comes up. If they have the proper skills, they get hired and the area bloats and then when the project is over everything falls in and you're left with few

jobs and high population. That's once again an economic problem that can come about to a mountain area.

The last thing I'll mention is that the Hetch-Hetchy sponsored state legislation to avoid property taxes back in the late fifties, and they were able to get it through so they don't have to pay property taxes. Instead, they pay on the value of their water rights with one exception. Basically, they're not providing any real revenues to Tuolumne County. They don't really have any intentions of doing that in the future.

In the late 70's, the City and County of San Francisco was sued by United Airlines, and the Department of the Army, and the Secretary of the Interior because they were trying to raise their rates, charge more for their electricity. Originally, they're not suppose to be making a profit on their sale of electricity. They decided to go ahead and do it. They were sued and through a series of complicated maneuverings they ended up winning the suit. That is the reason for most of the projects that you're looking at. They do not need the power. They already have their water supply in tact and, in fact, they can yield now a whole lot more than they are even going to need in the year 2000 with their present pipe system.

I'll read a quote by Diane Feinstein. It was in U.S.A. Today magazine last November. San Francisco is one of the only cities in the U.S., for example, to own its own power supply. The Hetch-Hetchy system and recent court actions will soon permit the city to sell its excess power at current market rates. This is a strong economic incentive to save energy,

and is estimated to bring in an additional eight million dollars a year to the City's general fund monies. Okay, that means that if they use what they have, consciously with conservation, they can add eight million dollars a year to their city coffers. They're not satisfied with that. They want an additional fifty million a year from these six projects. That's something that is a real thorn in the side of Tuolumne County people. We have over 15 major reservoirs in the county right now.

To go on, I might remind you that the state, the secretary for resources, in 1979 issues a statement that the state actively support alternative A in the Wild and Scenic River study by the Forest Service, which would place all eligible segments of the Tuolumne river from its headwaters to Don Pedro reservoir in the National Wild and Scenic River system. We commend the U.S. Forest Service for taking such a positive step in recognizing the values of the Tuolumne and recommended that they be protected to the maximum extent.

I want to comment briefly on the situation with Modesto and Turlock. They have proposed, mainly, the three dams that were kind of on the north part of your map. One of them is at the confluence of the Cherry and the main stem, and the other one is that on the Claney. The first one's called the Jawbone, the second one's called the Claney, and the third one's called Wards Ferry. Now those three were proposed in 1976, and they were the reason that Congress decided to study the Tuolumne. They realized that if those projects were built, the Tuolumne would no longer be a river because 10 miles of it

would be inundated and 18 miles of it would be dried up. Congress decided that it was an important natural resource and should be studied.

Basically, what happened was there was a moratorium that was put on for three years in 1979 and that moratorium will expire in 1982, in October, which is one reason that I'm here now. To try to encourage this committee to do something along the lines of a resolution, some type of ratification of the DWR and Resource Agency stand on the Tuolumne to recognize that it is unique and that it needs to be protected.

Turlock and Modesto are unique in that because they've been getting Hetch-Hetchy power since 1922 at one-sixth of what is the state average. It had consistently some of the lowest rates in the nation, retail, to their customers. Consequently, over the decades they've not been very conscientious about conservation. The average household, for example, in Modesto consumes 35 percent more power than that of an average household in Davis. The average household in Turlock consumes 60 percent more power than the average household in Davis. This is for simple basic economic facts. They've not had to be conscientious. We feel that to put six more projects on the Tuolumne to provide strictly profits for San Francisco, and strictly peaking power for air conditioners for Turlock and Modesto, is not a justification for extreme disruption of a really unique resource and a very important part of Tuolumne County's economy.

Now I have several other things to say, but I think that I've had enough time.

CHAIRMAN WATERS: Thank you, Jeff.

MR. JONES: Thank you.

CHAIRMAN WATERS: Questions from the committee? Our next witness will be William Du Bois. He's the Director of Natural Resources, California Farm Bureau Federation. Mr. Du Bois.

MR. WILLIAM DU BOIS: Thank you Mr. Chairman. My name is William Du Bois. The Farm Bureau is a nongovernmental dues supported organization with a membership of 97,000 members. We appreciate the opportunity to present the views of our organization regarding the policies that should guide California's water future as your announcement indicated.

The Committee's July 1st news release assumed four basic policies, and I'd like to comment first on those policies. The first two are certainly not controversial, but the third statement, we feel, gives us problems. We look at water development as being the highest order of conservation. The storage of water, at the highest elevation practical, conserves not only water but also energy. Free flowing water can be a waste of energy. Economics should govern the extent and progress of reclamation without subsidies which serve to mask the cost. The fourth policy, we feel that new policies on conservation are not really essential and that economics is society's best friend, if we allow it to work.

Now we'd like to present some of our own policies for your consideration. We believe in the enviability of water rights. One's rights should be divested only by private treaty in the absence of duress or condemnation under a most limited set of circumstances for public necessity, and that public

necessity should not include instream uses. Areas of origin must have priority for the water needed for future development. It is not necessary for this state to damage one area in order to benefit another. It is obvious that it's not possible to serve an ever increasing population and economy with adequate water while at the same time maintaining and enhancing optimum natural habitat conditions for wildlife. We believe reasonable efforts are warranted to maintain wildlife, but that the basic needs of people are the highest priority for the use of water.

We believe the water resources of the north coastal stream should be developed as the economy dictates and as the impending need for water is in excess of that which can be furnished by the Sacramento watershed without damage to the future of the watershed.

We support immediate and full utilization of the New Melones reservoir and we thank the Chairman and Vice Chairman and Members of this Committee for their constant vigil on that behalf.

We oppose groundwater management which would be exercised by nonresidents or nonproperty owners in any basin.

We oppose the extention of wild and scenic designation to any river segment that's capable of economic development.

We oppose the extraction of groundwater for export, if such extraction is adverse to the interest of overlying landowners.

We support the reclamation and reuse of municipal and industrial wastewater provided the supplier is responsible

and bears sole liability for maintaining quality, and the Health Department certifies the treated water to be sale in all respects for the use intended.

We recognize a conflict on the issue of water pricing. The present system of utility type pricing, which averages high and low water cost, puts a burden on the early users for the benefit of those who develop later needs. Our policy, of course, is subject to further development.

The practice of blending cost on earlier water projects with cost for later projects is under a lot of criticism. In the case of the State Water Project, it seems that cost should be blended until the project reaches its contracted designed capability of four and a quarter million acre-feet. As to the CVP, there are other considerations involved such as the equity of bringing a new area under irrigation when the advantages surely must come to that area's landowners largely at the expense of both higher water cost and increased market competition to those who are already served by projects built at pre-inflation cost.

We place a high priority on the value of storage facilities south of the Delta, both surface and subsurface. Since the advent of the federal and state projects, the regimen of the Sacramento River downstream from Shasta has changed to the detriment of riparian landowners. It appears to us, the summer flows should be kept as low as practicable on the Sacramento River by pumping the exports during high flow periods. This would result in flows that would more closely resemble nature than would result if more water is stored north

of the Delta and released during the high demand period in the summer. We therefore are enthusiastic supporters of locations such as Los Vaqueros and Los Banos Grande. Among our membership there's little support for offstream storage projects north of the Delta.

Our position on a Delta transfer facility is that the Delta system must be improved, whereas some of our membership believe a properly operated Peripheral Canal would be the best engineering solution. Most of our membership in the Delta and Bay areas are very opposed to such a canal. We can come much closer to unanimity as an organization to support, I guess we have to call it now the Orlob-Zuchalini Waterway Improvement Plan, or shipping locks at Carquinez Straits, than we can a Peripheral Canal. Nearly all of our membership is convinced improvements must be made in the Delta, and that such improvements should be those which are acceptable to the people in the Delta.

My own assessment is that our organization came out of the last June primary election process on Proposition 9 with a diminished faith that the Peripheral Canal is an essential means of Delta water transportation, but with renewed conviction that water development must continue. I sense a reduction in the intensity of our enthusiasm for the enlargement of Shasta Dam unless means are included which would route part of the increases in summer flow southward via facilities other than the Sacramento River itself. For the present, however, we are in full support for the studies on raising Shasta.

There is no status quo for the future of agricultural

irrigation. As cities take over farmland, they get the water to match. If agricultural acreage is to remain constant, either new water must be developed or a commensurate reduction must be made in current water demands. If those farms which don't become urbanized remain the sole source of food and fiber, their products will become more costly and consequently their land more valuable. It could actually be in the interest of most irrigators to refuse to support new water development, leaving it up to consumers to support new water development for their own interest.

We hear loud and frequent complaints that prime land must be protected for agricultural purposes. When cities expand in an orderly fashion into adjacent farmland, the lowest cost water in the community is what is usually lost. To replace that irrigation capability requires high marginal cost water to be developed for the replacement land. The land is fairly easy to find, but it's expensive to supply with irrigation water.

One thing we must all keep in mind is that they are after us. That is best illustrated by reading the new book *Competition for California Water*, and an examination of the bibliography base for those papers. As they would have it, Californians will continue to share a developed scarcity, not ever develop a safe margin of water supply by which to insure protection of California agriculture and the states related job economy. There is no recognition in the book of the effect of all this on food prices or the catastrophic result of a really prolonged drought on a society which has no reserved water

developed supply.

In an article published on June 17th in the Oakland Tribune and other newspapers, the environmentalists complain that the present system pumps water out of the Delta in the summer when stream flows, including the Sacramento, are at their lowest flow. The Sacramento River landowners have been trying for years to focus attention on arbitrarily high flows down the Sacramento during times of the year that the river would have naturally been at its lowest flow level. This increases seepage damage to orchards and increases erosion of river banks. Riprapping can reduce the erosion, but it doesn't do much for the seepage problem. The Environmental Defense Fund says the water should be pumped from the Delta during the winter and spring rain and snow seasons. And the same witness that was here this morning on the issue was the person who is quoted there.

The Farm Bureau has long held the belief that the time to export water is when it is naturally plentiful. We have felt storage south of the Delta filled during Spring flows should be a priority. If we all recognize the problem of high summer flows, and can all agree to try to solve this problem, it will surely help increase the sympathy of Northern California people for water development and get us off dead center. Surely, if we can accommodate certain principles and objectives, we stand a much better chance of success. Thank you.

ASSEMBLYMAN KELLEY: Would you read your position on groundwater again, please.

MR. DU BOIS: Groundwater. Are you speaking of export?

ASSEMBLYMAN KELLEY: Would you read that again.

MR. DU BOIS: I'll have to find it, but our position is that we don't think that the groundwater ought to be exported from an area, if the exportation is adverse to the interests of the overlaying landowners that own that groundwater.

ASSEMBLYMAN KELLEY: You had something else. You said that you didn't want it run by any bureaucratic...

MR. DU BOIS: Does that offend you?

ASSEMBLYMAN KELLEY: No (laughter), not hardly.

MR. DU BOIS: Let's see if I can find it here. It might take me longer to find it than it did to read the statement. We oppose groundwater management which would be exercised by nonresidents or nonproperty owners in any basin.

ASSEMBLYMAN KELLEY: Nonresidents or nonproperty owners?

MR. DU BOIS: This means local control for groundwater management.

ASSEMBLYMAN KELLEY: Okay, that's what I'm getting at. Nonresident, nonproperty owners. You could still have that situation exist and have groundwater management in an area.

MR. DU BOIS: Well, certainly. Groundwater management is an essential thing for an overdrafted area. There's no question about it. But it isn't essential for it to be run from Sacramento.

ASSEMBLYMAN KELLEY: No. I understand. Okay.

ASSEMBLYMAN STIRLING: Mr. Du Bois, I think it was Mr. Hildebrand who testified that the water quality in the south Delta was being diminished because of the Tracy pumps

pulling in the salt water and the...

MR. DU BOIS: The combination of the Tracy pumps and the Bryant Project.

ASSEMBLYMAN STIRLING: He wasn't as articulate as I would have liked. Why is it that there are not adequate discharges to make sure that the water quality stays up there during pumping?

MR. DU BOIS: You've asked a question that's beyond me. You've got a whole room full of attorneys behind me and I sure would rather have you ask them that question.

ASSEMBLYMAN STIRLING: It sounds like a political matter. And you're much sharper than any attorney I know. I thought you had a nice subjective...(laughter)

I'm frankly astonished because that was in our hearts, a commitment that we would not diminish the quality of the water. I guess that was easy to keep since it was already degraded. The canal actually aided in upgrading because we could inject the higher quality water at the point of need, rather than having to overpump the northern part of the Delta so that some of it would get down. I'm astonished that all this mechanism of state benign bureaucracy that's in place, with backing of the law and the Constitution, has been allowed to lie foul and not guarantee those folks quality water that they have a right to.

MR. DU BOIS: Well, there isn't any question in my mind that there's been damage done in the south Delta Water Agency area. You don't have that many people complaining and that repeated testimony over a period of years unless there has

been damage and unless it was unjust.

ASSEMBLYMAN STIRLING: What I'm trying to figure out is why there's not an adequate fresh discharge upstream to overcome that at the south end of the Delta.

MR. DU BOIS: I'm not sure that I understand what you mean, Mr. Stirling.

ASSEMBLYMAN STIRLING: Somebody is supposed to test it down here to make sure it's good enough and if it ain't good enough, they are supposed to release some more sweetwater there from the north part to get the quality.

MR. DU BOIS: You know, there was a lawsuit instituted not too long ago over the fact that the Department of Water Resources did release water at a time when the water quality in the Delta had deteriorated, because some of the contractors for that water claimed that they had paid for it and they intended to get the water. So I think there is a legal conflict there which I'm certainly not competent to settle.

ASSEMBLYMAN STIRLING: Okay, thank you. I applaud your statements, by the way.

CHAIRMAN WATERS: To maintain that water quality takes an awful lot of water and I think that's part of the problem. There's just not enough water on the upper end.

ASSEMBLYMAN STIRLING: There's plenty of water. It's just not in the right place.

MR. DU BOIS: I will say there may be plenty of water, but there isn't the facility that you need in order to maintain the control of it as it goes through the Delta, certainly.

CHAIRMAN WATERS: Let's get under way here. I'd like to call on Cliff Koster. He's from the San Joaquin Farm Bureau and also a farmer in San Joaquin County. Mr. Koster.

MR. CLIFFORD KOSTER: Yes. My name is Clifford Koster. I'm a farmer in the southern part of San Joaquin County. I'm a full-time small farmer and, as the chairman indicated, I would like to speak first, as representing the San Joaquin Farm Bureau Federation and, secondly, just as a lone farmer with a few ideas. And I'll tell you when the line of demarcation occurs.

First, I'd like to thank the chairman for honoring our request back in early June to initiate hearings on where do we go from here and, specifically, hearings on the through concept of transferring water from the Sacramento River over to the pumps and we appreciate the response, Mr. Waters.

From the Farm Bureau Federation, we ratify the things that Bill Du Bois previously mentioned. No use in mentioning twice, our San Joaquin Farm Bureau consists of about 6,300 member families. We are a part of the approximately 97,000 member family of the California Farm Bureau Federation. We help formulate California Farm Bureau Federation policy, as you know, then we endorse it. On projects that we stand for, we stand for full support of the Bureau of Reclamation's Auburn Dam, Folsom South Canal efforts in this area. We are actively involved in trying to create interest in these San Joaquin County farmers towards backing up the Bureau of Reclamation's request for partnership and upfront money and so forth, and their new attitude toward building reclamation projects.

The second thing is that we are wholeheartedly, in our area, supportive of these reservoirs offstream south of the Delta. We have been told that just on an energy up and down efficiency basis that you can use a figure, and this figure came from the Department of Water Resources. It was 72 percent recovery of the energy by regenerating the power as the water comes back down, like they do in San Luis or like the Helms peaking and off-peaking project is supposed to do. But they say 72 percent recovery and the only other thing that they discourage in reservoirs south of the Delta is that, generally, while they are fairly shallow in regard to the amount of water that they hold in a shallow reservoir, have considerably more surface evaporation and, therefore, you have much more water loss. Otherwise, we wholeheartedly endorse that concept.

We wholeheartedly endorse the concept of transferring water through the Delta through an open channel concept or to the pumps. Sacramento River water to supply that, exports pumps for the needed water that they need to move the surplus waters of Northern California south to the areas of need. We have been disparaged by people in other parts of the state for our selfish attitude. We try to do whatever we can and this is, take it as you wish, to indicate good faith and willingness to export our surplus water and to facilitate the hearings and to facilitate the discussion on that and I hope, Mr. Chairman, that you will keep this thing going and particularly on the format that you sent out to us which is, first off, let's determine what our foundations are, our lines of demarcation, what are we going to judge, our guidelines. Whatever you want

your policy, I like that deal. Find out what you are going to judge these things on before we hear those other points of interest.

Now I'd like to cease being a representative of the San Joaquin Farm Bureau and just look at me as a farmer with no constituency. And these are a few remarks. And I should say this, policies that should guide California's water future, that's the title. In the Assembly Water, Parks and Wildlife Committee news release of July 1, 1982, the framework for water policies, as delineated, we assume what you say there. You ask for those assumptions. I do that. We will expand and extend these policies guiding California's water future.

Number one: The basic laws protecting areas of origin should be constitutional guarantees.

Number two: Surplus waters of an area of origin are those waters which have no conceivable beneficial use to the area of origin now or any time in the future.

Number three: Interim waters are those waters of an area of origin that are not now beneficially used, but do have a use in the future expansion of water usage in the particular area.

Number four: Surplus waters can be permanently acquired for a beneficial use by an area outside the origin of the surplus waters.

Number five: Interim waters can only be used on a granted year-by-year concession by the area of origin, and no permanent structure built specifically for using interim water shall be lawful except by the area of origin.

Number six: Interim water shall remain a taxable asset to the land of the area of origin, as long as the area has the power to recall its interim water for its own beneficial use.

Number seven: Surplus water brought into another area shall be used first to substitute for groundwater pumping, if the area is a critically overdrafted underground water table area, before that imported surplus water is used for development of new lands.

Number eight: The surplus water contracts shall include provisions for dealing with and disposing of the result of increased drainage problems.

Number nine: The water rights in areas of origin may not be sold outside the basis of origination.

Number Ten: The definition and practical use of the word "reasonable" in water law shall not put agriculture or the areas of water origin at a disadvantage when competing for water with urban interests or in other words, municipal and industrial water users.

Number Eleven: The word "reasonable use" in the State Constitution must not be construed or exercised in water law to jeopardize the beneficial needs of the area of origin.

And I quit on that point because I figured it would take me a year to come across with points to address everything that's been done before and you people are doing it again. These points here, some of them are controversial points. It's going to get people thinking, and not all people will accept them and this is going to create a foundation in this area, too.

You are going to review it, you are going to discuss it and so forth. There are many more guidelines and policies that will be stated by others here.

I will submit to you for guidance, a copy of the California Farm Bureau's 1982 policy book. This has all our current policies and I urge you to individually become familiar with these precepts in this booklet, as they are the result of years of grassroots farm debate. These policies are reviewed and updated yearly by the farmers and water users. And incidentally, Bill Du Bois, if you are short of them, has them.

Thank you, Mr. Chairman. Any questions?

CHAIRMAN WATERS: I guess not, Mr. Koster, and thank you very much for your excellent testimony. I'd like to call on Dick Roos-Collins from Friends of the River. He didn't show up? Mr. Collins? Okay, we'll move on to Bob Rabb from the Planning and Conservation League. My committee's deserting me. You may proceed sir.

MR. BOB RABB: Thank you, Mr. Waters. My name is Bob Rabb. I represent the Planning and Conservation League of California. I'm a Marin County resident and I've been involved in this water issue as a private citizen for the past five years.

My perception, and I think it's a perception shared by many of those with a conservationists point of view, is that we opposed SB 200 to a great extent because it was viewed as special interest legislation. Too little water for urban use and too much water for Kern County's big "Eight." Some of the remedies that occurred to me, to bring a water policy

and future water use more into an area of equanimity amongst all the citizens of the state. But things like those that I believe, if I heard you correctly at the start, Mr. Waters. Did I hear you say that you felt that we should be looking more at conservation and alternatives to big water projects before we consider big water projects again. Did I hear you accurately?

CHAIRMAN WATERS: I said that we should certainly be looking at conservation. I'm not sure that I referred to big water projects, no. But I did say conservation and desalinization and other areas that we should be certainly looking at, yes.

MR. RABB: One of the pragmatic problems of big water projects is they are simply very expensive. And I think Alan Post in his report brought out what the true costs really are for the SB 200 proposals. And I think this applies to energy, too. Mr. Post also brought that out in his report that all other things aside, it isn't likely that users in the agricultural sector are going to be able to afford a project of SB 200 magnitude simply because of the energy costs, say in the bench mark year 2000. They will be much greater than the state would have us believe in these bulletins.

To me one of the most viable alternatives that we have right now are the proposals made by Mr. Bates and Mr. Katz in their bills, which would in effect create a water market where we would have an opportunity, especially in agriculture, to sell or resell especially surface water to users, perhaps urban users. There is a potential in agriculture to solve our water problems without any more development of water, and I

think, as Zach Willey was saying, to carry us on through the foreseeable future, the next 20 years or so.

Tomorrow in Washington, in the Department of the Interior, there is going to be a talk about the feasibility of the State of California purchasing the Central Valley Project. This should be infused into the thinking of the Legislature and the next administration to a more serious extent than it has been, because one of the other major flaws in SB 200 was that it was a state-only project. It seemed very hard to believe that the state could go its own way in managing water and protecting the Delta without obligations on the part of the Central Valley Project. There are other aspects, too, of obtaining Central Valley Project water that, for example, would allow for resale of water by the state and by water districts and by individuals who are not buying and using federal water.

Other flaws that led to the defeat of SB 200 were lack of any kind of comprehensive protection for San Francisco Bay. The needs of the Bay aren't understood yet. They won't be understood for several years, and it would be premature to come up with any legislation in the interim that does not fully understand what the consequences are of exporting any more water from the Delta or, in fact, even continuing with the present levels of export.

I'll sum this up quickly with a comment or two about the process of arriving at law in Sacramento based on about 11 years I have had as a citizen coming up here and attending many hearings such as this and testifying at a few. I see a need for a better decision-making instrument for dealing with

water issues in California than we now have. I think we need something like a water commission that is comparable to a California Public Commission. A body that might be appointed with a formula similar to how the Coastal Commission is appointed now, or perhaps elected, but I would rather not see that. I would rather see a strong independent commission dealing with water issues that might have appointees from the Senate and the Assembly and from the administration. This was done through Proposition 20 and I think it's feasible that something like this could be done again, whether in the Legislature or some other means.

I know from firsthand experience that there is some validity to this proposal because I found the Department of Water Resources was deceptive, there's no other words for it but deceptive, in the way they dealt with the true cost of energy. I found from the statements and reports that they made that they were not analyzing and giving forth information in a way that was comprehensible either to the Legislature or to the public. And it was only by virtue of my employment with the utility that I was able to grasp some of the subtleties that were inherent in the complicated reports, the indigestible reports. Purposely indigestible reports that were put out by the Department of Water Resources in their water projections for the future, which never gave a clear understanding, number one, of what water would really cost and, number two, they grossly then and now underestimated what the real cost of pumping water is in the State Water Project in the year 2000.

There is one final suggestion that I have based on

my observations as a citizen in the legislative process and action, and this is not intended to be facetious. I think one of the biggest problems in Sacramento is that legislators are underpaid. I think if each one of you gentlemen made \$100,000 a year, and you had campaign funding that came in a process similar to the way the federal funding is done for campaigns, I think some of the real problems, I'm trying to say this delicately, that we as citizens have had dealing with these issues would be alleviated if legislators didn't have to be running for office every day of the year, and if they weren't so exposed to the veritable plethora of lobbyists that I see in the corridors every day here.

Thank you very much.

CHAIRMAN WATERS: Thank you very much for your testimony. Do staff members have any questions?

I would like to call on David Davenport of the University of California, Davis. He's with the Department of Land, Air and Water Resources.

MR. DAVID DAVENPORT: Thank you, Mr. Chairman. This statement was prepared by Professor Hagan and myself. Professor Hagan is unable to be here today so I will present this.

After the defeat of Proposition 9, several important newspapers had editorials indicating that there is going to be further emphasis, in fact greater emphasis, on water conservation and, particularly, conservation in agriculture since agriculture uses 85 percent of California's supply of water demand. So this statement is prepared to remind the committee members that policies regarding water conservation should be based first

on a clear understanding of what the ultimate destinations of water are; second, a distinction between water that is recoverable for reuse and water that is irrecoverably lost; and third, an understanding of what are the benefits and costs and who benefits from and who bears the costs of specific water conservation actions.

To illustrate, I'll talk now about water losses in irrigated agriculture. First of all, you could have surface runoff off the end of a field. Another loss from an irrigated field would be deep percolation below the root zone. Now both of these losses, and I put losses in inverted commas, are recoverable for reuse. Third, there could be flows to very saline sinks and, fourth, certainly one of the biggest losses is the evapotranspiration of water up into the air. Both flow to very saline sinks and evapotranspiration into the atmosphere can be considered as being irrecoverable losses and, therefore, they are true water losses.

Now you could save water on the farm and, I emphasize, this is a nonfarm saving, by reducing the first two losses. That's surface runoff off the field and deep percolation below the root zone. However, this occurs at the expense of some energy to recover that water and certainly a certain amount of degradation of water quality. Water is saved for the hydrologic basin and, therefore, also you may consider it saving for the state as a whole, only by reducing the third and fourth losses; namely, flows to very highly saline sinks and evapotranspiration to the air. Now some of these concepts may be very simple and straight forward, but I think that we needed

to be reminded of this once in a while. Therefore, a farmer who irrigates very efficiently thereby reduces field runoff and a deep percolation, while still meeting the crops' basic consumptive requirements, which is essentially evapotranspiration, benefits by reducing farm water demand and he also has an associated benefit of reducing any energy that he has expended in getting that water to his field.

Other associated benefits include less energy spent to recover runoff and deep percolation waters and less opportunity for water to quality degradation. A likely disbenefit would be less groundwater recharge. However, water is saved only for that farm and there is no net saving for the basin or the state as a whole. And here I've been talking about the recoverable losses from an irrigated field.

If we talk about reducing irrecoverable flows to highly saline sinks, and an excellent example would be flows in the Imperial Valley and the Coachella area to the Salton Sea. This will reduce farm water demand and also save water for, in this illustration, the Colorado Desert Hydrologic Basin, while preventing rapid rise in the levels of the Salton Sea. Reducing irrecoverable flows to the Pacific Ocean, which is our biggest saline sink, for instance, by diverting more of the Delta flows to inland areas will save water otherwise lost to the ocean. This will be a saving to the state, but it will conflict with instream and environmental interests. This conflict would be less if such diversions were increased during periods of flood flow, and I think Bill Du Bois and others have made this point and I think it's an important one.

Reducing irrecoverable evaporation and transpiration losses to the air will reduce net irrigation requirements and thus save water on farms which is leaving the terrestrial area of the state and the basin. However, reducing T Which transpiration, which is the larger component of agricultural ET, will increase the risk of reducing crop production and as such is not a viable alternative. It should also be recognized that most of the water loss annually from the state is by evapotranspiration from nonagricultural vegetation in the watershed areas of the state, and this amounts to about 130 million acre-feet annually. While significant ET reductions on the watershed would increase watershed water yields, such actions are impractical and could have serious environmental impacts.

So in essence, Mr. Chairman, regarding recoverable water loss, reducing recoverable water losses provides only local water savings and does not reduce the state's net water deficit. Reducing irrevocable water losses provides both local and basin-wide water savings thereby reducing state water deficits, but also risking adverse impacts on crop production and on environmental interests.

In addition to the handouts I have, I would like to leave with the Chairman of the Committee an article which we prepared for California Agriculture, which describes agricultural water conservation in simplified perspective, and this I will elaborate on in some of my comments, and one other publication which further elicitates these concepts on agricultural water conservation. Thank you.

CHAIRMAN WATERS: Fine, thank you very much. At this

time, I would like to call on Harry Dunlop, El Dorado County. Harry, good to have you with us. I apologize for the short committee, but I'll make good notes and make sure that members of my committee are aware of your presentation today.

MR. HARRY DUNLOP: Mr. Chairman and members of the Committee, my name is Harry Dunlop and I'm presenting this statement on behalf of El Dorado County. The Board of Supervisors of El Dorado County appreciates the concern of this Committee over California's water future. The Board of Supervisors proposes to present additional and more detailed comments to the Committee prior to your suggested August 16th date.

CHAIRMAN WATERS: I'm sure I'll be hearing from them, Harry.

MR. DUNLOP: Now water is the very lifeline of California, and it has been suggested that in the future we may well deem water to be of more value than the land itself. In your news release of July 1st, you set forth four very valid assumptions. We should like to comment generally on these frame assumptions and suggest some policy issues that we see.

It's not enough to assert that areas of supply have the right to their needed water supplies. Without the necessary economic and financial resources to claim this right, the areas of supply may well discover themselves in a position of claiming a right which cannot be exercised. Perhaps some avenue can be found by which areas of need may work in partnership with areas of supply so that both areas may obtain water necessary for their development.

We fully endorse the concept that water conservation,

water reclamation, and water development be given equal consideration. We seem unable in this state to pursue a middle or balanced course on these opportunities. We select one almost to the exclusion of others. We very sorely need to implement each of these opportunities. We also agree that programs should apply across the board and not be implemented as penalties imposed against certain areas.

An economic activity in an area depends in large measure on the availability of a water supply to support and make possible that activity. What is the state's policy on the availability of water to areas of shortage? Is it the intent of the Legislature that the availability of water not be a constraint on economic activity in any area of the state? If certain areas are to remain short of water, what mechanism is there for a determination of which areas shall be short? Conversely, if no area is to be short, what responsibility is the state to assume, if any, to make water available to all areas of the state? Given the situation of an inadequate supply for the entire state, do we all share in the ensuing shortage? Do areas of supply take precedence over areas of shortage, or do we all go out and in some fashion develop additional water supplies to meet our needs, or who makes the determinations?

Granting that these are difficult and complex issues and further that our perspective is somewhat biased as an area of water supply, we submit that state policy in some fashion needs to be molded to permit El Dorado County to reach its potential without being constrained by a lack of water. To this end, we are prepared to participate on a partnership basis

with areas of water shortage to meet the needs of both of our areas.

Now may I touch briefly on at least three other items which arise from El Dorado's recent and continuing experience in our own local water supply project, the SOFAR project. Applications for water rights are presently being heard before the State Water Resources Control Board. The United States Bureau of Reclamation is a protestant at these hearings, challenging the very validity of the county of origin principals. Without adequate protection with county of origin filings, areas of supply in Northern California have little, if anything, on which to rely for a water supply. While we recognize this issue as a state versus federal waters issue, we cannot afford to be the project on which this principle is tested. The state and federal governments need to resolve this matter, but we need to get on with the development of our own water project and not get caught in the crossfire.

Secondly, El Dorado County appreciates the need for greater coordination and cooperation within the water supply areas so that agreement can be reached with areas of shortage of water development projects. The State Department of Water Resources has been legislated into a position that in any other level of government would be deemed a conflict of interest. We have made the department both the supplier of water to areas of shortage and planners of supplies for areas of surplus. Some other arrangement must be worked out. One suggestion on which we propose to expand in presentation to you in August is greater cooperation and the establishment of a working relationship

between the areas of supply.

Thirdly, El Dorado County is keenly aware of environmental issues and how they intertwine with a proposed water supply project. We are most conscious of the environment with which we've been blessed. Lake Tahoe, as you know, the gem of the Sierras, is partly in our county. There are other equally thrilling sights in the county. The county fully endorses balanced development that enhances the environment and mitigates environmental impacts, while providing for water needs of the people of the county. Thank you for this opportunity to comment on these matters and El Dorado County, as we indicated, will be contacting you further.

CHAIRMAN WATERS: Thank you very much, Mr. Dunlop. I'd like to call now on Tom Zuckerman and Dan Nomolini, attorneys for the Central Delta Water Agency.

MR. TOM ZUCKERMAN: Thank you, Mr. Chairman. I'm not sure that we shouldn't have a collective name after some of the comments earlier, but there are two of us and we're going to try to split this presentation up.

We, I think, believe in our area that there is a real need for continuing water development in the state, but in light of information that has come to the surface recently, and over the years, we also feel that it's necessary to look at both sides of these supply-demand equations and make a careful analysis as to the real demand for water in the state, as well as to look at the more modest and realistic possibilities for expanding the existing supplies. I'm going to address some brief remarks about analyzing the real demands for water in the

state.

One of the campaign rhetoric, if I should say so, on one side of the Proposition 9 issue would indicate that we're in some sort of headlong rush to doomsday with the water supplies in this state. And if those threats are to be taken seriously, it seems to me it's incumbent that we do certain things.

First of all, the idea of marginal cost pricing of water should be seriously considered where appropriate in this process. It's been our experience that locally with projects there's a greater demand for three dollar water than there is for nine dollar water, and there's not much demand at all for \$25 water, when you're talking about the same project. I think it is important to look at the water demands across the state in terms of how much demand there is for water at the cost of developing it at today's prices. One of the things that we know is that the cost of developing it at today's prices. One of the things that we know is that the cost of developing water is increasing both because the better sites, the better opportunities for water development projects in the traditional sense have been utilized, and because of inflation and energy costs that we're faced with today. At the same time, area of origin considerations would suggest that interbasin transfers are increasingly difficult. The combination of these two factors indicates that there is a process of diminishing returns taking place with the traditional water development concepts.

What we need to do at some point and, incidentally, I have not seen the studies surprisingly enough accomplished on any competent basis yet, is to perform some sort of a risk

analysis in this state to determine whether the traditional firm yield concepts are really continuing to be relevant. In other words, put this down to a concrete level. You could take some of the figures that were developed, both by the Department of Water Resources and the POST Commission, as to the future cost of water from certain projects, and add those on to an average water cost basis for the farmer that intends to be the recipient of that water, and make an analysis as to whether that particular grower is better off with an increased average cost of water that he has to pay every year and somehow absorb into his operation, as opposed to accepting the risk that perhaps one out of 10 years he isn't going to have a full supply to irrigate his property, and whether it might not be more rational under those circumstances to try to limit the amount of permanent crop acreage that is developed in a region that appears to have firm yield shortage on a certain degree of risk. And limit the amount of permanent crops that are developed in that area so that when that drought situation comes along, there's still an adequate supply of water available to sustain the permanent crops and perhaps go to some other type of cropping operation on the balance of the land. I don't think that's been done. I think this is one of the things that's clearly indicated at this point.

Another thing that I think we need to look at, and look at seriously if some of these predictions are in fact close to the mark, is to consider whether new land development is reasonable under the current circumstances. I'm talking about both the development of new irrigated lands, as well as the

development of new subdivisions and urban growth in the areas which have an indicated shortage in their long-term water supply. I make this point because there's an implication or maybe more than an implication in the statements that are being presented to you that the state inevitably must continue to supply increasing supplies of water into the urban areas of the state that have signed State Water Project contracts. I'm not sure that it's indicated how the state's going to do that and under those circumstances at least I wonder whether it's proper for the Department of Real Estate to continue to approve subdivision reports in areas where there's no indication of a long-term water supply to supply the needs of those areas. Typically, those subdivision reports simply say that we're a member of a certain agency or district that gets its supply from a certain water wholesaler. And yet, the water wholesalers are coming before you and saying we don't have an indicated long-term supply that's sufficient to sustain the indicated growth of those areas. And we think some attention should be focused at this juncture from the Legislature as to whether government has got its act together on a balanced basis in that regard.

These are some thoughts that we would urge you to consider. There was skepticism expressed during the Proposition 9 campaign that many of the, and this skepticism was expressed by the Assistant General Manager of the Metropolitan Water District, that many of the projects that were included in the SB 200 package were not economically feasible. We think that you need to look at both sides of the equation. Dan's going to talk about some of the things that may be feasible in terms of

expanding the existing supply. Thank you.

CHAIRMAN WATERS: Thank you.

MR. DAN NOMOLINI: Mr. Chairman and Members of the Committee. On the supply side we think that from the studies that have been performed by our agency that many of the benefits, if not all of the potential benefit of a proposed Peripheral Canal, could be derived through a much more modest mechanism in the Delta. You're probably familiar with what we've called the Orlob Studies, which have indicated that if you utilize the existing channels with some enlargement and then a pumping plant placed near the Walnut Grove Cross Channel, you could in fact produce the same amount of savings that carries water as a Peripheral Canal and at the same time improve water quality for export.

Since that time, we asked Dr. Orlob to perform an additional study and that was to respond to the question as to what would happen if we simply enlarged the South Fork of the Mokelumne River and did not include a pumping plant, but just simply made a channel enlargement in the Delta. A rather simple project to construct. It could be combined very easily with improvement of the levee systems along the way. The result of that study for August of a critically dry year, under the year 2000 level of development, revealed that the cross channel capacity would be increased by 70 percent. This indicates to us that with further study, simple modifications in the Delta could eliminate the reverse flow problem around the end of Sherman Island to a very substantial degree. And perhaps we shouldn't reach for 100 percent elimination. The additional two

or three hundred million dollar expenditure to reach a 100 percent may not be merited. We may achieve very significant savings both in terms of more water for export and improvement of export water quality, which should improve the situation for the Contra Costa Canal Intake and for the State Water Project users, as well as for very modest expenditures. Our agency has not had the financial resources to perform complete operation-type studies or design a project, but we have extended to the water contractors in meetings that have taken place outside this Committee and in conversations our willingness to assist. And if we can focus in on the problem, we will constructively use our resources, engineering, and capability to help work the problems out. We are very encouraged by the studies that we have been involved in and we know that a simple solution can be provided that will benefit many concerns.

I'd like to touch upon the fishery aspect of the problem, since during the debate over Proposition 9 a major reason for a Peripheral Canal was the impact or potential impact on the fishery. We have through our own studies hired a biologist to analyze that. He told us he thought that the impact of the canal would be detrimental to fish. That if you wanted to take as much water out of the system as you planned to take, there would be an adverse impact to the fishery regardless of what you did in terms of alternatives. In fact, he came out feeling that the through Delta plan would be slightly superior because at least it left good quality water in the Delta.

Since the election, the Department of Water Resources released Bulletin 132-79, April 1982, and it dealt with the

year of 1978. It talks about experience with the fish screens and I realize that maybe the debate over the fish screens is over, but from all the evidence that we've seen, fish screens are a bad idea. It's better to bend with the system, perhaps turn to a hatchery type of operation to replace or mitigate the damage to the fishery, rather than going to a screening type of an approach. I think that this report displays some of the problems with fish screens that were minimized in the debate on Proposition 9. They talk about, and this is at page 32, experience on the Coredua Fish Screen. This is a screen which I understand is farther up river and is designed to do the same thing. They talk about juvenile King Salmon and they point out that the predation by Sacramento Squaw Fish was as high as 50 percent, so that even though the screen successfully screened the fish, the predators ate 50 percent of the fish that were screened. Now if they were only talking about Squaw Fish, which tend to reside right in the location of the screen, you have a problem with Striped Bass as a predator, as well, and the competition between Striped Bass and Salmon. I think predation is a major part of the screening process and indicates to me that trying to put a screen at the existing Cross Channel with the Orlob Plan, or even trying to screen an intake of the Peripheral Canal, would have been a mistake and would be a mistake. Another problem is with regard to keeping the screen clean and they point out in their studies that the limit head loss is to a 10th of a foot required cleaning the screen every 15 minutes. I think the unfeasibility of doing that for major export should point us in a different direction, and the direction

that I say we should look is towards propagating through hatchery replacement, Striped Bass for those that are actually lost. Now a lot of the emphasis has been placed upon losses of Striped Bass due to export of eggs and larvae through the export pumps. The evidence that we've seen does not indicate that that is the source of the problem. I would submit to you that a closer examination of what is happening down in the Suisun Marsh Area and the Bay, down in the lower part of the estuary are more realistically a possible source of the problem and there may be an inconsistency in approach. The state is spending a lot of money for marsh improvements in order to protect wildlife and waterfowl, and they're isolating the marsh from the existing bays and they're going to bring up a supplemental water supply in around to the marsh. What this has done, it's cut off from the existing waterways much of the habitat area which used to sustain juvenile Striped Bass. We think the two problems are working one against the other so you may be spending hundreds of millions of dollars solving one problem while you're creating another.

We have never enjoyed an open dialogue with the Department of Fish and Game because of the atmosphere surrounding the Peripheral Canal. Maybe now is the time. Maybe you people, as a Committee of the Legislature, would have a better opportunity to open the door as to what is the real problem and seek a solution.

Another alternative with regard to ease or an easy way to try and address the shortage of water in the State Water Project is to approach the federal government. Maybe not from

the standpoint of purchasing the Central Valley Project but purchasing available Central Valley Project water. It doesn't seem right in our viewpoint for the federal government to be seeking new contracts in areas that would bring new land into production, when you have on the other hand a state with a tremendous shortage and an inability to live up to contracts it has already signed.

The federal government has a facility that's limited in capacity, the Delta-Mendota Canal and its pumping system. It depends, if it's going to make additional deliveries and contract sales, on utilization of the state facilities to move that water. It would seem to me that in any logical discussion the idea should arise that instead of us transporting water for you, why don't you sell us that water so we can serve our contractors and utilize our own facility. So there is an opportunity there that I think has been overlooked.

I think that improvement of utilization within the basins that have water shortages should be emphasized. For example, the opportunity to save Colorado River water by lining canals in the Imperial Valley should be looked at carefully. And those alternatives should be pushed prior to the movement of water from Northern California to Southern California, which costs a lot of money in terms, and a lot of energy and loss of water in the process.

So we think these measures certainly are good interim measures in any overall effort. We should approach them from the standpoint at least on the Delta Transfer System as a study. Let's spend within the project or encourage them to spend maybe

about \$20 million in dredging to improve the South Fork of the Mokelumne River and then monitor the impact. Maybe it will solve most of the problem. If it does, you've very carefully spent money and solved a very significant problem, and you can go with the real problems of balancing supply and demand.

CHAIRMAN WATERS: Do you have any cost figures for that, Dan?

MR. NOMOLINI: Well, we have not gone through a cost analysis, but simply enlarging the South Fork of the Mokelumne River could be done for about \$20 million. We asked Doctor Orlob simply to look at that. There may be a better way to utilize that money. Maybe there is a restriction down near Clifton Court that you can open in the channel and get a lot of relief. The Department of Water Resources, I think, has the capability of looking at it. Maybe they already have. It is just that we don't have the good communication with those people to get at the problem. We would like to extend to you our willingness to cooperate in that regard. Thank you.

CHAIRMAN WATERS: Thank you. Thank you very much. It was an excellent testimony. Thank you again. Is there anyone in the audience that would like to make short statements, and I emphasize short. Obviously, you can see that the committee is evaporated and I think it might be more appropriate if some of you have plans to maybe...we are going to have other hearings. As a matter of fact, how many are we going to have, Clyde?

MR. CLYDE MCDONALD: We asked for a bunch.

CHAIRMAN WATERS: Three or four, at least, and it will

deal with this subject and, of course, other subject matter also. Yes sir.

MR. DICK SCHAEFER: Yes, Mr. Chairman. My name is Dick Schaefer. I am an engineer from Visalia. I represent a number of CVP contractors in the Central Valley. I had not intended to speak until Danta Nomolini suggested the sale of the CVP water to the SWP. I must tell you, and you must know, that that water has been allocated to CVP contractors for many, many years.

CHAIRMAN WATERS: One hundred percent of it?

MR. SCHAEFER: One hundred percent of it. In fact, the demands on lands that are 100 percent developed have long been allocated. So, I think that it is well that you understand that that water that the Central Valley Project has developed has been allocated and it is over-allocated and those lands have waited, and waited, and waited for the East Side Project, such that it could be delivered to those lands. Thank you.

CHAIRMAN WATERS: Thank you for your remarks. We will obviously be checking that out and... is there anyone else? If not, I just want to take this opportunity to thank all of you for coming and certainly thank those who presented their testimony today, and yes?

UNIDENTIFIED VOICE: Are you going to leave the record open?

CHAIRMAN WATERS: Yes, the record is certainly open for written testimony. We would welcome that and I thank you again very much for coming, all of you. Stand adjourned.

GRANGE WATER POLICY

July 19, 1982

CONFERENCE

on

CALIFORNIA'S FUTURE WATER NEEDS

by

JOHN WELTY

LEGISLATIVE DIRECTOR

CALIFORNIA STATE GRANGE

GRANGE WATER POLICY

July 19, 1982

- I. Introduction
- II. Water Development
- III. Counties of Origin
 - A. Key to Grange Policy
- IV. Peripheral Canal
 - A. Adequate Safeguards
 - B. Opposition to Glenn
- V. Groundwater Management
 - A. Replenishment
 - B. Local Control
- VI. Conservation
 - A. Groundwater
 - B. Devices
 - C. Holding
- VII. Pricing of Water
 - A. Detrimental Impact
 - B. Further study
- VIII. Wild & Scenic Rivers
 - A. Support State Wild & Scenic Rivers Act
 - B. Oppose Federal inclusion
- IX. Projects

Grange Water Policy

My name is John Welty and I am the Legislative Director of the California State Grange. On behalf of our membership, 50,000 small family farmers and rural Californians, I would like to thank you for inviting Grange views on the future of California's water development.

The Grange is 110 years old in California and was the first Agricultural organization to propose joint Federal State participation in water development projects which was the beginning of the California Valley Project. We are proud to work with you, find common ground, and complete the project.

WATER DEVELOPMENT The Grange supports the proposition that continued water development is essential to the prosperity and growth of all regions of California.

COUNTIES OF ORIGIN Perhaps the key to Grange water policy is the necessity to guarantee that the Counties of Origin have rock solid assurances that protect the present and ultimate needs of the Counties of Origin while they retain first priority to this resource.

PERIPHERAL CANAL The California State Grange endorses the Peripheral Canal concept as long as proper safeguards for the maintenance of Delta water quality be incorporated in the Peripheral Canal development.

The Grange ardently opposes the selection of the Glenn reservoir site, favors south Delta storage and endorses the Clear Lake routing of the Eel River. It must also be said at this time that the Grange has policy opposed to a change in the current status of Eel.

GROUND WATER MANAGEMENT Grange members are concerned about the overdrafting of our underground water basins. Grange worked for the passage of SB 1391 which is a joint powers agreement in Sierra and Long Valley to manage this problem and feels this could be a model for the rest of the State. The Grange opposes the Water Conservation and Efficiency initiative. Policy also stipulates programs for underground water replenishment.

CONSERVATION The Grange does not believe water conservation alone will provide adequate water supplies to meet future demand. Policy does call for conservation of underground water supplies during a drought, the use of water saving devices and

most importantly the building of more holding dams to conserve water for agriculture and public use.

PRICING OF WATER The free pricing of water as an incentive for conservation would have a severe detrimental affect on family farmers and may undermine the County of Origin concept. The impact on the agricultural industry and the welfare of our State would be drastic. The Grange urges great care and conclusive study before any changes are made in this area.

WILD AND SCENIC RIVERS The Grange continues to support the California Wild and Scenic Rivers Act but is opposed to the inclusion of these rivers in the Federal Act. The state management plans developed to date have been totally inadequate. The Grange supports local control of North Coast rivers and believes current statute inconjunction with county plans may provide adequate guidelines to be considered management plans.

PROJECTS The Grange supports the construction and implimentation of the following projects:

1. New Melones Reservoir
2. S O F A R
3. Auburn Dam
4. I D P
5. Preserve Mono Lake through improved water demand mgmt.
6. Clavey portion of the Clavey-Wards Ferry Hydro-Electric Project
7. Feasibility study of an enlarged Shasta Dam
8. Folsom South Canal
9. Butler Valley Dam
10. Marysville Dam

JUL 23 1982



NORTHERN CALIFORNIA COUNCIL OF FLY FISHING CLUBS



A Regional Council of the Federation of Fly Fishermen

Roy E. Haile, President

P.O. BOX 725 — DUNSMUIR, CALIFORNIA 96025 — (916) 235-4347

July 21, 1982

Hon. Norman Waters, Chairman
Water, Parks, and Wildlife Committee
State Capitol, Room 4130
Sacramento, CA 95814

Dear Mr. Waters:

I was unable to attend the Water, Parks, and Wildlife Committee public hearing that was held on July 20, 1982, regarding the water future in California. Therefore, I will appreciate you accepting these written comments.

Our Council represents anglers in the northern 35 counties of California, who are concerned about the continuing decline in our fishery resources. Consequently we recommend that future legislation relating to water development and appropriation provide protection for fish habitat; allow adequate instream flows to ensure the safety of the resource; and provide for the fish to spawn naturally to propagate and improve their species.

We do not argue with the fact that plans must be made to cope with water problems that will confront us in the future; we support prudent development and use of water. We suggest that, as in the case of some other resources, conservation will play an important roll in water development and use of this vital resource.

Unfortunately much of our previous water development was done with little regard for the needs of the fishery habitat, and the following information reveals some of the consequences of those actions:

UPPER SACRAMENTO RIVER SYSTEM ABOVE FEATHER RIVER: King salmon fall spawning run has declined from about 460,000 in 1953, to a run of about 100,000 for the past three years.

RED BLUFF DIVERSION DAM: The dam was built in 1966 and in 1970 close to 11,000 steelhead trout passed over the dam to spawn in the river system between Red Bluff and Redding. The steelhead population is now down to about 2,500 fish.

TRINITY RIVER SYSTEM BELOW LEWISTON: In 1963 the total king salmon run was about 76,000, currently that run is about 9,000.

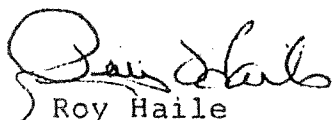
WILD TROUT, STRIPE BASS, SHAD, WARM WATER FISH: Have suffered tremendous losses that can also be traced to water appropriations.

Some individuals now contend that the water from our north coast rivers that pours into the ocean, is wasted. We disagree these ideas. Our rivers, streams, and lakes are extremely important water ranch lands, so to speak, that grow a resource that supports major fishing industries, such as the commercial fishing industry and the sports fishing industry. Additionally the fishery resources are a recreation attraction that provide significant economic support to Counties and local communities.

We believe that our fishery resources are a valuable economic asset to this state, and that they must be protected through the legislative process to allow these economic values to continue and to grow.

We thank you for the opportunity to submit our concerns.

Sincerely


Roy Haile

cc: Committee Members

Water Agency

Sixth Floor
County Administration Building
Martinez, California 94553
(415) 671-4295

J. Michael Walford
Chief Engineer

Contra
Costa
County



Board of Supervisors
(Ex-Officio Governing Board)

Tom Powers
1st District
Nancy C. Fadden
2nd District
Robert I. Schroder
3rd District
Sunne Wright McPeak
4th District
Tom Torlaksen
5th District

August 13, 1982

Assemblyman Norman S. Waters
Assembly California Legislature
Assembly Committee on Water, Parks,
and Wildlife
Room 6028, State Capitol
Sacramento, CA 95814

WA 34

Dear Assemblyman Waters:


On behalf of the Board of Supervisors, as the ex-officio governing board of the Contra Costa County Water Agency, we respectfully submit the attached statement titled "NEW WATER ETHICS FOR THE 1980'S" for your consideration in developing policies to guide California's water future. This statement, which supplements and elaborates on the comments presented by Stan Matsumoto to your Committee at the July 20, 1982, hearing, was approved in concept by the Board and will be the focus of future discussions by the Board to further refine the policy statements and to develop other possible new concepts and ideas.

We also agree with your strong belief that the North must come together to aggressively protect our water resources, economy, and environment as advocated in your July 13, 1982, letter. The Board of Supervisors' Water Committee supports this concept and would appreciate the opportunity for direct involvement in developing legislation to protect our interests.

If you desire additional information or wish to discuss our statements further, please call my office at (415)671-4295.

Very truly yours,

J. Michael Walford
Chief Engineer
Contra Costa County Water Agency

By 
Paul E. Kilkenny
Assistant Public Works Director
Environmental Control Division

SM:mcn

waters.wtrethics.t8

Enclosure

cc: Board of Supervisors
Clerk of the Board
County Administrator
County Counsel

NEW WATER ETHICS FOR THE 1980'S

We are entering a new era of the management of the State's Water Resources that no longer recognizes the past practices of building more water projects, but recognizes that environmental protection, economic efficiency, energy considerations, and the wise management of existing resources be the major component of a program to meet the State's demand for water. A comprehensive approach to water supply planning and development in the State can achieve the goal of meeting future water needs of the entire State and provide protection of the environmental and economic resources in the areas where the water originates. The Contra Costa County Board of Supervisors, as the ex-officio governing board for the Contra Costa County Water Agency sets forth the following policies for the development of a new water ethic for the State.

POLICIES ON SAN FRANCISCO BAY - SACRAMENTO - SAN JOAQUIN ESTUARINE SYSTEM PROTECTION

- The protection and preservation of the Water Resources of the San Francisco Bay - Sacramento - San Joaquin Delta Estuarine System is vital to this County to insure the needs of agriculture, industry, domestic uses, and for fish and wild life. All the needs of the Delta, both economic and environmental, must be met before any water is exported from the Delta.
- Water Quality Guarantees - Appropriate water quality standards must be developed prior to the export of any water. Legislation should be enacted to assure that the State Water Project and the Federal Central Valley Project releases water to the Delta to meet such water quality standards. The legislation must include absolute guarantees to meet these objectives. The guarantees must recognize that areas of origin, which includes the Delta, have first priority over export and that all beneficial uses of the Delta in any year must be protected before any Delta export is made.
- Contracts with Delta Water Agencies - It is recognized that legal contracts have the potential to elevate the degree of protection and enforcement of guarantee of water quality in addition to legislative action. Contracts proposed as a vehicle through which water quality is insured must require that all water agencies be part of the necessary negotiations and any final means of conflict resolutions, such as binding arbitration must apply equally to all water agencies. Contracts should be negotiated with all eight water agencies in the Delta.
- San Francisco Bay Flushing Flows - Our knowledge of the importance of flushing flows to the Delta System is still not understood thoroughly. This subject should be given study and appropriate water quality standards must be established for the Bay.
- The development of water quality guarantees must include full protection for the Suisun Marsh.

Supplement to statement of Contra Costa County Water Agency, presented before the California Assembly Committee on Water, Parks, and Wildlife at the July 20, 1982, hearing in Sacramento, California. Approved for submittal by the Board of Supervisors on August 10, 1982.

- The responsibility of setting Bay - Delta and Suisun Marsh Water Quality Standards should be given to a new regulatory agency totally independent of current water projects and be representative of all regional as well as statewide interests. The existing State Water Resources Control Board should be removed from the Resources Agencies and be established by the legislature as a new independent regulatory agency with the responsibility of all existing functions of the State Water Resources Control Board in addition to total regulatory powers in connection with the operation of the State Water Project and other water projects in California.
- Agricultural Drainage has a major effect on Delta Water Quality. Over the years, the deterioration of Delta Water Quality has had major impacts on the beneficial uses of the Bay - Delta System. The proposed agriculture drain from the San Joaquin Valley to the Delta will only add to the water quality problems and must be opposed. Other alternatives, such as evaporation ponds, should be pursued.
- Delta Levees - The existing Delta levees are deteriorating. Federal, State, and local agencies, and Delta owners must cooperate in the creation of a Delta Commission that will be charged with the responsibility of protecting the interest of the Delta consistent with the greater interests of the State to prevent the further lost of islands to flooding which will threaten water supply and lower water quality, agricultural production, transportation systems, and wild life habitat.
- Delta Transfer Facilities - The interests of this State are best served by the most productive use of any surplus water. The concept of an isolated facility through which to convey such diversions must be opposed. The flow of fresh water through the Delta and preservation of Delta outflow provides an inherent protection to the Delta and Bay.

POLICIES ON SURFACE WATER RESOURCE MANAGEMENT

- The water resources already developed shall be used to the maximum extent and all alternatives for efficient use of the water must be considered before new sources are authorized.
- The State's water resources management must include the efficient coordinated operation of the State Water Project and Central Valley Project. The State should take the lead in the effort to established institutional and regulatory changes for the efficient operation of the State Water Project and Central Valley Project.
- Intensive agricultural and municipal conservation measures must be a component of any serious water management plan. Conservation plans should be mandated in ways that water agencies and districts will have an option to implement specific conservation techniques, such as improving irrigation technology, lining ditches, and residential water conserving programs. Costs analysis of the water conservation options versus new water projects must be a part of any proposed water project.

- The reform of State and Federal repayment practices is needed so that water users contributed their fair share of project costs. Project water has been traditionally priced so that it is feasible for users to purchase it rather than priced to meet costs. The current pricing structure of project water must be reformed so that all subsidies (Capital provided at below market interest rates, local water district property taxes on urban non-users, hydro-power revenues, use of tideland oil and gas revenues, etc.) are eliminated to encourage efficient use of water. The sale of developed water should be allowed on an open market basis, with prices covering total costs.
- The concept of a water market system which allows for inter-regional or intersector transfers of water should be further developed. Barriers to water transfers must be removed to allow the allocation of water in a more efficient manner. Water users should have the right to buy "water" on a voluntary and short term basis from others, and transfer them to new locations. This should be distinguished from transfers of water rights, which is not being advocated. A new independent regulatory agency, as that being advocated to replace the State Water Resources Control Board, should be provided with the authority to supervise transfers so that the rights of instream uses and other beneficial users are protected and the public interest maintained. Water transfers would result in long term increased efficiency and decrease the demand for water.
- The existing use of water supplies in areas receiving project water shall be examined to determine the extent to which water reclamation can satisfy additional water demands before new import of water is considered for that area.
- Flow protection standards must be established for instream (streams, rivers, bays, estuaries, and wetlands) uses such as fisheries, water-related wildlife, water oriented recreation and aesthetics, and water quality uses.
- Consideration should be given to designating some of the waters presently treated as "surplus" to "firm yield" by redefining firm water yield based on examination of the critical period assumptions upon which present water planning is based. It may be judged likely that a move toward an expanded definition of firm water yield would be cost effective, and presents a greater potential for immediate water relief for the State. This reallocation of water would entail increased risk of shortages, but the costs of such shortages may be less than the benefits to be derived.

POLICIES ON GROUND WATER MANAGEMENT

- The extensive overdrafting of water in several areas of the State seriously aggravates the overall problem of water management. Long term replenishment of natural ground water basins and the careful management of such basins by the combined management and use of ground and surface water use are important long range goals. It is especially important to establish the mechanisms through which these basins can be managed. The ground water basins throughout the State should be brought under local basin-wide management.

- If local agencies fail to establish ground water controls, the State should reduce or eliminate new or existing surface water imports.
- A basin extraction ceiling should be established, and pumping should not exceed it.
- It will be necessary to enact a general purpose ground water law that provides local authorities the power to control extractions so that State wide goals and ground water management are reached.

POLICIES ON WATER SUPPLY PLANNING

- The legislature should adopt long range goals for water use. The goals must recognize that "reasonable and beneficial use" of water requires attention to efficiency of water use.
- Rational project expansion should be instituted by requiring projects to meet tests of economic efficiency before they can be considered for authorization. The new water should be priced at their marginal or incremental costs.
- Water resources planning should be undertaken by an authority other than the Department of Water Resources. It should be empowered to determine whether proposed projects are defensible in economic and environmental terms, and to compare new development projects with alternative means of meeting water needs within the State's different areas.
- Federal water planning and new project construction should be integrated with overall State water planning.

POLICIES ON ENERGY

- Energy considerations should be made an integral part of water management planning. Energy impacts must be considered equally along with economic and environmental considerations.

The foregoing policy is a comprehensive approach to water supply planning, and development in the State of California, based on the principle of fairness in initially allocating both ground and surface waters, so that all users have access to these scarce resources; and economic efficiency, so that users can allocate water to the areas in which it can be put to highest value uses. These policies are designed to guide the State in protecting environmental quality and insuring efficient water uses for the entire State.

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UNITED ANGLERS OF CALIFORNIA

7/10/82

Assembly Committee
WATER, PARKS, & WILDLIFE
Chairman Norm Waters
Room 6028
State Capitol
Sacramento, 95814

It has been brought to our attention that your committee has scheduled an interim hearing on "Policies That Should Guide California's Water Future". We would like to submit the information which follows to the committee with the hope that what we have to say on critical water and related issues will be of help to the hearing.

OVERVIEW

It is evident that water is an extremely valuable resource. Not all resources can take the position of being an absolute necessity. The fact the water is such a necessity and that it is of limited supply results in an ever increasing demand. This demand comes from the private and public sectors of our state, and often results in conflict because each of these groups must have water to prosper. As most of us will bear witness, the conflict between these sectors will continue to increase, and the battle over the beneficial uses of this resource has the potential to do severe damage to our state. As this problem is studied by this committee, we hope it will be clear that resolving the difficulties now may well prevent disaster in the future. Certainly, this committee can play a crucial role in determining future State water policy by acting now to see to it that this public resource is wisely used.

UNITED ANGLERS OF CALIFORNIA

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THE NATURE OF OUR ORGANIZATION AND WHY WE ARE CONCERNED

United Anglers of California would hope that this committee will focus on the water related problems of both the public and private sectors of our State. We represent elements of both groups which agree that, as a public resource, water has often been appropriated with little or no regard for the affect this appropriation will have on other related public resources.

Our membership is composed of fishermen across the State who are deeply concerned over the terrible decline of our State's anadromous fisheries. We represent both those who enjoy fishing as a recreation and those who make all or part of their living on sportfishing as a business. Those comprising our membership include: the sportfishermen, fishing guide, party boat and marina owners and operators, tackle manufactures and sale representatives, bait and tackle store owners, sporting good dealers, and those who make market and sell related goods and services. It is often overlooked that the money spent on this type of recreation constitutes a significant portion of this State's economic activity. There are nearly two and a half million licensed fishermen in this state. The sportfishing industry generated by these fishermen is significant.

Our organization was formed to speak for the sportfishermen and the related businesses and industries because one of the public resources we so highly prize is on the verge of disaster. Populations of our State's anadromous fisheries (salmon, steelhead, shad, and the

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striped bass) have fallen to less than thirty percent of what they were just a few years ago.

THE PROBLEM

State water policies of the last twenty-five years have born a bitter harvest for today's fishery resource and the resource user. The manner and extent of water appropriation is at the very heart of the problem. Without the proper quality and quantity of water our fisheries are lost and so will be our recreation, related businesses and industries which are dependent upon sportfishing.

Every creditable fisheries biologist agree the reason for this decline is due primarily to the wide variety of water resource development, especially the diversions of vast amounts of instream flows. As a result of the price paid for this over development, our fisheries have lost much of the habitat they are so dependent upon for renewing their populations. It has become clear recently that due to habitat loss these fisheries have lost the capacity to regenerate their species. Their populations have fallen so low that if it is still possible to restore their once bountiful numbers it will take major changes in water policy and many years. It must be kept in mind that fishery habitat is water. When massive amounts of water are appropriated for out-of-stream-use, then massive amounts of related food chain and ecosystem are also exported. Fisheries can only endure a certain amount of this kind of abuse before they fail.

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During the last quarter century this state has witnessed the struggle to maintain appropriate instream flows to protect the beneficial uses of this public resource. The struggle has been waged primarily between those who recognize that our instream water resources are finite and give rise to other finite resources, and those who either do not care or fail to understand that public resources are not in existence solely for financial gain. Those who control this resource have allowed it to be put to the widest range of possible beneficial uses often at the expense of other water related resources. Dams, water diversions, State and Federal water projects, river channelization, small hydro-electric projects and more have been created resulting in the reduction of base flow recommendations made by those who favor maintenance of our water resources. The tragic decline of our anadromous fisheries is a key indicator of the extent of the damage caused by those who advocate and practice using greater and greater amounts of the State's water for other than instream uses BEYOND THE CAPACITY OF THESE WATER RESOURCES TO MAINTAIN AND RESTORE THEMSELVES.

The core of the problem is due to the inability of our State to adequately protect the beneficial instream uses of its water. Unlike many of those who desire to put the instream flows to use in order to generate private profit, we are deeply concerned about the long term effects of water resource development on all fish and wildlife resources, their natural habitat, and associated ecosystems. This overdevelopment of the public's water resources is in contradiction

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to the Public Trust Doctrine!

The State is the only practical trustee of our water and related resources. As such, it has the duty to protect public resources in at least the areas of navigation, fisheries, recreation, water quality and quantity. It has often neglected these obligations to protect the beneficial uses of the public's water resources and in the process it has neglected the very future of California's water resources. Tragically, the State has often taken action which has reduced the biological and ecological value to these resources, not realizing, or not caring that these resources are exhaustable and often irreplaceable.

THE SOLUTION

It is time for the state to bear the full weight of its public trust responsibilities, and to become a proper trustee of the public's resources. In terms of policies that should guide California's water future, this means that the State is at least under the restriction not to reduce instream flows below levels necessary for the maintenance of public resources at historical levels. From a restraint perspective, this is absolutely necessary due to the tremendous importance of the public's need to put their water to beneficial uses and because of the finite and irreplaceable nature of the resource and its related resources.

Adequate flows for protecting our stream ecosystems, and the fish and wildlife therein, should be clearly recognized as a beneficial use of the public's water and should receive the highest protection

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from the State as trustee. It is fine for the State to allow its water to be put to other beneficial uses, but never at the expense of the safe keeping of the public's resources. All beneficial uses must be protected. The State must assume the position that instream water is a biological and ecological resource which must receive priority in all instream flow determinations, and that whatever part of this flow is required for ecological and biological viability and resource renewability, it must be reserved for the good of the resource.

In a legal context, it is clear that the State may not lawfully dispose of, or surrender, the resources over which it is trustee in any way inconsistent with the administration of the trust which it must protect. It is reasonable that the State can only issue rights to water which are not necessary for the fulfillment of its public trust responsibilities. Hence, the State must assume its obligations and establish policy that gives instream water use priority in all water use determinations. The minimum flows required for ecological and biological viability and renewability must be considered as exclusively necessary for the welfare of the public's resources. This flow must not be made available for offstream use, except under the impact of emergency circumstances.

To put our State's water to the widest possible beneficial use requires planning. The best possible use of our water resource requires exact knowledge as to how much water can be appropriated from any stream or river before serious environmental consequences must be paid. Making

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this determination is critical. Those State agencies that are responsible for the public's resources need to have the authority and the obligation to set minimum standards of natural flows necessary to protect the resource renewability. Only then will developers and planners know just how much water can be appropriated from these sources of water. The State has the power to do this as an extension of its supervisory power over the public trust resources. This approach would allow for minimum environmental flow standards to be established before conjunctive use could be properly implemented.

CONCLUSION

History speaks clearly about what happens when wise use of resources are discarded infavor of using the resource for immediate and short term benefit and profit. In the case of our public's fisheries, the assault by forces seeking and obtaining excessive offstream uses has destroyed a very valuable resource that should have been protected as part of the public's resources. Sport fisheries and allied industries have not faired well under the current appropriative system primarily because water has not been reserved for the instream renewal of the fish and wildlife resources. The result has been to degrade the instream and estuary environments. As the populations of anadromous fisheries have plummeted, the very real possibility of their demise appears close at hand. Unfortunately, even if the necessary changes were made today, it will take many years for our fisheries to recover.

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To solve this kind of resource misuse, it must be recognized and made a component of all policy decisions that rivers and their tributaries are an integral system from their headwaters to their mouth and that once destroyed or greatly diminished they and dependent public resources may never be restored. Due to this irreplaceable nature they demand the highest protection from the State as trustee. The welfare of the people of this State is dependent upon the renewability, wise use, and conservation of the public's resources. This wise use and conservation will never occur if the need to treat our public resources in this manner is not demonstrated by the State. When our resources are carelessly used as they have been in the past, the future of these resources will mirror the current condition of our State's anadromous fisheries.

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