

NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

NEVADA ENVIRONMENTAL COMMISSION

HEARING ARCHIVE

FOR THE HEARING OF December 5, 2000

HELD AT: Yerington, Nevada

TYPE OF HEARING:

YES REGULATORY

APPEAL

FIELD TRIP

ENFORCEMENT

VARIANCE

RECORDS CONTAINED IN THIS FILE INCLUDE:

YES AGENDA

YES PUBLIC NOTICE

YES VERBATIM TRANSCRIPT OF THE HEARING

YES LISTING OF EXHIBITS

NEVADA STATE ENVIRONMENTAL COMMISSION
A G E N D A
December 5, 2000

The Nevada State Environmental Commission will conduct a public hearing commencing at **10:30 a.m. on Tuesday, December 5, 2000, at the at the Casino West Convention Center, 11 North Main Street, Yerington, Nevada.**

This agenda has been posted at the Clark County Library and the Grant Sawyer State Office Building in Las Vegas, the Washoe County Library in Reno, the Department of Museums, Library and Arts, the Division of Environmental Protection Office in Carson City, the Casino West Convention Center and the Lyon County Courthouse in Yerington and the Mineral County Courthouse in Hawthorne, Nevada. The Public Notice for this hearing was published on November 3, November 9, and November 14, 2000 in the Las Vegas Review Journal and Reno Gazette Journal newspapers.

The following items will be discussed and acted upon but may be taken in different order to accommodate the interest and time of the persons attending.

I. Approval of minutes from the August 22, 2000 meeting. * ACTION

II. Introduction of newly appointed Commissioner Joey A. Villaflor, M.D.

III. Regulatory Petitions * ACTION

A. Petition 2001-02 temporarily amends NAC 444.842 to 444.960, the hazardous waste regulations. The proposed amendments update the State's adoption of federal regulations by reference by amending NAC 444.8427, 444.84275, 444.850 and 444.9452 to refer to federal regulations as they existed on July 1, 2000 and modify 444.8632 to adopt 40 CFR Parts 2, Subpart A, 124, Subparts A and B, Parts 260 to 270 and Part 279 as those parts existed on July 1, 2000

B. Petition 2000-10 (LCB R-104-00) is a permanent amendment to NAC 445A.119 to 445A.225, the water pollution control standards for water quality. The amendment adds new water quality standards and beneficial uses for Walker Lake and amends the standards for various reaches of the East and West forks of the Walker River. A new control point is proposed to be added on the east Walker River at Bridge B-1475 at the state line with California. Amendments are proposed for NAC 445A.159 to 445A.169, inclusive including Sweetwater Creek and Desert Creek of the Walker River. Amendments vary for each reach defined above, but include: temperature, pH, total phosphates, nitrogen species as N, Dissolved Oxygen, suspended solids, turbidity, color, total dissolved solids, chloride, sulfate, the sodium adsorption ratio, alkalinity and Escherichia coli. It is proposed to revise the time period that adult Lahontan cutthroat trout may be present in the reach from Walker Lake to Weber Reservoir.

IV. Settlement Agreements on Air Quality Violations * ACTION

- A. Priske Jones; Notice of Alleged Violation #1459
- B. CB Aggregate; Notice of Alleged Violation #1461, 1462 & 1463
- C. A & K Earthmovers; Notice of Alleged Violation # 1465

Page 2 - Agenda of Environmental Commission Hearing for December 5, 2000

V. Status of Division of Environmental Protection's Programs and Policies

VI. General Commission or Public Comment

Copies of the proposed regulations may be obtained by calling the Executive Secretary at (775) 687-4670, extension 3118. The public notice and the text of the proposed permanent regulations are also available in the State of Nevada Register of Administrative Regulations which is prepared and published monthly by the Legislative Counsel Bureau pursuant to NRS 233B.0653. The proposed regulations are on the Internet at <http://www.leg.state.nv.us>. In addition the State Environmental Commission maintains an Internet site at <http://www.state.nv.us/ndep/admin/envir01.htm>.

Persons with disabilities who require special accommodations or assistance at the meeting are requested to notify David Cowperthwaite, Executive Secretary in writing at the Nevada State Environmental Commission, 333 West Nye Lane, Room 138, Carson City, Nevada, 89706-0851 or by calling (775) 687-4670, extension 3117, no later than 5:00 p.m. **November 29, 2000.**

NEVADA STATE ENVIRONMENTAL COMMISSION NOTICE OF PUBLIC HEARING

The Nevada State Environmental Commission will hold a public hearing beginning at **10:30 a.m. on Tuesday, December 5, 2000, at the Casino West Convention Center, 11 North Main Street, Yerington, Nevada.**

The purpose of the hearing is to receive comments from all interested persons regarding the adoption, amendment, or repeal of regulations. If no person directly affected by the proposed action appears to request time to make an oral presentation, the State Environmental Commission may proceed immediately to act upon any written submission.

1. Petition 2000-10 (LCB R-104-00) is a permanent amendment to NAC 445A.119 to 445A.225, the water pollution control standards for water quality. The amendment adds new water quality standards and beneficial uses for Walker Lake and amends the standards for various reaches of the East and West forks of the Walker River. A new control point is proposed to be added on the east Walker River at Bridge B-1475 at the state line with California. Amendments are proposed for NAC 445A.159 to 445A.169, inclusive including Sweetwater Creek and Desert Creek of the Walker River. Amendments vary for each reach defined above, but include: temperature, pH, total phosphates, nitrogen species as N, Dissolved Oxygen, suspended solids, turbidity, color, total dissolved solids, chloride, sulfate, the sodium adsorption ratio, alkalinity and Escherichia coli. It is proposed to revise the time period that adult Lahontan cutthroat trout may be present in the reach from Walker Lake to Weber Reservoir.

The proposed regulation will not have an adverse economic impact on businesses, since the amendments do not regulate business. There is a possible long-term impact of secondary adverse economic effects on the agricultural community if the proposed standards are used by other government agencies to acquire water rights for the benefit of Walker Lake. The standards will provide a long-term protection of Walker Lake that will have a beneficial economic effect on tourism related business. The proposed amendments are not expected to have any economic short or long-term adverse impact upon the public. The implementation of the proposed regulation is not expected to result in any additional cost by the Division of Environmental Protection for enforcement. There are no other state or government agency regulations which the proposed amendments duplicate. The federal government has delegated the responsibility of establishing water quality standards to the state, therefore, there is no federal regulation for water quality standards for the Walker River Basin. This regulation is no more restrictive or stringent than federal requirements. This regulation does not provide for any new or increased fees.

2. Petition 2001-02 temporarily amends NAC 444.842 to 444.960, the hazardous waste regulations. The proposed amendments update the State's adoption of federal regulations by reference by amending NAC 444.8427, 444.84275, 444.850 and 444.9452 to refer to federal regulations as they existed on July 1, 2000 and modify 444.8632 to adopt 40 CFR Parts 2, Subpart A, 124, Subparts A and B, Parts 260 to 270 and Part 279 as those parts existed on July 1, 2000

There will be no adverse economic impact upon the regulated business community. Conversely, the proposed amendment should make it easier for affected businesses to comply by simplifying the regulations. The proposed amendments will have no adverse economic impact upon the public. There will be no additional cost to the Division of Environmental Protection for enforcement of these amendments. There are no other State regulations which the amendments overlap or duplicate. This regulation is no more restrictive or stringent than the federal requirements. The amendment does not provide a new fee and does not amend existing fees.

Page 2 - Notice of Environmental Commission Hearing for December 5, 2000

Pursuant to NRS 233B.0603 the provisions of NRS 233B.064 (2) are hereby provided:

"Upon adoption of any regulation, the agency, if requested to do so by an interested person, either prior to adoption or within 30 days thereafter, shall issue a concise statement of the principal reasons for and against its adoption, and incorporation therein its reason for overruling the consideration urged against its adoption."

Persons wishing to comment on the proposed regulation changes may appear at the scheduled public hearing or may address their comments, data, views or arguments, in written form, to the Environmental Commission, 333 West Nye Lane, Carson City, Nevada 89706-0851. Written submissions must be received at least five days before the scheduled public hearing.

A copy of the regulations to be adopted or amended will be on file at the State Library, 100 Stewart Street and the Division of Environmental Protection, 333 West Nye Lane - Room 104, in Carson City and at the Division of Environmental Protection, 555 E. Washington - Suite 4300, in Las Vegas for inspection by members of the public during business hours. In addition, copies of the regulations and public notices have been deposited at major library branches in each county in Nevada. The notice and the text of the proposed regulations are also available in the State of Nevada Register of Administrative Regulations which is prepared and published monthly by the Legislative Counsel Bureau pursuant to NRS 233B.0653. The proposed regulations are on the Internet at <http://www.leg.state.nv.us>. In addition, the State Environmental Commission maintains an Internet site. It is at <http://www.state.nv.us/ndep/admin/envir01.htm>. This site contains the public notice, agenda, codified regulations, and petitions for pending and past commission actions.

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This public notice has been posted at the following locations: Clark County Public Library and Grant Sawyer Office Building in Las Vegas, Washoe County Library in Reno, Division of Environmental Protection and Department of Museums, Library and Arts in Carson City, the Casino West Convention Center and the Lyon County Courthouse in Yerington and the Mineral County Courthouse in Hawthorne, Nevada.

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STATE ENVIRONMENTAL COMMISSION
Meeting of December 5, 2000
Casino West Convention Center
Yerington, Nevada
Verbatim Transcript

MEMBERS PRESENT:

Melvin Close, Chairman
Terry Crawford
Demar Dahl
Mark Doppe
Fred Gifford
Paul Iverson
Joseph L. Johnson
Hugh Ricci
Roy Trenoweth
Joey A. Villaflor

MEMBERS ABSENT:

Alan Coyner, Vice Chairman

Staff Present:

Deputy Attorney General Susan Gray - Deputy Attorney General
David Cowperthwaite - Executive Secretary
Sheri Gregory - Recording Secretary

Chairman Close called the meeting to order. He noted that the meeting had been properly noticed in compliance with the Nevada Open Meeting Law.

Agenda Item I. Approval of minutes from the August 22, 2000 meeting.

Commissioner Doppe moved for acceptance of the minutes.

Commissioner Dahl seconded the motion.

The motion carried unanimously.

Agenda Item II. Introduction of newly appointed Commissioner Joey Villaflor.

(Commissioner Villaflor arrived later during meeting.)

Chairman Close moved to **Agenda Item III. Regulatory Petitions**

(Petition 2001-02 temporarily amends NAC 444.842 to 444.960, the hazardous waste regulations. The proposed amendments update the State's adoption of federal regulations by reference by amending NAC 444.8427, 444.84275, 444.850 and 444.9452 to refer to federal regulations as they existed on July 1, 2000 and modify 444.8632 to adopt 40 CFR Parts 2, Subpart A, 124, Subparts A and B, Parts 260 to 270 and Part 279 as those parts existed on July 1, 2000.)

Jim Trent:

Good morning. I am Jim Trent from the Hazardous Waste Branch of the Bureau of Waste Management. With this petition the Bureau of Waste Management is proposing to update our adoption by reference of federal hazardous waste regulations. Two workshops to solicit public comment on the proposed regulations were held in September on the 26th and 27th, one in Las Vegas and one in Carson City. A total of four people attended the workshops. The proposed regulations and minutes from the workshops

were posted on the NDEP Website and were available for review and comment via the Internet. As you are aware, Nevada adopts by reference federal hazardous waste regulations. Since changes are continually made at the federal level, it is necessary to periodically update our reference to federal regulations in the NAC so as to remain authorized to enforce these regulations in lieu of the U.S. EPA. This petition incorporates federal rules adopted from July 7, 1999 to July 1, 2000.

Let me briefly review the proposed amendments. There are a total of seven new rules. Five are technical corrections and/or clarifications to existing rules. Two of the new rules are more significant. The MACT, or Maximum Achievable Control Technology Rule, provides revised standards for hazardous waste incinerators, hazardous waste burning cement kilns and hazardous waste burning lightweight aggregate kilns. These standards are promulgated under the joint authority of the Clean Air Act and RCRA, which is the federal act regulating hazardous waste. This new rule consolidates regulatory control of hazardous waste combustion into a single set of regulations, eliminating conflicting and duplicative federal requirements while increasing protection of human health and the environment. Once a facility submits the notification of compliance established in this rule and where applicable RCRA permit modifications, the RCRA national stack emissions standards will no longer apply and MACT regulations will be enforced under the Clean Air Act.

The FOO6 Rule is part of EPA's Common Sense Initiative to encourage recycling. It allows large quantity generators of certain sludges from the treatment of electroplating waste waters up to 180 days (or 270 days where applicable) to accumulate waste without a hazardous waste storage permit or interim status provided the generators recycle the waste through metals recovery and meet other certain storage requirements.

That's a brief review. I'd be glad to answer any questions.

Chairman Close: Are there any questions? Thank you very much. Is there any testimony that's proposed from the audience? Any discussion? Is there a motion?

Commissioner Doppe: Mr. Chairman I move to adopt Petition 2001-02.

Comm Trenoweth: Second.

Chairman Close: It's been moved and seconded. All in favor?

The motion carried unanimously.

Chairman Close: The next item is **Petition 2000-10**.

(Petition 2000-10 (LCB R-104-00)) is a permanent amendment to NAC 445A.119 to 445A.225, the water pollution control standards for water quality. The amendment adds new water quality standards and beneficial uses for Walker Lake and amends the standards for various reaches of the East and West forks of the Walker River. A new control point is proposed to be added on the east Walker River at Bridge B-1475 at the state line with California.

Amendments are proposed for NAC 445A.159 to 445A.169, inclusive including Sweetwater Creek and Desert Creek of the Walker River. Amendments vary for each reach defined above, but include: temperature, pH, total phosphates, nitrogen species as N, Dissolved Oxygen, suspended solids, turbidity, color, total dissolved solids, chloride, sulfate, the sodium adsorption ratio, alkalinity and Escherichia coli. It is proposed to revise the time period that adult Lahontan cutthroat trout may be present in the reach from Walker Lake to Weber Reservoir.)

Tom Porta: Good morning members of the Commission. My name is Tom Porta. I'm the bureau chief for Water Quality Planning within the Division of Environmental Protection. For your consideration today we have the Walker Lake new proposed standards and revised standards for the river. I'll give you just kind of an outline of what we're going to do on the presentation this morning. I thought since we had some new Commission members and since it's been about three years since our last standards adoption process, I'd kind of go over the standards requirements and process and where they come from, how we get them, kind of a Water Quality Standards 101, if you will. I'll spend about 10 minutes on that. Then the new proposed standards for Walker Lake will be presented by John Heggeness in our Water Quality Standards branch followed by Mike Sevon, which I don't know if he's here yet, from our sister agency, Division of Wildlife on the Walker Lake fisheries. And, lastly, Adele Basham, the branch supervisor for our standards branch, will give the revisions to the existing standards on the Walker River. And then I thought at the end of the presentation I'd have about five minutes to wrap up our presentation.

So, with that I want to go into our first slide with regards to the Clean Water Act. The Clean Water Act has stated basically it's the national goal to have fishable and swimmable streams and rivers and lakes wherever possible and they initially set that goal in the Clean Water Act to be accomplished by 1983. Clearly, that has not been met yet. The Clean Water Act, in addition to the Nevada Revised Statute, requires us to engage in public comment and encourage it. We conducted four workshops over the last year. We have had the public comment open since January and we've been working on these standards for about two and a half years. We're actually about a year behind schedule because of the extended public comment and work that we did on these regulations.

It was specifically written in the Clean Water Act and in our Nevada Revised Statutes that water quality standards and water quality goals do not mean that we have the authority, nor do we want the authority, to allocate water. Clearly, that responsibility lies with the State engineer, who is now Mr. Hugh Ricci. And so it's stated both in the Clean Water Act and in our Nevada Revised Statutes that it is the responsibility of the State engineer to allocate waters for the State. So, the question might be, why are we here today with the Walker standards? The Clean Water Act requires us to review our water quality standards every three years. This is more commonly referred to as the tri-annual review. This year's review involved the Walker Lake and Walker River standards. We have revised other standards in the past. Our last revision was with Lake Mead in the Las Vegas Wash. The review itself does not necessarily mean an action by the Commission. It means we must review them and then if we believe the standards should be revised, then we come to you with a proposed standard change. And that's what we're doing here today.

So what are water quality standards? In essence they are goals to meet certain beneficial uses. A beneficial use, which I'll get into in a little bit, ranges from recreating on the water to fishing to drinking. And the standards are set to protect those beneficial uses.

Beneficial uses include existing uses and designated uses. Existing uses are those which we might find people recreating on the lake today or in the river fishing. A designated use might be like we have on the Humboldt where it might be seen in the future the water might have a future use such as drinking water, although there's no specific communities removing water from the Humboldt River right now, the use is there for drinking water and we have adopted standards to protect that. So that would be a designated use.

Here are the examples of beneficial uses. They range from agricultural irrigation, watering of livestock, of course protection of aquatic life, both cold water and warm water, industrial supply, municipal and domestic drinking water supply, propagation of wildlife, recreation involving contact and also recreation involving non-contact. Those are the specific beneficial uses listed in the Nevada Administrative Code.

So, once we've established the beneficial use, the next step is to determine the criteria or the standard to be adopted to protect that use. The criteria come from a number of areas. EPA has published criteria for certain parameters for certain beneficial uses, like fish or drinking water. That is one source of getting the number, if you will, for the standard. The other source might be site-specific or studies that have been conducted in a specific area that may determine what the number or criteria for that standard is to protect it. And the Clean Water Act provides for us to use either/or use the best data that we have available.

The Clean Water Act as well as the statutes also have what's called an anti-degradation requirement. If we have a beneficial use and the number to protect that standard, let's give an example, let's say that the number is 100, that's what the standards supposed to be, but the water quality is actually better than that, it's actually say at 50, the Clean Water Act and the statutes require us to then protect it at that more stringent level and that's called the Anti-degradation Policy or in Nevada's an RMHQ, which is the requirements to maintain higher quality. And you'll see those on the river revisions today.

So here's an example of what, it's kind of hard to see, of what a standard looks like in the Nevada Administrative Code. We would have a particular water body, in this case it's the Carson River. On the right-hand column we'd list the beneficial uses for that particular reach or segment. On the top line there it has aquatic life. As we move to the left you actually have the beneficial use standard or the criteria that I talked about. And moving farther to the third column to the left there, you've got then the RMHQ or a higher quality standard and then the far left column is the actual parameter or pollutant, if you will. And you can see in the case of this, the third row down, we don't have an RMHQ for that particular parameter. So some parameters have and RMHQ, others don't. They simply have the beneficial use standard. And those are listed there, by the way, and the first beneficial use listed is typically the most restrictive or most protective

use and then the subsequent uses are behind that.

So, what's required as far as involvement with the standards adoption process and the Commission? Obviously, recognizing a beneficial use is the first thing. The second thing would then be adopt a standard which protects that beneficial use from degradation. The standard also requires that the water quality standards must reflect criteria which define conditions necessary to support and protect and allow propagation of fish, shellfish, wildlife and to provide for recreation in and on the water if these objectives are reasonably attainable. And the last part of that statute requires that the Commission may establish water quality standards for individual segments or streams or other bodies of surface water which vary from the standards based on recognized criteria if such variations are justified by circumstances pertaining to particular places as determined by biological monitoring or other appropriate studies. So this would be the case where we don't go from an EPA-set criteria book number to a specific study case. And that's sort of the standards in a nutshell. I'd be happy to answer any questions before we move on into Mr. Heggeness' presentation of the new lake standards.

Chairman Close: Are there any questions? Thank you.

John Heggeness: Good morning. My name is John Heggeness and I am with the Water Quality Standards program in the Division of Environmental Protection. I'm going to go through the changes of the regulations for Chapter 445A of the NAC and they are hereby amended by adding thereto the provisions set forth in Sections 2 to 5, inclusive, of this regulation. I will be covering Section 2, which covers all standards, Section 3, which will cover the beneficial uses we are proposing for Walker Lake and Section 4, the proposed standards for Walker Lake and Adele Basham, again, will review the Section 5 revisions to the Walker River water quality standards.

Section 2 water quality standards established in NAC 445A.070 to 445A.348 must not be construed to amend, modify, or supersede rights to quantities of water which have been established by the State engineer. This is just a restatement of NRS 445A.725 saying that we don't have, as it says, we don't have the right to supersede any water rights.

As Tom pointed out, one of the first things we noticed during our tri-annual review that there are no specific standards for Walker Lake at this time and there is no reach to cover Walker Lake at this time. Back in 1985 we reviewed the standards for Walker River which Adele will talk about. And what we are proposing today is to add another reach to the Nevada Administrative Code for Walker Lake to establish beneficial uses for the lake and establish water quality standards for the lake.

Section 3 standards for water quality for Walker Lake are prescribed in Section 4 of this regulation and those beneficial uses for this area are: recreation involving contact with the water (and again, that is swimming and that sort of thing) recreation not involving contact with water (boating) propagation of wildlife which includes the resident bird population and migratory birds and for the propagation of aquatic life, and more specifically, species of major concern are the tui chub, the Tahoe sucker and the adult

and juvenile Lahontan cutthroat trout. This includes all life stages of the tui chub and Tahoe sucker, but only includes the adult and juvenile Lahontan cutthroat trout because the cutthroat trout is not naturally reproducing in the lake. It is currently being stocked by the Division of Wildlife.

This is very similar to the table that Tom showed you a few minutes ago and I'm going to be referring to each one of the parameters that we are proposing for water quality standards and I will be referring back to this table for each parameter. This is Section 4 standards of water quality for Walker Lake. We are establishing the control point at Sportsman's Beach and the limits of this table apply only to Walker Lake at Sportsman's Beach. On temperature we are proposing a change in temperature of less than or equal to 2° C as the maximum allowable increase of temperature above the water temperature at the boundary of an approved mixing zone and this is for the propagation of aquatic life.

pH - we are proposing a water quality standard of 6.5 to 9.7 SU. This is for propagation of aquatic life, recreation involving contact with water and propagation of wildlife. EPA recommended criteria for pH for the protection of aquatic life is 6.5 to 9.0. We are proposing a wider standard than that because Walker Lake being a terminal lake, it has some unusual chemical characteristics. Generally, when we set standards we will set standards with a criteria that EPA recommends. But the Clean Water Act and Nevada Revised Statute allow for standards other than criteria when natural conditions exceed that criteria. As you can see these are the values of pH that were collected from Sportsman's Beach and we are setting the standard at the 95th percentile of that data.

The next parameter I want to talk about is dissolved oxygen and we are recommending a water quality standard of greater than or equal to 5 mg/l and this is for the propagation of aquatic life, recreation with contact involving water, recreation not involving water contact and propagation of wildlife.

The dissolved oxygen graph here shows a somewhat cyclical nature. You can see that during the winter months when the water is colder you can get a higher gas content and therefore a higher dissolved oxygen content. With the dissolved oxygen content has stayed above the recommended or proposed standard of 5 and also note that the EPA criteria is greater than or equal to 5 also.

Suspended solids - we are recommending a standard of less than or equal to 25 mg/l and this is for the protection of aquatic life.

This is a graph showing the total suspended solids collected at Sportsman's Beach. Our proposed standard is less than or equal to 25. The EPA criteria is less than or equal to 25 to 80. As you can see from the data there's only one point that was collected where it was above 25.

I'll next talk about nitrogen species as nitrogen. We're proposing standards for nitrate and nitrite of, for nitrate less than or equal to 90 mg/l and nitrite less than or equal to .06 mg/l and this is for the propagation of aquatic life and for propagation of wildlife. This

graph shows total ammonia NH_3 plus NH_4 , nitrite, which is NO_2 and nitrate, which is NO_3 . Ammonia is shown as the square, I don't know if you can quite see that. Nitrite is the upside-down triangle and nitrate is the hour glass. Proposed standard for nitrite, again, is less than or equal to 0.06 and the standard for nitrate is less than or equal to 90. These standards have been met at Sportsman's Beach. We are not proposing an ammonia standard at this time. When we started our workshops EPA came out with a new recommended criteria for ammonia and we are still in the process of studying that and will propose an ammonia standard at a later date.

We are proposing a RMHQ requirement to maintain higher quality with an annual average of 0.18 mg/l and a single value of 0.30 mg/l. The annual average is computed from a calendar year. This is a graph showing total inorganic nitrogen which is ammonia nitrate and nitrite. Again, this shows at the bottom-right corner there is the annual average RMHQ of 0.18 and the single value RMHQ of 0.30. The annual average is the 95th percentile of the data and the single value is the 95th percentile of the data. And TIN is total inorganic nitrogen is a constituent of, is used by algae for (inaudible) growth and this an attempt to help reduce the excessive algae in the lake.

Total phosphorus - we are recommending a standard of 0.82 mg/l and this is for the propagation of aquatic life. This graph shows the total phosphorus at Sportsman's Beach throughout the last 10 years. The 0.82 figure is the 84th percentile of that data.

We are proposing a total dissolved solid standard of less than or equal to 10,000 mg/l and this is for the propagation of aquatic life. This is a graph showing total dissolved solids and lake elevation. At the bottom is the date from 1990 through 1998. To the left is the total dissolved solids in mg/l and to the right is the lake elevation in feet. As you can see there is a strong correlation between lake elevation and the total dissolved solids numbers. And as I stated before we are recommending a proposed standard of 10,000 mg/l.

Chloride - we are proposing a standard of 3,200 mg/l and this is for the propagation of wildlife. This is a similar graph to the total dissolved solids, again, with chloride to the left and lake elevation to the right. And, again, it shows a strong correlation with water level in the lake which is expected because chloride is a large component of the total dissolved solids. We are proposing a standard of 3,200. EPA criteria is 1,500. And this chlorophyll standard we are recommending is a 76th percentile.

Arsenic - we are proposing a standard of 1,050 ug/l and this is for the propagation of aquatic life. And this graph, again, shows is similar to the last two with arsenic on the left. It shows some correlation with lake elevation. We are proposing a standard of 1,050 and EPA criteria is 150.

The final water quality standard we are proposing is Escherichia Bacteria, Escherichia E-Coli and we are proposing a 30 day Log Mean of less than or equal to 126 counts per membrane filter for 100 ml. And a single value of 235 per 100/ml and this is for recreation involving contact with water and recreation not involving contact with the

water. And this is a graph of Escherichia Coli collected at Sportsman's Beach just showing that all of the values that we have collected have been below our detection limit of 10.

We also are proposing to add a statement to the regulations because Walker Lake is a body of water without a natural outlet, the Commission recognizes that the water quality can be significantly impacted by climatic conditions and thus that obtainment of standards may not be achievable at all times.

That concludes my presentation. Are there any questions?

Commissioner Gifford: Could you go down, you mentioned with the temperature of single value the very first item on your chart?

Mr. Heggeness: Yes.

Commissioner Gifford: You explained that one in terms of where it pertains to, but for the rest of your list starting with pH, would you mind reminding me if you would at what depth we're talking about or is this an integrated average over some depth for each of the parameters that you mentioned?

Mr. Heggeness: This is a surface grab sample collected at Sportsman's Beach off the end of the dock.

Commissioner Gifford: And so by surface you mean the upper foot or upper . . .

Mr. Heggeness: The upper two feet or so.

Commissioner Gifford: Upper two feet. And that pertains to all?

Mr. Heggeness: Yes.

Commissioner Gifford: The second question - in terms of the four values: the pH values, the total phosphorus, the chloride and the arsenic, which exceeds the EPA recommended standards, you've done that in terms of defining conditions that exist for Walker Lake that you've termed to be natural conditions, could you tell me your interpretation of natural conditions just to refresh my memory? Because the lake is, to my feeling, is a little a little bit unnatural. But I was just wondering the Division's interpretation of natural.

Mr. Heggeness: The numbers that we came up with were from our sampling of the lake and the sampling of the lake has occurred in the last 10 years. We do not have a continuous sampling water quality sampling from before that. So we have used these numbers for our natural conditions.

Commissioner Gifford: So natural would be just defined at this point as conditions that existed based on your 10 years of sampling?

Mr. Heggeness: Yes.

Commissioner Gifford: Thank you.

Chairman Close: Is Sportsman's Beach representative of the entire lake and if not why did you choose that particular area?

Mr. Heggeness: We do not know if it's representative of the entire lake. I believe that it is. But until we have sampling throughout the lake we do not feel it would have been prudent to establish standards for the whole lake from just our samples collected on Sportsman's Beach. We have begun a sampling program throughout the lake. I believe we've been doing it for about a year and a half now. But once we have enough data we will then propose standards for the entire lake.

Chairman Close: Have you taken any samples any place other than Sportsman's Beach?

Mr. Heggeness: Yes. We've been collecting at three points in the lake, essentially dissecting the lake into thirds and at each point we've been collecting three samples, essentially a top, a middle, and a bottom. So we have about six of those samples or so now.

Chairman Close: And with the samples that you have so far, how do they compare with the samples you've taken from Sportsman's Beach? Are they higher or lower?

Mr. Heggeness: So far they are very similar. I haven't done an extensive analysis of them. In the preliminary analysis that I did they are very similar.

Chairman Close: Any other questions?

Commissioner Ricci: On the dissolved oxygen, at what depth is that range that it has to be greater than 5 mg/l?

Mr. Heggeness: At this point it is still just at Sportsman's Beach. So it's going to be within the top few feet or meters or so. That will likely change. We may have some amendment to that when we set standards for the whole lake because when the lake stratifies during the summer, you know, we may have to allow for anoxic conditions at the lower part of the lake. But at this time it just applies to the surface at Sportsman's Beach.

Commissioner Ricci: And on the graph that you show for chloride and arsenic it had an EPA criteria also which was much less than half in the instance of chloride and about almost 1/10th of what the arsenic standard was. What does the EPA criteria mean?

Mr. Heggeness: That is their recommended criteria for the particular beneficial uses for that body of water. Most of the criteria that we recommended I showed was for their recommended criteria for aquatic life. Obviously, aquatic life, there's going to be a number of different species and like we tried to say there are allowances for understanding that there are different criteria for different species and that's what we're trying to allow for here.

Chairman Close: Any other question?

Commissioner Doppe: With regard to pH, is there a theory other than increased water depth as to why that number has increased over the last three years? I'm just looking at your graph there and I see it's gone from an average of around 9.3 or 9.4 up to around 9.7 now. The only thing that I can see that would correlate to that perhaps would be an increase to water depth over the same period, but that doesn't seem to make a whole lot of sense. Do you guys have any explanation?

Mr. Heggeness: No I don't. There's a lot of different things that go into that. Of course, it is a terminal lake, so there's a lot of carbonate in it. But also, if there has been an increase in algal activity that can affect the pH too. But besides that I don't have any specific . . .

Commissioner Doppe: I guess maybe we'll get to that more when we get to the river we can take a look at that and see what it's doing as well. The next question is with regard to dissolved oxygen, you've set a limit of greater than 5 mg/l yet you don't ever have a case where over the last 10 years it was ever even below 6 mg/l so the question is, is 5 mg/l the EPA requirement, one, and two if we're at 6 instead of 5, at what point do we establish an RMHQ to maintain at least a 6 if not better?

Mr. Heggeness: Yes that is the EPA criteria and we will evaluate that when we do the next standards review. And we are coming up with requirements for our review of RMHQ's. One of them is that there is going to be should be a 25 percent change so that we're not just making a little change each time and increasing the amount of work that has to go into that so . . .

Commissioner Doppe: A related question then. Are you, and you may have answered this, but if so I want you to clarify for me then, when you look at a spectrum of data like this and you're establishing for example an RMHQ that's 25 percent greater than or stricter than the EPA requirement, are you going to look at some percentile of the data? Is that where that 95 percent of the data comes in again, and you're going to say, "We are not going to say you can never be below that requirement, but 95 percent of it has got to be better?"

Mr. Heggeness: Essentially, yes.

Commissioner Doppe: Now, let me move on. The same question on suspended solids, you set a 25 mg/l maximum on suspended solids, yet you only have one data point, you don't have very many data points I guess over the course, you know, the data gathering is kind of in its infancy it looks like. But, you've only got one data point for the last 10 years, again, that even came close to that and that was at a 24 so, again, I guess I'm having the same question and expect the same answer with regard to an RMHQ. You already have water that looks like it's better than what you're proposing and what you're proposing actually would allow it to worsen in most cases. And, so, again I'm going to have this, but you've already answered that, never mind. My last question is in general to those items that have standards proposed that are not as stringent as the EPA because of existing conditions and I guess my question deals with what I looked at as an inconsistency.

Your total dissolved solids, what you've proposed is a standard that is reflective of the, let me get this straight here, I think you propose a 10,000 mg/l standard for total dissolved solids. The only time you've ever even approached that, well you haven't, yet you haven't so, explain where you came up with that 10,000 number there because I can't see how that works.

Mr. Heggeness: This is different than the way we did some of the other ones because we have specific studies toward the effect of total dissolved solids on some of the fish and other aquatic life within the lake and Mike Sevon, who is going to follow me, is going to get more specific into some of those studies and how their recommendation came from the Division of Wildlife and what went into some of those studies and what went into that number.

Commissioner Doppe: Okay. I guess where I'm confused and it looks like there's a pretty strong positive correlation between water depth again and total dissolved solids. Yet you don't give credence to that same apparent beneficial impact of water depth when you get into the fluoride and arsenic because there you've gone the other way. There what you've done is you've said that you're going to set a very relaxed standard. You've got a very stringent standard set for total dissolved solids, yet a very relaxed standard for arsenic and chloride and it seems to me that the same thing that's going to solve the total dissolved solids is also going to solve the other two. That being the case, why the discrepancy? Why the different approach?

Mr. Heggeness: The other ones we do not have specific studies on the aquatic life within Walker Lake to be able to establish a specific standard or not as strict a standard, if you will. The aquatic life in the lake has been improving in the last number of years and because of that we felt that without having the additional specific studies that using the same approach that we use for establishing RMHQ should be used for establishing these standards. If, at a later date, we get some specific studies that specifically target these parameters we can come back and adjust the standard accordingly.

Commissioner Doppe: All right. That's all I have Mr. Chairman thank you.

Commissioner Gifford: Could I ask for the very last statement that you're adding that was showing on the screen. On the surface this statement that is given really bothers me. And the reason it does, and it comes back to, and I really appreciate it, by the way, the little notebook that you folks put together, but in the notes from a public workshop held on January 20, a question was just simply asked, "Who has the teeth when standards aren't met?" And the answer here, "When standards are exceeded the water body is placed on the 303D list of impaired waters. If a water body is listed as impaired, it initiates the establishment of a total maximum daily loads TMDL in water bodies where there are no point source discharges and therefore no direct regulatory control, water quality standards serve as a 'goal' defining the conditions to support designated beneficial uses." And for some reason when I read this statement it tends to make what I just read null and void. And maybe I'm misreading, but could you help me out? In other words, that to me just says, "Well that's just the way it is," and so we won't ever move in to the portion that I've just indicated. And so, what am I missing here?

Mr. Heggeness: This is to show that we understand that these standards are goals to be met and when they're not met, yes, we do put them on a three put them on a 303D list, but that will also initiate some of our other nonpoint source programs to help do what we can to try to attain these standards. But this statement here just emphasizes that this is a terminal lake and we do live in the west where we do go through wet cycles and dry cycles and we have provisions, when we do have wet cycles, that standards can be exceeded also due to flooding and that sort of thing. This is essentially another reflection of that.

Commissioner Gifford: Well I understand that. I guess I'm not quite sure why this is being tacked on to this set of regulations. I can't remember it being tacked on to anything else that I've reviewed over the years. Maybe I've just forgotten.

Mr. Heggeness: I don't believe it has been added anywhere else.

Commissioner Gifford: I mean, it's not that I don't disagree with it, but I'm always wondering why something like that gets tacked on, because I mean if we just go back four years ago, I mean a lot of what we're meeting about today we wouldn't even be talking about if we continued in the same drought cycle that we were in, everything would be dead-as-a-doornail out there anyway. But things changed and so we're here today to talk about these standards. I was just wondering what the motivation was for sticking that on the end. So, thank you.

Commissioner Johnson: Looking ten years back, I simply, this would seem to me an avenue of not listing the waters as being impaired if there was an exceedence due to extended drought. Is that correct?

Mr. Heggeness: We would still list them as impaired and we would still be doing what we could through our nonpoint source program since there are no point sources on there.

Commissioner Johnson: Then what does this statement mean?

Mr. Heggeness: It just recognizes that there are conditions that will happen, or that may happen where the standards may be exceeded because of drought or some other situation.

Commissioner Johnson: It's an existential statement. Okay.

Chairman Close: In Question No. 7 that that referred to it talks about when there's not an ability to reach your desired goals that nonpoint source controls are encouraged and funded in the basin. What does that mean? What nonpoint source controls are funded in the basin?

Mr. Porta: Basically, to meet water quality goals we've got two avenues of approach: one is obviously a regulatory approach and that is specifically held for those point source discharges. In the case of Las Vegas where you have discharges to Lake Mead through the wash, we would then, if we weren't meeting water quality goals or standards, we would then place their specific regulatory requirements to place on those permit holders discharge to limit their discharge to meet the water quality standards. In the case of the

Carson River and the Walker River, where we have no point source discharge, there's no direct regulatory control over what's called "nonpoint source pollution" urban runoff, other types of runoff, natural conditions. What we do have is an EPA-funded program to do projects to improve water quality. So if a nonpoint source impaired water goes on our 303D list, it gets ranked higher in priority for funding for water quality improvement projects. The projects range everywhere from public education to control of runoff to establishing riparian zones along river corridors, there's a wide range that the money can be used for. Right now our current funding level is at about \$1.5 million per year to help fund projects. Now that may seem like a lot, but really when you start looking at doing some of these projects, one project can easily get into the hundreds of thousands if not a million dollars to help control runoff and so forth. So those are the two avenues. For nonpoint source we have funding available on a voluntary basis. On the other hand, if we have point source discharges to meet water quality standards we have very specific regulatory requirements to limit discharges to meet those standards.

Chairman Close: And in this basin there are no point source discharges?

Mr. Porta: Right. Exactly.

Commissioner Doppe: A quick question. The beneficial use for arsenic in Sportsman's, the standard that's been assigned is propagation of wildlife, arsenic or chloride, propagation of wildlife, or propagation of aquatic life and the proposed Nevada standard in both cases is, well, in the case of chloride is double the EPA standard, in the case of arsenic it's six times as high because of the conditions that are out there now. Is it possible to meet the Nevada standard and obviously it's possible to meet the Nevada standard and not meet the federal standard in those cases because we're having to raise ours to keep it down, but what impact does that have on the achievement of the beneficial use itself? You know, we establish a beneficial use of aquatic life or wildlife protection and we set the bar relatively low, I'm working backwards, and the EPA has made a much more stringed case, what impact does that have on meeting those things?

Mr. Porta: Well the impact I think John eluded to at first, with the chloride and the arsenic, unfortunately, we don't have the site-specific studies right now to determine if another standard should be set. What we do know is that these numbers that we show here, there is aquatic life present and they are seeming to be functioning appropriately. Additionally, EPA will review these standards and we have consulted with the EPA and they have full approval over these to determine whether we have set an appropriate standard for that specific lake and the criteria, while we use those as a guidebook, they aren't set in stone and we can move either way on those. It's up to our discretion. But as long as we can prove to EPA that these numbers are meeting the beneficial use, then they'll accept them for approval.

Commissioner Doppe: Am I incorrect then in thinking that the EPA's numbers are kind of for a generic lake and not so much for a terminal lake, like what we're dealing with here?

Mr. Porta: Exactly. The one-size-fits-all doesn't fit all lakes, particularly in the west. And when

they're trying to cover from the Mississippi to Lake Tahoe, it's hard to get at one number. This is their best estimates at what it would take to protect that goal. But, again, that's why the Clean Water Act specifically allows us to deviate from those criteria for specific conditions.

Commissioner Doppe: And then finally relate it to that. Inasmuch as arsenic is a naturally occurring, there's no point source discharge in here, so therefore everything that has fallen into this lake is falling basically naturally, correct?

Mr. Porta: That's correct.

Commissioner Doppe: And being that it is a terminal lake all that stuff just condenses there and that's why we're seeing high numbers.

Mr. Porta: Right.

Commissioner Dahl: Is it possible to reach the higher standard in this lake without changing the elevation of the lake?

Mr. Porta: I don't know the answer to that question right now. I think a lot of people are looking into that. Obviously, lake elevation is one option. Other options may come up. Technology may improve. If people decide they want to keep the goal and protect it. Other technologies maybe able to remove these pollutants from the lake even though they are naturally occurring. So there are several options that are possible in the future. But at this time it looks like right now probably the most feasible is the lake level. But, again, that question is yet to be answered down the road.

Chairman Close: Tom as I look at your Figure No. 13 on total dissolved solids you've taken 10,000 as the level which occurred at the very highest point of the lake in that eight-year period. Have I read that correctly?

Mr. Porta: Yes.

Chairman Close: And so if 10,000 was only reached one time because of the height of the lake, how is that ever going to be met in the future when you don't anticipate that high level in 1995 to probably occur again for maybe another eight years?

Mr. Heggeness: Well we don't know what the precipitation and things are going to be. IN the last four years the lake elevation has gone up a little bit over 10 feet and if we have some more wet years we may be meeting that standard. And, again, this standard was established due to the beneficial use of protecting the aquatic life within the lake.

Chairman Close: And I understand your goal. I guess my question is, how, if it's only been reached one time during the time period you've got in here, how do you expect to reach it again?

Mr. Heggeness: Well, it was met in the late '80's. We do not have our data here, but we do have data

from other studies that shows that the 10,000 was met in the late '80's.

Chairman Close: In looking at your chart though, it was only accomplished one time in that eight-year period and that was because of an extraordinary height of the lake. I don't know what it was before 1990, but surely in the time period we're looking at it's only occurred one time. And, so, if that's our goal and it seems to have a relation between the height of the lake and the TDS levels, and if we adopt that, I understand that the purpose is to preserve the aquatic life, how is it going to be reached? I understand the goal, but how is it going to be reached?

Mr. Porta: You know, we've wrestled with this question too. The number was set again, first of all, based on DOW's recommendations to protect the trout that are in the lake. How is this, I guess, reasonably attainable, would be the question. And that is, I guess what we're trying to say is we don't want to preclude ourselves from possible future improvement to water quality to meet the standard. So, technologies may become available in the future. Climatic conditions may change. Flows to the lake may change. We wanted to set the number where this would be the goal for people to achieve if they want to achieve it to protect the beneficial use. So, that was our thinking and the recommendation from DOW to go with the 10,000. And in the future we might be able to attain this number and they're looking at those questions right now. Not our agency, but other groups are looking at that now.

Chairman Close: So is this a hope-for standard or a standard that you anticipate will be met?

Mr. Porta: We would anticipate at some point in the future it could be met and it has been met in the '80's when there were no, no one was even looking at this issue. Just from the natural conditions and natural runoff the lake level was sufficient to meet this standard. So it has been met in the past. We think it can be met in the future. Now that there's more emphasis and people looking at this issue, we feel that it's a good goal and scientifically-based number to protect the fish that people can shoot for.

Chairman Close: And so, if it's not reached, then that's when you would impose that last, that language that Fred referred to I presume that said you'll take climatic conditions into consideration?

Mr. Heggeness: Yes. And we'll have to sit down and look at that, the information from the State climatologists and other information to make that determination and then determine listing.

Commissioner Ricci: I just have one question for clarification. If you would put Figure 15 back up there. You seem to mix micrograms per liter and milligrams per liter and I'm not quite sure which one we're talking about. Arsenic. In Figure 15, the one that says . . .

Mr. Heggeness: It should be micrograms per liter.

Commissioner Ricci: Everything on these charts should be micrograms?

Mr. Heggeness: No, just arsenic. Everything else is milligrams.

Commissioner Ricci: Find Figure 15 and then see what I'm . . .

Mr. Heggeness: I don't think he has the numbers on it, is that the arsenic?

Commissioner Ricci: That's the arsenic and lake elevation. The one up on the top right of the charts is the milligrams.

Mr. Heggeness: Right. On that one I changed it to micrograms. It should be micrograms in your document. It should be micrograms.

Commissioner Ricci: Okay. Thank you.

Commissioner Doppe: What happens if, and I'm not sure that Tom's answer to that question about if you don't hit the thing you can blame it on the climate, well you never hit it. You haven't hit it in the last 10 years and the climate hasn't been that abnormal in the last 10 years, so I don't think that's going to work. I mean, what are you going to do, what happens to the lake, to the people surrounding the lake, to the people who rely on the lake, to the animals in the lake, what happens if you don't hit it? What do we do? Do we change the standard and say that it was an unreachable goal and we don't need to have it that low because it seems to be doing alright now? Or do we take drastic action to get down there?

Mr. Porta: Well, you know, we wrestled with this question, believe me, for many months and numbers were thrown at us from 2,000 to 8,000, 10,000, 12,000, 14,000. What's going to be reasonable? What's going to protect the beneficial use? How do we come up with a number? What it finally came down to is what does the beneficial use say and what data do we have to show the number that's needed to protect that beneficial use and what if people are working on this problem, what number can they shoot for to meet it? Whether it's flows to the lake, whether it's cleaning up the lake through desalinization, improved technology, reverse osmosis, all of these things are possible. We came back, instead of trying to play that guess game, we said, "Well, what does the data show us and what does the Clean Water Act require us to do?" It requires us to try to protect the beneficial use number with the best scientific data. So, instead of trying to answer all those questions, we had to come back and look at that and with the studies that have been conducted at UNR and DOW this was the number that we chose. It's a tough question, I know and believe me we spent many a days in my office kicking back and forth after the public comments and the letters from Fish and Wildlife and everybody. All of these numbers were coming at us and we took it very seriously and finally went back to the Clean Water Act and said, "What does that tell us to do?" So that's how we got the number.

Commissioner Dahl: Would you say it would be true that in order to consistently reach the higher standards that you would have to gain some control over climatic conditions or else you would have to move water from someplace else to increase the elevation or keep the elevation of the lake at a certain level?

Mr. Porta: You know I think everybody in Nevada wishes there were more water and we certainly do too. We just hope that when those conditions prevail and we meet those 10,000. But, again, in the future as technologies improve who knows what might happen. People are actually looking at possibly treating the lake water. And that may be a case in the west for western lakes that are terminal like this which is fairly unique.

Chairman Close: Do you have an average of TDS for the period that we're looking at here?

Mr. Heggeness: There should be a mean back in Table 2.

Chairman Close: Do you have a page on that?

Commissioner Gifford: Page 24.

Mr. Heggeness: Page 24 all the way to the right, the column shows 1990 to 1998 the mean is 12,477.

Chairman Close: So if that's the mean, we never reach 10,000 if I read the chart correctly. I don't understand why we're going down to 10,000 for it.

Mr. Porta: I have a suggestion. Why don't we let maybe Mike Sevon from NDOW explain why the 10,000 because that seems to kind of the crux of everybody's questions. So, why don't we do that and then, so with your permission I'll let Mike come up.

Chairman Close: Any other questions, except for the 10,000 question? Thank you.

Mike Sevon: Good morning members of the Environmental Commission. My name is Mike Sevon. I'm the supervising fisheries biologist for the western region of the Nevada Division of Wildlife. I began work at Walker Lake in 1980 and pretty much have been on the scene since that time and obviously my focus here today is to discuss why the Division of Wildlife moved their initial recommendation from 12,000 ppm down to 10,000 ppm and with that I'll start my presentation.

For the moment we still have big fish in Walker Lake. I think it's important, we've talked a little bit this morning about Walker Lake and its decline, that fact that it's a terminal lake and the elevation of the lake determines how much water you've got that dilutes the salts that are in the lake. In the last 15 years we've seen the volume of Walker Lake vacillate between 3 million acre feet and 2 million acre feet. So, we have seen in the last 15 years a tremendous change in the volume and a tremendous change in the TDS levels. We still have big fish in Walker Lake today and that is because over the last five years the good water that we've had. When we went into our last big drought the lake dropped 30 feet. The good water that we've had the last five years the lake has come up 12 feet, 14 feet.

The next overhead. This depicts the Walker Lake elevations from 1930 to present. And you can see that the lake has declined precipitously. We have had several species in the lake that have disappeared. The carp in the 1950's dropped out of the picture. They had

been there since the late 1800's. The Sacramento perch fishery was pretty much out of the picture by 1960. This is the projected decline of the lake from 1992 forward and if we obtain surface levels of 3,940 we believe that we'll see a loss of the existing trout fishery. Lahontan cutthroat trout are obviously the sport fish that exist in Walker Lake today. They evolved in the Lahontan basin. We've tried many different species of fish in Walker Lake and none of them have been able to survive introduction into the lake. The Lahontan cutthroat trout have evolved to be able to handle the high alkalinity that occurs in Walker Lake and that's why they're there today.

Next overhead. The lake was at fairly low levels in 1981 and we had a major increase in water from '84 to '86. We're looking at the fish in the harvest, the Cutthroat Trout that are over 17 inches and you can see as we go up to 1987 there was an increase in the fish over 17 inches. What this graph is telling us is that as the water quality improved the fish were able to attain the natural amount of longevity that they have in the lake and this was coming back into the creel, this fish over 17 inches and actually up to about 24 inches. As we began to decline with the last 7 year drought what we're seeing here is a major decrease in the Lahontan cutthroat trout. In 1993 we're just about at our low point and very few fish were surviving in the lake after being introduced for more than two years.

Next overhead. Each year in Walker Lake we plant approximately 200,000 Lahontan cutthroat trout. Half of these come from our State hatcheries and half of them come from the national fish hatchery in Gardnerville. This was a result of the Washoe project and this was mitigation for some of the dams on the upper Truckee River. But we've been working in concert with the Fish and Wildlife Service since the '80's. One of the things that we've done in the last 20 years is that as we stock these fish and they're all stocked in the spring, before the loons arrive, we take a sample of these fish and place them into live cages and we determine what their initial survival in the lake is and this is what the results of those bioassays are. We found the mortalities as we got up to 1996, 1997 and the TDS in the lake was quite high, the mortalities were over 90 percent. So, of all the fish that were being stocked in the lake if we didn't do something to pre-acclimate those fish, we would lose 90 percent of those fish.

From 1996 going to present we have improvement in water quality and you can see that the mortalities decreased. Looking at the mortalities back in the early '80's we're looking at less than 5 percent of mortality with the initial introduction of the fish into the lake.

This graph depicts the relationship between TDS and TDS is the top line. You can read the level of the TDS on the right. And this is the percent mortalities in the purple bars. So you can see the relationship between the TDS and when you have values that are over 10,000, you can anticipate that 80 percent of the fish that you stock in the lake are going to not survive the first 10 day period in the lake. Back down here where you had TDS levels of 10,000 in the early '80's we had fairly insignificant mortalities. In 1986 this was very high because we were using a strain of Lahontan cutthroat trout from our brood stock in Marlette Lake and Marlette Lake is a very oligotrophic lake located in the Tahoe basin. What we found in looking at the different strains of fish that we used was we had to use fish whose parent stocks came from alkaline waters. The green stuff that we were

maintaining in Marlette Lake was not surviving well in Walker Lake and we ceased using that particular strain.

Next overhead. So we know that the relationship between TDS and lake elevation or lake volume is a direct relationship and we have very good information, this was research that was done by Dave Galat and the Lockheed Corporation on Pyramid Lake. They determined at what levels, at what TDS levels different components in the Pyramid Lake system would drop out of the picture. We're looking at Cutthroat trout, tui chub, diaptomus, cyclops and moina are the three zooplankton species that exist in Walker Lake today. And you can see that at TDS levels of 14,000, 50 percent of the juvenile Cutthroat Trout in these research experiments were unable to survive.

Chairman Close: What is the juvenile cutthroat trout? Is there an age for that?

Mr. Sevon: The fish that were used in these experiments were probably 3 to 4 inches long.

Chairman Close: So size then is what you're referring to.

Mr. Sevon: They were less than a year old.

Chairman Close: Okay.

Mr. Sevon: The zooplankton species, diaptomus would drop out of the picture at right about 12,770 ppm. Cyclops would disappear somewhere less than 15,000 and moina would disappear at levels of a little over 17,000 ppm. These are the TDS levels that we would lose the major components of the simple ecosystem we know today as Walker Lake. For the protection of this ecosystem allowing for all components currently existing in the lake a TDS of 10,000 ppm is the minimum which would allow for the fish community to have reasonable life expectancies. I think that's it.

The data that John presented shows a range of TDS levels from studies that they had done at the lake and I think this is interesting just in closing we can look at the water surface elevation of Walker Lake. This was before 1900 and we were up somewhere around 4,060 foot elevation. We have a TDS value at that time of somewhere maybe about 4,000. As the lake declines, these different points here are actual TDS values that we've collected sending in water samples to the State health lab. These are good data points and they show the increase in the TDS levels over time. Ten thousand is our number that we're very concerned about here and you can see that we were right at the high stand in the mid-80's we were right at 10,000 and since then the TDS levels have climbed up very precipitously. We hit a low point here. This was about five years ago and we had a TDS value at that time of 15,000. So, 10,000 is the value that we recommend to maintain the life in Walker Lake.

Chairman Close: Do you take your samples at Sportsman's Beach also?

Mr. Sevon: We take our samples mid-point in the lake. There was research that was done on Walker

Lake in 1978-1979 by the Desert Research Institute, Dave Cook and Jim Cooper. They determined that basically the lake is uniform from the north to the south from the east to the west and so the point of the sample is not really too critical. There are times such as in 1986 in February when we had the big flood, you could actually see water from Walker Lake coming into the lake and because the temperatures were different the TDS's were different it created a cell and you can watch Walker Lake or Walker River move down Walker Lake. And when we have real high inflows in the lake, we may go through a period where the TDS values from the top to the bottom are significantly different and the TDS values from the north-end, where the lake comes in, and the south-end are fairly significant also. But most of the time under most situations the point at which you take the water chemistry data is not really significant.

Chairman Close: Any questions?

Commissioner Doppe: Did you all have an explanation or a theory as to why the water has dropped 100 feet in 100 years? That seems to be the culprit at the bottom of all of this, doesn't it?

Mr. Sevon: Yes. There's some research done by a gal, her name is Milne. She was working out of Colorado University and she looked at lake levels in Pyramid Lake, lake levels in Winnemucca Lake basin, lake levels in the Walker Lake basin and she determined what those lake levels would be without development upstream. The results of her research indicate that Walker Lake today without upstream development would be pretty much right there. It would be very close to where it was when white man first discovered Walker Lake.

Commissioner Doppe: So we sit here thinking for the moment that it's a natural cause because the water levels have gone down, the total dissolved solids, arsenic, chlorides, and all that stuff have gone up and, in fact, it's an upstream-caused perhaps that the fact that the water level has gone down because of uses upstream we've shrunk the size of the pond and now all that's left is the stuff that doesn't, is a lot more concentrated.

Mr. Sevon: Yes.

Chairman Close: Any other questions?

Commissioner Johnson: Do you have information that would indicate that perhaps 8,000 would be more a, to maintain a healthier fishery with larger fish and longer living fish?

Mr. Sevon: We do have information also work that was done by Dave Galat in the early 1980's. Dave was doing research at Pyramid and was interested in terminal lake basins and at the time as a young biologist working on Walker Lake I assisted Dave. We collected some tissue samples and were able to determine that even at the TDS levels we had at the time there was some tissue damage to the proximal tubules in the kidneys and statistically they related that back to carbonate levels in the lake and it was a worst-case scenario of the terminal lake basins in the western United States.

Commissioner Johnson: And what level of TDS was found?

Mr. Sevon: That was right around 10,000.

Commissioner Johnson: Right around 10?

Mr. Sevon: That was right around 10,000.

Commissioner Johnson: Okay. So you experience damage in the fishery observed in tissue, you still have some mortality, right, in plants at 10,000?

Mr. Sevon: You still have some mortality in the fish. But at 10,000 TDS we are able to look at the component of the fish, the year classes of the fish and we're seeing a good representative sample of the fish living their full life expectancy.

Commissioner Johnson: Okay. Then you have a full development of the biota of the other plankton and food chain at 10,000, but not at 12,000?

Mr. Sevon: Yes. But not at 12,000. One of the things that was most interesting to me as I begin looking into this was I envisioned that if we lost the cutthroat trout, the tui chub would remain at Walker Lake for many years longer. And looking at the data from the Lockheed Corporation, it's obvious that shortly after we lose the trout, the tui chub can no longer reproduce. The eggs cannot be fertilized. And, so, these things are going to happen in a very short period of time between the two events.

Chairman Close: Are there any other questions? Thank you very much.

Mr. Sevon: Thank you.

Chairman Close: You know it's about 12:00. We might as well take our break now. I don't know how long your presentation will take.

Adele Basham: Probably 15 to 20 minutes.

Chairman Close: We'll take our break now for lunch and we will reconvene at 1:15.

Chairman Close: I'll call the meeting back to order. I think we are now starting on, we were finished with Section 4. Is that correct? All the presentations have been made on Section 4? And Section 5.

Adele Basham: Mr. Chairman, members of the Commission, good afternoon. For the record my name is Adele Basham. I'm the supervisor of the Water Quality Standards and TMDL branch. What I'll be discussing today is the water quality standards revisions for the Walker River. The standards for the Walker River were originally adopted in 1978. And what we're proposing today is the result of our review and public comment that we've received. Before I get into the details of Section 5 I wanted to kind of orientate you to

the reaches of the Walker River. The Walker River is divided into 10 reaches currently. The map that's up here is also in this blue book that you have in the second section, which is the Walker River section. It's on page 8. There's a reach at state line on the West Fork, which is near the W5 number and then what you can't see on this map, that's up there is, okay, that's W5, I can even hardly see this, and then there's a reach for Topaz Lake which actually comes off the West Fork. And then the West Fork there's a reach that goes the first half of the West Fork goes down to Wellington. And then the second reach on the West Fork goes from Wellington down to the confluence with the East Fork and then there's the reach for Desert Creek and then on the East Fork there's a reach at the state line and then this whole reach to the confluence with the West Fork is one reach. And then on the main stem there's a reach from the confluence down to Weber Reservoir and then a reach below Weber Reservoir down to Walker Lake.

Okay starting with Section 5, which is on page 3, there is one proposed revision to the reaches I just described and that is for the East Fork reach. The reach is currently known as the East Walker south of Yerington and then extends from state line to the confluence with the East and West Fork. We're proposing to divide this into two reaches. The proposed upper reach is what you see in Section 5 and it extends from state line to Bridge B-1475. If you go over to page 19 in the LCB version you'll see that East Walker River south of Yerington we're proposing in the description of the reach to change that from state line it reads that the table applies to the East Walker River south of Yerington above its confluence with the West Walker to state line and we're proposing to revise at state line to at Bridge B-1475. So that would be the lower reach of the East Fork. The reason we're proposing to divide the East Fork into two reaches is that it allows for better characterization of the physical conditions and the beneficial uses. The existing reach is over 100 miles long and the physical characteristics of the river changed significantly over this reach. The upper part is a relatively steep gradient and predominantly confined in a narrow canyon while the lower section is relatively flat and lies in a broad valley. The beneficial uses and the beneficial use standards proposed for the new upper reach, which is what's in Section 5 are the same as those that has been designated at the state line. Since we don't have adequate data to establish RMHQ's the RMHQ's proposed new reach reflect those that are in the existing reach right now.

Okay moving on to Section 6, which is NAC 445A.159 on page 5, this section designates beneficial uses for the river and there are a few proposed changes to the uses. Under No. 8 which is propagation of aquatic life it's proposed to add mountain whitefish to three reaches and that's Reach A, the West Walker at state line, Reach C, the West Walker from Wellington to state line and E, Sweetwater Creek. We're proposing to add mountain whitefish based on recommendations from the Division of Wildlife that these fish are existing in these reaches and it should be designated. Also on page 5 there are a couple of spelling corrections. On 8(b) the spelling of kokanee has been corrected and 8(f) whitefish is one word. Then on page 6 item (g). These are the proposed uses for the (inaudible) that I just described a few minutes ago. It's the East Fork from Bridge B-1475 to the state line and the uses include mountain whitefish, brown trout and rainbow trout. Then also on page 6 item (j).

Chairman Close: You know I'm not following what you're referring to. Looking at the pages you're referring to I'm not finding the alphabetical listing that you're suggesting. Am I looking at the right document? I've got the LCB . . .

Ms. Basham: Well I tried to confirm before, mine's dated October 4th.

Commissioner Gifford: We're on pages 4 and 5 and you're on 5 and 6.

Ms. Basham: You have the right one. I don't have the right one I guess. This should help. Okay. What I just described is on page 4.

Chairman Close: Page 4?

Ms. Basham: About the new beneficial uses. Section 6, NAC 445A.159.

Chairman Close: What number and letter are you referring to?

Ms. Basham: Okay. I'll start over with that. Do I need to go back any more than that?

Chairman Close: Probably. I think that would be a good idea.

Ms. Basham: Okay. Well we went, Section 5, which starts . . .

Chairman Close: Section 5 is page 3 on the document that I've got.

Ms. Basham: Page 3 and this is the new reach. Do you want me to go through the new reach description again? Okay. The beneficial uses and the beneficial use standards proposed for this new reach in Section 5 are the same as those that have been designated at the state line which is an existing reach. And then since we don't have adequate data to establish RMHQ's we've set the RMHQ's in this reach to reflect the ones that are in the existing East Fork reach that goes from the state line down to the confluence. Can I move on to Section 6?

Chairman Close: Yes.

Ms. Basham: Okay. Section 6 is NAC 445A.159 and it's the beneficial uses. Number 8 - propagation of aquatic life, we're proposing to add mountain whitefish to three of the reaches listed there. Reach A, the West Walker at state line, Reach C, the West Walker from Wellington to state line and E, Sweetwater Creek. We're proposing to add mountain whitefish because DOW has said that the fish are existing and that we should designate them. Also on that same page there are a couple of spelling corrections. In 8(b) the spelling of kokanee has been corrected and 8(f) whitefish is actually one word, not two. Item (g) which is on page 5. This item designates the beneficial uses for the new reach that I've described - the upper reach on the East Fork to include mountain whitefish, brown trout and rainbow trout. And then under Item (j) the number (1) where it says, "Year-round channel catfish" is just a format change that LCB did. We can see that

channel catfish appear above. And then the number (2) item is a change that adult Lahontan cutthroat trout occur from February through June, rather than April through May. And we're making this change based on, again, the recommendation from DOW that the February through June time period more accurately reflects the period when the Lahontan cutthroat are in the river.

Okay. Moving on to Section 7 which is NAC 445A.160, the West Walker River at State Line and this is in the middle of page 5. First what I'm going to do is describe a few housekeeping changes to this table and these are changes that we're proposing to make to all 10 of the reaches. The first proposed change is in the right-hand column for beneficial uses. There are two format changes in this column. The first is that we're proposing to make the terminology in this table consistent with the wording in Section 6 - 445A.159 that I was just describing. For example, we're changing aquatic life to propagation of aquatic life. So what we're doing throughout this table is we're simply replacing the wording but we're not proposing to add or delete any beneficial uses from the table. The second change to the right-hand column is the addition of the note at the top of the column which reads, "The most stringent use listed first." With the addition of this note at the top of the table we no longer need the footnote b. which is found on page 7 and refers to the most significant beneficial use. So, if necessary we've reordered the uses in the beneficial use column so that the most stringent one does appear first. And as I said we're making these changes to all of the reaches. And then over in the left-hand column titled "Parameter" we're making a couple of more housekeeping changes. In order to make the tables consistent and hopefully a little clearer to the public, we're proposing to move the units from the left-hand column to the middle two columns so that they appear directly behind the number to which they apply. And you can see temperature, the degree C is crossed out and the degree C appears in the middle two columns.

Another format change we're making to the left-hand column is that we're inserting the reference to single value or annual average in the left-hand column so that it applies to both columns to the right.

The RMHQ and beneficial use column. Without making this format change sometimes it's unclear in the middle two columns whether it's a single value or an annual average.

Okay that's the end of the format changes to the tables. Are there any questions on that?

Commissioner Gifford: Is there any particular reason that you give your temperatures as centigrade instead of Fahrenheit?

Ms. Basham: No. There's no particular reason.

Commissioner Gifford: I know most people will operate on a Fahrenheit scale and I was wondering if from a convenience you were eluding to making it easier to read. If maybe in parentheses or something it might be advisable to insert Fahrenheit in there.

Ms. Basham: To have both numbers . . .

Commissioner Gifford: Yeah. To have both. Just a suggestion, I mean . . .

Ms. Basham: Well that's true. Most people do think in Fahrenheit. At this point Mr. Chairman you have a choice. I can go through the changes in this LCB draft that we've been looking at page by page and describe each one, or I have a summary which covers all of the changes, but categorizes them by parameter.

Chairman Close: I guess one of the things that we want to make clear is to the audience as to what we're doing. Have they been given copies of this? LCB?

David Cowperthwaite: There up there. They're available.

Chairman Close: If anybody wants a copy of what we're reading, they're back on the table back there. And so if you want to take a look at it you can read it along with us. I guess you can just do it with a summary. If there's anything particular that you want to bring to our attention you can do so and if we have anything we'll ask our questions.

Ms. Basham: Well a lot of the changes are repetitive, so . . .

Chairman Close: Right.

Ms. Basham: Okay. There are three changes that we're proposing to temperature. The first one it's proposed to add a footnote to the lower reach, which is the reach from Walker Lake to Weber Reservoir which specifies a temperature of 21 degrees during February through June when Lahontan cutthroat trout are present. The footnote is based on the recommendation from the Division of Wildlife. When the conditions are right Lahontan cutthroat trout swim up the river and attempt to spawn and 21 degrees should be protective of these trout.

Chairman Close: And so on the bottom of that document it says Page 21, that's what we're to be looking at when you're speaking on that particular point?

Ms. Basham: Well I don't know if you'll have time to do that, but that is the reference in this blue book.

Chairman Close: In the blue book?

Ms. Basham: Yeah. Where the changes are described.

Chairman Close: Okay.

Ms. Basham: The second change we're proposing to temperature is to add the footnote that I just described to the next reach upstream, which is the reach on the main stem above Weber Reservoir and the proposed footnote for this reach is based on a request from the Walker

River Paiute Tribe to insure that the standards in the lower reach are met.

The third proposed change to temperature is to revise the existing April through June temperature beneficial use standard from 24 degrees to 23 degrees for the main stem above Weber Reservoir. The reach downstream from this reach currently has the standard of 23 degrees and the Division of Wildlife has indicated that the lower temperature really is more appropriate and revising the standard for this reach will provide consistency between the two reaches.

Chairman Close: Now could I ask you a question at this point? What is it that can be done that changes the temperature of the water from one reach to the other? I mean is there anything physical that happens? Because you are changing the temperatures that are allowed, what can affect those temperatures?

Ms. Basham: Well do you mean in reference to the change that I've just described?

Chairman Close: Well for example you just said that one of the changes was to make sure that the Lahontan cutthroat trout could migrate or, and I mean what can be done to control that water temperature?

Ms. Basham: Well there are a number of things that control water temperature. One of them is the condition of the riparian area so that if you have plants along the side it can provide shading. Another thing that has a big effect on temperature is the actual channel morphology. So if you have a wide, what is commonly referred to as a degraded channel that's spread out and shallow and flat, it's going to heat up a lot more than a channel that's narrow and deep.

Chairman Close: And so then to maintain the temperature you may have to either remove plants or put plants in or dredge out the channel? Is that what you're saying?

Ms. Basham: Well I wouldn't use the word "dredge." We like to call it "restoration."

Chairman Close: Restoration, exactly. Is that what you would do?

Ms. Basham: Yes.

Chairman Close: To try to control the temperature you would restore the channel?

Ms. Basham: Yes. And that actually has been demonstrated on rivers that it does improve temperature. Okay, moving on to pH and the existing standard for pH is 7.0 to 8.3. So it's the same standard for all 10 reaches and the standard's outdated. The most recent EPA criteria contained in the gold book recommends a range of 6.5 to 9, that this range should provide protection for aquatic life. The Commission has been adopting the 6.5, 9 for other rivers in the state: the Truckee and the Carson. So we're proposing this to all 10 reaches.

For nitrite the beneficial use standard on the main stem above Walker Reservoir is less than 5 mg/l for the protection of the warm water fishery. However, the most restrictive beneficial use on this reach is for municipal or domestic supply and the EPA recommends a nitrite concentration of 1 mg/l. So we're proposing this revision to the reach from the confluence of the east and west forks to Weber Reservoir. As I discussed previously under the temperature revision, the DOW has indicated that adult Lahontan cutthroat trout may swim up into the lower river and then attempt to spawn during the February through June time period. So we're proposing a footnote similar to the temperature footnote to the lower two reaches on the river of .06 mg/l nitrite when the Lahontan cutthroat trout are present. The EPA criteria recommend .06 for the protection of cold water fish and the standard's consistent with the standards in the upper reaches where cold water fish are designated.

For dissolved oxygen - it's proposed to revise the effective period for the beneficial use standard of greater than 6 mg/l from November through April to November through May for the West Fork at state line, Topaz Lake, Walker Lake and the third reach is Walker Lake to Weber Reservoir. The proposed change in the time period for these three reaches is to make it consistent with all of the other reaches on the Walker River. Also, for dissolved oxygen for the Topaz Lake reach, the time period June through October, we're proposing to add a footnote that the standard of greater than 5 mg/l only applies to the epilimnion which is the surface layer in a stratified lake. The reason for this is when the lake is thermally stratified there's little exchange of oxygen between the surface waters and the bottom waters and during the summer algae produced in the surface settles to the bottom where it decomposes and the decomposition consumes oxygen so the 5 mg/l standard cannot be sustained.

For suspended solids - we're proposing a requirement to maintain the existing higher quality RMHQ of 45 mg/l for Sweetwater Creek. The monitoring data shows that the existing quality is better than the beneficial use standard which is 80 and the DOW has requested that we propose an RMHQ for Sweetwater Creek. The existing beneficial use standard for color is a narrative which reads, "Increase in color must not be more than 10 pcu above natural conditions." Implementation of this standard has been difficult. It's difficult to define what "natural conditions" are. So we're proposing to replace the narrative standard with a numeric standard of 75 pcu based on the EPA criteria for the protection of municipal or domestic supply. This change is being proposed for all 10 reaches and the Environmental Commission has adopted the same criteria of 75 on the Truckee and Carson Rivers. So, since we're proposing to change the beneficial use standard to a numeric standard of 75 and we have adequate data on color, we are proposing a few RMHQ's where the existing quality is significantly better than the 75. We're proposing for the West Walker at state line an RMHQ of 26 pcu, for Topaz Lake the proposed RMHQ is 21 pcu, and for the reach West Walker River from Nordyke Road to Wellington the proposed RMHQ is 46. These numbers are based on the 95th percentile of the data.

For sulfate - we're proposing RMHQ's for several reaches because the existing concentrations in these reaches are significantly better than the beneficial use standard of

250. For both the West Walker at state line and Topaz Lake, we're proposing 25 mg/l and under the current Division policy RMHQ's are not established at values that are less than 10 percent of the beneficial use standard. So, 10 percent of 250 is 25. We're proposing additional RMHQ's for sulfate of 74 mg/l for the West Walker River from Nordyke Road to Wellington, 26 mg/l for the East Walker at state line and 44 mg/l for the East Walker from Nordyke to Bridge B-1475. These three RMHQ's are based on the 95th percentile of the data.

The last proposed change is to delete the existing beneficial use standard for Fecal Coliform and replace it with a beneficial use standard for E-Coli for all of the reaches. We're proposing an annual geometric mean of less than or equal to 126 for 100 milliliters and a single value of less than or equal to 235 per 100 milliliters. The reason for this change is the existing fecal coliform standard is outdated and more recent studies have indicated that E-Coli is a better indicator of human health risk. The Commission has been making this change to other water bodies that we've been working on. That's a summary of all of the proposed changes to the river. Are there any questions?

- Chairman Close: Any questions?
- Commissioner Gifford: Yes. Just one. The annual geometric mean is a mean of how many sampling dates approximately, then?
- Ms. Basham: Well we're not specifying.
- Commissioner Gifford: Oh, just whatever number of days you go out.
- Ms. Basham: Whatever you have for the year.
- Commissioner Gifford: Okay. Thank you.
- Chairman Close: Any other questions?
- Commissioner Dahl: To reach a temperature standard say of 21 in the lower reach, are there ways to do that without increased flow in the river?
- Ms. Basham: Yeah and I should mention that the data that we have shows that that's the number that we're proposing is being met.
- Commissioner Dahl: It is being met now?
- Ms. Basham: Yeah. We don't see a problem with conditions as they are, but as I described earlier, improvements in the riparian vegetation and the channel morphology, restoring the channel so it's a narrower, deeper channel helps increase temperature.
- Commissioner Dahl: How about temperature in the other reaches and how are they affected by drought years?

Ms. Basham: Well, you know, the water moves downstream, the same water. So if it's, during low flow you have less water and it heats up faster. So it is warmer during drought years.

Commissioner Dahl: So to attain the standard there needs to be a minimum flow?

Ms. Basham: No. We're not saying that, no.

Commissioner Dahl: Not necessarily.

Ms. Basham: Temperature is dependent a lot on first what the temperature is at the headwaters and then the reason flow affects it is it affects how fast the water is moving and in the summer time, you know, in through the valley if it's moving slow you'll get it heating up by the sun. But, it's also affected a lot by ambient air temperature. And I think that's why we don't see a problem with the 21 degrees in the spring time, because it's still pretty cool outside.

Commissioner Ricci: Adele are there any, I know I read this but I can't remember all of them, but are any of these values that have exceeded the same thing like we talk about Walker Lake where you have measurements that are higher than these numbers that you have set out here?

Ms. Basham: The new numbers that we're proposing?

Commissioner Ricci: Yes.

Ms. Basham: No. But the numbers that we are proposing some of them are new RMHQ's so they're based on the existing data. No, generally we're not proposing anything that's not attainable.

Commissioner Ricci: Thank you.

Commissioner Doppe: The flip-side of that question then is are you proposing standards that are more lax than EPA standards?

Ms. Basham: No. I don't believe so. We're proposing, really what I went over is relatively minor revisions to a whole large set of standards that are in place and by in large those standards are based on EPA criteria with the exception probably of temperature which we take the recommendation of DOW.

Chairman Close: Any other questions? Thank you. Now as I understand that completes the Walker River presentation.

Mr. Porta: That's correct and probably at this time that concludes our presentation and we'd be happy to answer any questions and with that we conclude our section.

Chairman Close: What we're thinking of doing is Walker River is less controversial it appears than Walker Lake and so I think we'll take comment from the audience on Walker River now

and maybe get that part concluded and out of the way. It may be because of our time limitation that we may or may not complete the Walker Lake analysis today. If we can, we will. But we want to get out of the way those things that we can and I think Walker River probably can be done fairly expeditiously. I have speaker cards here for people who want to make presentations before us today. If you haven't signed one, they are back on the table. Please sign one, give it to our secretary, to our Executive Secretary and he will bring them up here to me. I will call them in the order that I received them and if I call you relative to the lake, then please tell me that that isn't what you are interested in speaking on and I'll continue going through here until we find people who are interested on talking on the river. Peter Tuttle? On the river?

Peter Tuttle:

Yes, on the river. Actually on the river and lake both, but I guess I'll come back for the river there. My name is Pete Tuttle. I'm with the Fish and Wildlife Service in Reno, Nevada. We certainly appreciate the opportunity to participate in the process here and do commend Adele and John and the rest involved here. I think they've done an outstanding job. In terms of the Walker River basin, it has been identified as necessary for recovery of the threatened Lahontan cutthroat trout. We certainly view this as a long-term process, something that will not happen overnight. But we also recognize that the protection of water quality is a crucial first step in this process here. So, with that we're certainly very interested and had some comments that we've previously offered. First of which, I guess we recommend that Lahontan cutthroat trout be included as a species of major concern throughout the basin. We certainly view them with, or a listed species as a concern and based on comments from most others, I think they're concerned about them one way or another. There currently are Lahontan cutthroat trout existing in several parts of the basin. As was mentioned earlier they are migrating up from the lake itself and also have been (inaudible) both in the east and the west fork of the Walker River.

Okay the second comment here is for the lower reach of the river there. The addition of the phrase, "When adequate flows exist these standards will apply." I think relief from compliance with the standards during periods of extreme low flow are already provided in the Nevada Administrative Codes. I think that's 445A.121. So with that I think the addition of the verbiage is somewhat redundant and also it creates I think additional ambiguity and I think will come to a point of future contention unless the term "adequate" is in some way defined.

Third is temperature standards there. We recommend a temperature of 13 degrees for all reaches I guess above the confluence there, 13 degrees during the period of February to June to adequately support the spawning egg incubation and fry emergence and also a temperature standard of 20 degrees for the tributaries and such during the period of July through January to adequately support adult survival.

Okay, a third of which is, similar to what was done for nitrite in the lower reaches there. Adding a footnote for ammonia for cold water standards for ammonia in those lower reaches during the period when Lahontan cutthroat trout may be present in the lower reaches.

And finally where dissolved oxygen standards for Topaz Lake are concerned, we recommend that they apply to the entire water column to provide, well ensure protection of first of all the aquatic life, both within the lake and then I also understand that water is released from Topaz Lake down in hypo or lower strata of the lake there and so in applying the standard of 5 mg/l to the lower portion of the lake there, it will preclude downstream fish kills or aquatic life impacts due to release of water with low dissolved oxygen concentrations. And that's all I had.

Commissioner Doppe: How to you get the water temperature that cool?

Mr. Tuttle: How do we get the water temperature that cool?

Commissioner Doppe: And the reason is because it's pretty significantly cooler than what's proposed here.

Mr. Tuttle: In some reaches there I think based on the analysis there, there will be some exceedences again as Adele pointed out there, there's a number of things that can be done in terms of riparian habitat enhancement, channel stability, channel morphology. So there are some things you can do and as was mentioned earlier, under the Clean Water Act 319 program there are grants given out to stimulate interest in riparian enhancement and channel restoration.

Commissioner Doppe: Are you suggesting then that the water used to be cool and now it's warmed up?

Mr. Tuttle: I think for the most part what is being proposed is not that far off what's being attained now. Certainly there are some reaches that do exceed it and they do exceed by the existing standards here as proposed or what are currently existing. But I think it is attainable and, again, these numbers are not pulled out of the air. They are based on research on Lahontan cutthroat trout.

Commissioner Dahl: I think you said you would like a better definition for adequate flows?

Mr. Tuttle: Yes.

Commissioner Dahl: What would be your suggestion for that?

Mr. Tuttle: What would be our suggestion? I think you need something to in some way define minimum flows where the fish will actually migrate out of the lake itself into the river. What that exactly is, I don't know and at this time I would have to guess at that number. But I think it actually, going down there and monitoring that section of the river we could more closely define that number.

Commissioner Dahl: So maybe you'd like to change that from "adequate" to "minimum?" Is that what you're saying?

Mr. Tuttle: Something along those lines there. I think as it's termed right now it will be a point of contention in the future.

Chairman Close: Any other questions? Thank you. Adele do you want to respond to these comments please? And if you respond to them can you refer to the LCB pages to which they apply? And if they apply generally throughout your entire presentation you can just refer to page number 5.

Ms. Basham: The pages, you requested the LCB pages.

Chairman Close: If you're going to refer to specific matter then refer us to a page so we can put it into some context.

Ms. Basham: With regards to the temperature discussion and the adequate flows discussion that Pete was talking about, if you look at page 20 the proposed footnote says, "The temperature beneficial use standard is 21 degrees during February through June when Lahontan . . . "

Chairman Close: Now is this 20 of the LCB or 20 of the blue book?

Ms. Basham: 20 of the LCB. ". . . when Lahontan cutthroat trout are present in the reach from Walker Lake to Weber Reservoir." In an earlier version we did have something that talked about hydrologic conditions and flows being adequate and because of the difficulty that that presented we got a lot of public comments on it and we were not able to define that number and we didn't think it was appropriate for our agency to be defining that number. Really what is important here is the fish not so much as the flow and so we changed that wording to "when Lahontan cutthroat trout are present." So we no longer have any reference to adequate flows at all and I had it described to me that it's pretty hard to put your finger on the flow number because fish that are responding to a biological urge to spawn will basically spawn in virtually nothing and kill themselves trying. So we removed that language. So that comment is no longer relevant.

With regards to ammonia, I think, I don't recall exactly which reaches Pete Tuttle was referring to so I'll answer the question generally. We decided not to make any revisions to ammonia until we make the statewide revision using the EPA's new criteria. And what happened was just probably weeks before we went out to our first public workshop EPA came out with revised ammonia criteria and we were not able to digest that information in time. So we're planning in the near future to make a statewide revision to ammonia that should address cold water and warm water fisheries. In terms of designating the Lahontan cutthroat trout, I believe he mentioned designating them as a beneficial use for the upper reaches of the river and at this time Lahontan cutthroat trout are not existing in the upper reaches of the river and there is, Fish and Wildlife is talking about a recovery plan, but we haven't seen the details of that recovery plan. It's our policy not to designate them as a beneficial use until recovery is successful. That's all I can remember, is there?

Commissioner Gifford: There was one other one, the oxygen concentrations below Topaz Dam I believe it was. And, in fact, that's an interesting question. In terms of releasing water from the hypolimnion which is low in oxygen. How far downstream does it take for that cold water to pick up enough oxygen where it will meet a standard? Is it a long distance or a

short distance, or?

Ms. Basham: Well I don't believe our monitoring data has shown any problems with oxygen.

Commissioner Gifford: Well it comes out meeting a 5 milligram . . .

Ms. Basham: Well we don't measure at the point that it comes out. You know I think John might know more about that than I do.

Mr. Heggeness: Again, my name is John Heggeness. We don't collect data where the outlet is to the dam. So we don't know and don't have any indication that there have been any problems with the fish kill or anything just below the dam. Part of the reason we did propose this is because it is a natural process that does occur in lakes that do stratify such as Topaz Lake and Walker Lake. So it does occur naturally. It does happen and we felt that we needed to acknowledge that you can get low dissolved oxygens in the lower portions of the lake. Does that answer the question?

Commissioner Gifford: Not exactly but it was an interesting statement though.

Chairman Close: Any other questions?

Mr. Sevon: I am Mike Sevon with the Nevada Division of Wildlife. I would just like to address that question regarding DO's in Topaz Reservoir. We do see in the summer months stratification of the lake. If you were to apply this to the whole water column in Topaz it would require that you would have to have some type of aeration system. This is not a unnatural situation to have low dissolved oxygen levels below the isothermic line and I don't think that's something that needs to be fixed. We have been stocking fish in Topaz canal below Topaz Reservoir for over 30 years. We have no documentation that there's been any problem with dissolved oxygen levels below the reservoir. That's all I had to add.

Chairman Close: Pete have your questions now been, have they responded to the things . . .

Mr. Tuttle: I guess I'd like to ask Mike a question.

Chairman Close: Well don't ask there. You have to come up to . . .

Mr. Tuttle: Again, Peter Tuttle. I just wanted to ask Mike a question real quick about the occurrence of Lahontan cutthroat trout in the upper basin itself. I understand that the Nevada Division of Wildlife and California Department of Fish and Game have actively stocked Lahontan cutthroat trout in the upper basin?

Mr. Sevon: Mike Sevon again. As we came out of the seven-year drought we did some stocking of Lahontan cutthroat trout. This occurred in the West Walker River system. We have not stocked Lahontan cutthroat trout in the East Walker River. These fish were planted in Wilson Canyon as an augmentation of our sport fishing program. We do not have any

data at this point in time that indicates that those fish that were stocked three years ago are presently existing in the system. Cal Fish and Game has an active Lahontan cutthroat trout recovery plan that deals with the hit waters in the Walker River system and they have been meeting the objectives of this plan. This plan is about 12 years old. There are Lahontan cutthroat trout in By Day Creek which is above Bridgeport and they've used By Day Creek as a transplant source to put fish into other waters in the head waters of the West Walker River. And also above Topaz Reservoir they have been stocking Lahontan cutthroat trout. These are the Heenan Lake strain. They're in the canyon located above Topaz Reservoir. But for the reaches that we're describing today, we have no indication that they are present in Lahontan cutthroat trout in the upper East and West Fork of the Walker River.

Chairman Close: Any questions?

Commissioner Ricci: Yes a question to Adele. Does Nevada jurisdiction extend pass the Nevada state line?

Ms. Basham: No.

Commissioner Ricci: Okay. Thank you.

Chairman Close: Nancy Henker. Nancy Henker?

Nancy Henker: Good afternoon. My name is Nancy Henker co-owner of Henker Farms. I have a statement here that I received in the mail entitled "The Nevada State Environmental Commission Agenda." This states, "the Nevada State Environmental notice of public hearing." I received this in the mail. It has under No. I Petition 2000-10 a permanent amendment to the Nevada Administrative Code regarding water quality. Apparently standards are going to be adopted are under consideration to be adopted for the entire Walker River Basin. This is apparently an environmental impact statement. It states on here, "The proposed regulation will not have an adverse economic impact on businesses. There will be no adverse economic impact upon the regulated business community." Gentlemen, I beg to disagree with you. I am an owner of a business in the community. My business is a farm. I don't understand why farms are not considered a business. I have hundreds of thousands of dollars personally invested in my business. There are people in this room who have tens of millions of dollars invested in their businesses. Because it is of an agricultural nature, somehow it is not considered a business. Gentlemen, these regulations will have to have an economic impact on these businesses. These regulations affect the water. We are owners in equity of this water. These things cannot be implemented fully without modifications to current systems within irrigation districts within the delivery of water on site. There must be some modifications to the current flows, whether it be timing, whether it be amounts, temperature in particular especially when you're planting vegetation along stream beds. It will affect the water flow. With more plants planted on the riparian area, the more water is consumed. So actually reducing the flow. I have no objection to sharing the water with any species of fish. I certainly understand the goals that are being attempted here, but under Nevada State law I believe that your Commission is required to look at and observe historic

irrigation practices and I don't see any way that these regulations could be implemented without taking some form of regulation possible in the future, there may even be civil or criminal penalties imposed. I've never seen a regulation implemented where there was not some enforcement measure. We have not talked about enforcement here at this meeting. Well apparently any regulation that is going into the Nevada Administrative Code will have some form of enforcement. I don't know what that will be. I have not heard anyone say what that will be. I have not even heard how these will be implemented. And until we understand how these will be implemented, I don't know how we can satisfactorily attain what economic impact this will have on people especially since the flow of water in the State are erratic. The timing is critical as far as storage, as far as delivery. I think that these things really need to be looked at. I don't think that anyone has really done a thorough job here ascertaining what these impacts will be. And as far as if it is severe to the Irrigation District or to individuals, I think that it can even be a Fifth Amendment Regulatory Takings. There might be a case for court action as far as individuals or as a Class Action suits either. Also I think that once this is implemented, it sort of opens a floodgate for other organizations to come in and propose more stringent regulations. I think it is just the beginning. I think it really needs to be looked at. I think that some of these goals may be attainable. They may not be attainable. I don't think that it is the intent of Congress to legislate to an executive agency, the EPA to legislate and mandate to an appointed executive agency in the State of Nevada just generic-type standards, especially for a system that is in good condition in the upper reaches and all through into the lower reaches where it becomes a terminal salt lake which is part of a military reservation with active and live ammunition within parts of the water, whereas the Hawthorne Ammunition Depot, I believe, according to the Rural Alliance of Military Accountability, has filed with the Nevada Department of Environmental Protection, approximately 100 permits for hazardous waste cleanup within the area. Gentlemen we don't know what's in that lake and as part of a military reservation I don't see where we need to make these standards so stringent, although I appreciate the goals of restoring and aiding the fish, but it does have an economic impact, it will have to, on the businesses of the community which is the entire economic basis of South Lyon County and also the Bridgeport area. Thank you.

Chairman Close: Any questions? Thank you very much. William Schaeffer.

William Schaeffer: Ladies and gentlemen, thanks. I provided a letter to be passed around to you. Basically, I just plan to read the letter so that everybody can follow along.

Chairman Close: If there's no objection, we'll make your letter part of our record.

Mr. Schaeffer: Ladies and gentlemen of the Commission it is my understanding that the Commission plans to adopt water quality standards for Walker Lake based on its duties under the Nevada Water Pollution Control law, which is NRS 445A.300 and following. And on the Federal Clean Water Act, which is Title 33, Chapter 26 of the U.S. Code. The supposed goal of the proposed new standards is to reduce the total dissolved solids levels to a point which were (inaudible) with the goals of the Federal Clean Water Act and the Nevada Water Pollution Control law. However, by their own terms the goals of the

Clean Water Act and the Nevada Water Pollution Control law only come into play when the ultimate goal or objective is “attainable” or “reasonably attainable.” The first section of Chapter 26 specifically 33 USC 1251(a)(2) states, “It is the national goal that whenever attainable an interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water be achieved.” Similarly NRS 445A.520 requires the State Environmental Commission to “base its water quality standards on water quality criteria which numerically or descriptively defined the conditions necessary to maintain the designated beneficial use or uses of water. The water quality standards must reflect water quality criteria which define the conditions necessary to support, protect, and allow the propagation of fish, shellfish and other wildlife and to provide for recreation in and on the water if these objectives are reasonably attainable.” Thus, under both the state and federal statutes before this Board can institute water quality standards for a body of water or a segment or reach of a river, the objective for doing so must be “attainable.” In the case of Walker Lake due to the inflows of salt and the lack of any outflow to counterbalance it, the goals of supporting or propagating fish or shellfish are not attainable, reasonably or otherwise. As I understand it, Walker Lake is geologically doomed. That is, it is inevitable that it will become like the Dead Sea in Israel or like Great Salt Lake and for the same reason: the in flowing water carries salt and there is no outflow. Under these circumstances, there is no level which the Commission can set that can attain the objective under the laws I’ve just cited. If the objective cannot reasonably be met, then the Commission has no business setting a standard.

Chairman Close: Mr. Schaeffer it sounds like you’re going mostly into Walker Lake rather than Walker River.

Mr. Schaeffer: Mostly yes.

Chairman Close: And what we’re trying to do right now is address the issues on Walker River. I’m afraid if you address these issues now when the time comes for us to consider the lake, you’re not going to be currently speaking to us. And so, what I would suggest is that you hold your remarks until we are able to resolve the river matter and then I’ll surely call you quickly back when we get back to the lake.

Mr. Schaeffer: I don’t have a problem with that if you prefer to proceed that way.

Chairman Close: If we could do it that way I would prefer it. We’ll still keep your record. Your letter is part of the record and we’ll continue on with the river issues right now and then we’ll come back to the lake and you can come back and participate.

Mr. Schaeffer: Okay. I think of it as all one system that is why, you know, but I understand.

Chairman Close: It is one system, but we think we can probably take care of the river more quickly than the lake because the lake has, as you pointed out, a lot of more concern than the river has possibly.

Mr. Schaeffer: I understand. Thank you Mr. Chairman.

Chairman Close: Susan Lynn? Louis Thompson?

Louis Thompson: I'm on the lake.

Chairman Close: Marlene Bunch?

Marlene Bunch: I'm on the lake.

Chairman Close: Marlene Bunch, on the lake?

Marlene Bunch: I'm on the lake.

Chairman Close: Gordon DePaoli?

Gordon DePaoli: Walker Lake.

Chairman Close: Frank Ehwell?

Frank Ehwell: My comments are generalized, but they're primarily on the lake.

Chairman Close: David Fulstone?

David Fulstone: Yes mine are lake and just a slight amount on the river, so . . .

Chairman Close: Rose Strickland?

Rose Strickland: Both, but I do have some on the river.

Chairman Close: Okay.

Ms. Strickland: My name is Rose Strickland. I'm with the Sierra Club in Reno. Most of my comments are about the lake, but I do have a couple of comments about the river. In our comments of February 18th of this year we raised the issue of the Walker River being on Nevada's 303D list of impaired waters. This means that there are significant violations of current standards and additional action is needed to achieve or maintain the standards, yet we could not find strengthened standards for Walker River nor additional actions which hopefully would lead to correcting these significant water quality violations in the proposed changes. Revising or keeping the status quo on the Walker River water quality standards which are already being violated. It doesn't seem like the thing you ought to be doing. A rational process nor one that would meet the intent of the Clean Water Act. So we just don't understand that part of the process. The other issue which we raised last winter was the lack of any NDEP proposal to address phosphorus pollution in the Walker River. I couldn't find anything in the last documents that were reviewed to prepare testimony for this meeting. So I just say that these are two concerns that we have that we

don't find addressed by the current proceedings.

Chairman Close: Are there any questions?

Commissioner Doppe: I'd like to get a response, but no questions.

Chairman Close: Any questions? Is there a response to her comments?

Mr. Porta: Tom Porta with DEP. First of all, with regard to the standards and what can be done and what can be enforced issue and that these standards don't address current impairment on the river system, I explained earlier today that there's two different types of systems we have in Nevada. One are nonpoint source impaired waters and point source impaired waters. Point source impaired waters are, again, those waters which have discharges from discreet pipes or conveyances with the exception of irrigation return flow. For those we have direct regulatory control over. We can limit permittees to their discharge to help restore the water. With regard to situations like the Walker and the Carson, we have to rely on voluntary measures to try to obtain compliance with the standards, i.e., that's funding, that's education and those types of measures. With nonpoint source impairment, again, we do not have, nor do I think we should have, a regulatory hammer, if you will. I think it should be cooperative in nature and we've commented to EPA that this issue, by the way, is not unique to Nevada. The nation is struggling with this issue right now under the new TMDL rules. How do we get at the nonpoint source impairment of our waters? How do we clean those up? EPA seems to take the tact, it is going to take the tact of a regulatory hammer. I don't think that's the key and again we've commented on that. We have to work cooperatively to solve these very difficult and costly problems. Point sources were easy in the '80's. We were able to put on a control device at an expense and limit almost see the minute we turned the switch improvement. With nonpoint source it may take several years until we find out from monitoring, from the actual project itself, whether we can improve water quality. That's why I believe it's important that nonpoint source still remain a voluntary approach to try to control these problems. That was the first question with regard to way don't these standards address any regulatory aspect of an impairment?

The second one I think was why isn't anything being done about the phosphorus contamination levels? Right now, we are obviously, like any agency, resource-limited and our watershed focus right now is on the Carson River. We are focusing, we have been in agreement with USGS to do a comprehensive study on phosphorus loading in the Carson River right now and we want to find out what the effects and where the phosphorus is coming from. Is it coming from urban runoff? Is it coming from sediment that's being eroded away in the channel. We don't know yet. But we need to find out and we hope to use that study on other river systems such as the Walker that are similar. So that's why, again, I guess it's a resource issue. Where do we put our eggs in one basket? Right now we're focusing trying to get some implementation water quality improvement on the nonpoint source impaired Carson River. Hopefully we can learn some things from that in the next two to three years that may be applicable to the Walker River.

Commissioner Gifford: It was my understanding from reading the document that we were provided that phosphorus wasn't necessarily addressed because there was ample phosphorus present right on down to the lake, but phosphorus is not the problem because it's a nitrogen-deficient system. Is that still part of the rationale?

Mr. Porta: Yes. Years ago when the standards were adopted in the mid '80's there was kind of a uniform standard, I believe, about .1 mg/l phosphorus standard adopted. We are currently looking at that number statewide to determine if that truly is, in effect, a number that is protected with a beneficial use. In some areas it may be that. In other areas it may not be. EPA is currently conducting nationwide studies in the west and in the east to try to determine if there is a number we can come up with the nutrients. But clearly, you're right. If the nutrient of trouble is nitrogen, that's the one we're going to try to go after. But the problem we have is we've got this .1 number that was adopted 15 years ago that may or may not be accurate and hopefully this Carson study will show us that.

Commissioner Johnson: My question really revolves around that in part. In determining a nutrient level at Topaz, this is what you're talking about stratified dissolved oxygen and the impact of the algal growth on summer time stratified environments, but there's an interrelationship between this nutrient. What I really want to hear you say is that when you have a listed stream you have identified and prioritized or had a request for a study, whether it's funded or not oftentimes that's certainly not your prerogative. But in the process, has the Walker River and its impairment been entered into a prioritized system with an identified study and an identified agency that would do that study?

Mr. Porta: With regard to prioritization, yes there is a list. Any time a water body goes on the 303D listing we have to prioritize a two to three year time frame and then three to five and then beyond that. With regard to specific identifying studies sometimes like I said with the Carson, we may try to learn from other river systems and the studies going on there that might be applicable to other systems, again, because of the resource issue. And if we can learn from one study, we don't want to be spending money doing another one trying to figure out, you know, the difference. Especially when the Carson and the Walker seem to be fairly similar in nature.

Commissioner Johnson: But then, well we'll ask about arsenic in the lake later.

Mr. Porta: Yeah and let me get to the .1 again that I talked about earlier. On the Carson the .1 was set and we had point source discharge into the Carson River and we had algal problems in Lahontan Reservoir. The .1 was put on there, again, to address the point sources and they subsequently in lieu of putting on more costly controls, simply withdrew their discharge. At that time then the water quality and the algal blooms in the Lahontan Reservoir improved.

Commissioner Gifford: One other question that came to mind. When Ms. Basham was giving her presentation she indicated the standards as given are slightly revised at this point, pretty well represents what's going on in the river at the current time and yet Ms. Strickland just

indicated, I think, that there were violations going on and then you said the river was in the 303D category which would tend to infer that as well. Are we talking about a lot of things being violated then at this point or what is it? I kind of had the feeling that everything was pretty well close, I'll just put it that way, to what your proposed standards were. But is there something else there?

Mr. Porta: You know, and I can tell you this, just about every surface water we have in Nevada to some extent for one parameter or more is in violation at some point. And we have to go back and look at the extent of that. With the Walker system, the culprit is primarily phosphorus. And, again, it goes back to that .1 number that I told you about that we adopted back in the mid '80's that seem to be the appropriate number. We're questioning whether that is right now. We're trying to get to the bottom of that. So I can tell you this, with regard to the west, Arizona, Utah, Oregon, Idaho and so forth, they have approximately 5 to 7 percent, I believe if I recall correctly, of their waters listed as impaired. In Nevada it's around 3. So, if you look at comparisons in the west, we're in pretty good shape even with limited water resources.

Commissioner Doppe: Which I guess would make you feel pretty good unless you're talking about the Walker River or one of those that is on the 303D list.

Mr. Porta: Right.

Commissioner Doppe: You know earlier I had asked Adele what regulations were being proposed that were not up to EPA standards and her response was "none." But I guess what she meant was "of those that were actually included" because, in fact, if the phosphorus isn't even included, then it's not up to EPA standards and that would have been one, right?

Mr. Porta: It's existing. That standard is in place and we did not propose a change to it.

Ms. Basham: Well I interpreted your question to mean not are we meeting the standard, but the standard that's in place, is it consistent with the EPA criteria? Do you see what I'm saying? There's a difference.

Commissioner Doppe: I guess I'm having a difficult time then evaluating a regulation when I don't have a clear picture of what the EPA requirement is. And I don't want to go home and represent to my constituents or actually hear from them and say, "Why did you guys approve a set of standards that don't do anything to get us up to where we should be with regard to the EPA's requirements?" And maybe we make a conscience decision to do that. Like, for example, chlorides or arsenic at the lake because there's a good reason. But if there is something that we don't know about, like phosphorus because it's not really addressed or brought up, I would hate to be blind-sided by it and have this Commission rubber stamp something or approve, I don't think we rubber stamp it, approve something without due deliberation. And it strikes me as though unless we have some better background as to exactly the current regulatory status of that body of water, and where it's impaired, even if not our definition but theirs, then if we don't know what we're doing we're likely to get ourselves turned sideways. And you folks probably do know what you're doing, but

we're the ones being asked to approve it. And then I feel a little squeamish about that. And asking for more information on all of those items.

Ms. Basham: Well I only discussed things that we're proposing to revise and we are not proposing to revise phosphorus.

Commissioner Doppe: Yet phosphorus is the one that we are deficient on. So why wouldn't we want to propose to revise it?

Mr. Porta: I mentioned the TMDL's, okay?

Commissioner Doppe: Tom you did answer it. You mentioned, after the question came up you did answer it. You said you're studying Carson and you want to apply the data to here. But I didn't know that until the question came up out of the audience and, frankly, it's a little disturbing that there's a body of regulation that we are not addressing that perhaps we ought to be, at least to bring them up. If this is part of our review, we at least ought to talk about the things we're deficient in.

Ms. Basham: Well on page 16 of the blue book you'll find that 303D list and it does identify the things, the standards that are not being met. Is that what you're looking for?

Commissioner Doppe: Well I guess I was hoping to see some sort of legislative, LCB addressing of those things.

Ms. Basham: Well just because a standard is not being met is not a reason to change a standard.

Commissioner Doppe: I understand that and I'm not necessarily suggesting that we should. Like I said, I don't believe in all cases the EPA standard is applicable. But what I'm suggesting is that I would like to spend a little more time understanding what we're deficient in, understanding what we're deciding not to revise, because if this is our time to review those things every what is it, three years? If this is our time to talk about them I don't want to just close my eyes to those things that we're deficient on and then it's gone away for three more years, particularly on something that we're at least not meeting the technical definition of compliance.

Mr. Porta: I think that there's two issues here. One we have the standard and the number of the goal. The next thing that we have to do when it ends up on this list is determine the source of that pollutant. Not changing the standard or looking at a regulatory mechanism or anything like that, but we have to understand the source of the pollution. So once we get that in hand, which is very difficult and very costly and timely, it can take years to try to pinpoint that down, then I think we can begin to talk about how do we come back into compliance or what needs to be done with the rules or whatever to change that.

Commissioner Doppe: In six years you guys have never failed to satisfy me with the technical background required. I'm grousing about a procedural issue now as Allen was glaring at me you can probably tell, I'm talking procedure now and making sure that we're covering all the

bases if we stamp this thing and pass it on. That's what I'm talking about. I've made my point.

Commissioner Ricci: Is there anybody else here that wants to discuss the standards on the river? Yes Mr. Dini.

Joe Dini: Thank you ladies and gentlemen of the Board. The only thing I wanted to mention is I'm worried just a little bit about the water temperatures that were mentioned in the proposed regulations and the proposal to have a lower temperature upstream and above Weber Reservoir and I think you'll want to take a look at that. The problem we have above Weber Reservoir is that the river just scatters out all over the desert out there from the wildlife ranch area in Mason Valley to Weber Reservoir so the temperature goes up. So I don't think you can have a lower temperature upstream than you can have at Weber Reservoir until (1) you got to let us clean the river out and you provide us the money to do it or get us through the maze of regulations of getting NDOW to approve it and the Corps of Engineers to approve it and all of these other things that have happened, because when we've done some upstream river clearance, we've never been able to get a permit to clean the river from the Wildlife down to Weber Reservoir. And that's where we're having a problem. The water just wanders out into the desert and doesn't get heated. It's shallow and there's a great water loss there too. I think it would be a great improvement for Weber Reservoir if they could catch some of that water instead of having it just go into the ground. So I would hope the Commission takes a look at the issue of water temperature. Thank you. Any questions?

Ms. Basham: We attempted to make the temperature consistent between the reach from Walker Lake up to Weber Reservoir and then the reach above Weber Reservoir. The way I read them they're the same.

Commissioner Ricci: Okay, thank you. Terry you had a couple of questions?

Comm. Crawford: Yes Mr. Chairman. In looking at the package on page 21 Standards of Water Quality Walker River at Schurz Bridge, it says section 15 and if you go to page 23, Standards of Water Quality for Desert Creek it also says section 15. I assume that should be 16. In looking at our discussions about the lake versus the river versus whatever and if we're going to handle that separately, is that?

Mr. Porta: Tom Porta, again with DEP. That's correct.

Comm. Crawford: So the Desert Creek should say section 16?

Mr. Porta: Section 16, yeah. When they come back from LCB David Cowperthwaite retypes the regulation to get it into a nicer format for you all and sometimes those numbers . . .

Comm. Crawford: So it's his fault.

Mr. Porta: Yeah, basically.

Comm. Crawford: I just wanted to point that out. Tom before you run off there, a question concerning the State's authority to adopt water quality standards on the Walker River Indian Reservations.

Mr. Porta: There is no authority. The Tribal members of Pyramid Lake, Walker Lake Tribe have their own authority to adopt water quality standards. Currently the Pyramid Lake Tribe is doing their own water quality standards now and we are working closely with them on trying to be consistent with what's in the Truckee versus what their going to adopt in the lake. But we do not have jurisdiction to adopt water quality standards unless they adopt their own standards. We can't, in this case, adopt them unless they adopt their own.

Comm. Crawford: So the standard at the Schurz Bridge, they're not adopting theirs so the State has the authority? Is that what you're saying?

Ms. Basham: In the past, these standards are in place, so we have adopted standards on the Walker River Indian Reservation. When we did the standards revision we worked with the Tribe and they are in agreement with our standards until they get to a position that they're able to adopt their own standards. They would rather have our standards than those standards. That's the way I understand it. When it comes down to actual authority and enforcement it probably gets pretty gray. But the Tribe has agreed with these standards.

Comm. Crawford: That was my next question and if that authority isn't there and you have it here the Tribe is in concurrence with this proposed regulation for things like at the Schurz Bridge?

Ms. Basham: Yeah. That's my understanding. Is there anybody from the Walker River Paiute Tribe that is here and disagrees with my assessment?

Comm. Crawford: Your word is good enough for me Adele. And lastly, and I almost, I hate to bring this up, but you mentioned the Carson River and we've been hearing some about mercury in Walker Lake. Is that a standard that we've considered in this regulation?

Ms. Basham: We have statewide toxics that appear in NAC 445.144. What we were discussing since the Walker Lake is a new reach, it's a little out of our hands. We're thinking that the LCB will assign a number to Walker Lake that is somewhere near the Walker River numbers, 160 on. The reason I'm bringing this up is that 445A.144 applies to a certain set of NAC numbers. But as long as the Walker Lake falls within that set, it'll be covered. But we don't know what the number will be. It's our intent that the statewide toxics would cover Walker Lake. They currently do cover the Walker River. Mercury is a standard in the statewide toxics.

Comm. Crawford: Statewide, okay.

Chairman Close: Any other questions? Is there any other testimony from the audience on the river issue? Seeing none we'll declare that portion of our hearing closed and I think that at this point we can take action on . . .

Audience: Mr. Chairman?

Chairman Close: Yes?

David Fulstone: Thank you Mr. Chairman and I'm David Fulstone. I am a Lyon County Commissioner for this area along the Walker River. The only thing is I wonder if maybe that you not close that and take action on it until all the testimony is in because the whole thing is dynamic and together and I understand why you asked for testimony on the Walker River and then the Walker Lake, but it's hard to talk about the lake without talking about the river and all of the diverse things that happen. That's a suggestion or something else that you might consider I would appreciate.

Chairman Close: I think our concern is that we might not get through the lake today and I think it would be an advantage if we only had to address the river one time so that's why I would like to take it now. We may not resolve the lake today and we'll have another hearing if that's required, obviously. Come back up here and do it.

Mr. Fulstone: Thank you Mr. Chairman and the one thing is because the river standards are generally being met, they're not nearly as arguable as new standards on the lake and many, many people are here at great expense to the different entities that are involved in this and so I would especially like to at least take as much testimony on the lake as you possibly can. Thank you.

Chairman Close: That's our very plan.

Mr. Fulstone: Okay.

Chairman Close: We have one short matter we'll take at the end of the day, but as soon as we get through with the river, then we're going to go back into the lake and continue with the lake, the presentation of everybody here who wants to make presentations to us.

Commissioner Dahl: Mr. Chairman I agree with Mr. Fulstone that I would like to consider this together, the lake and the river together and if we aren't able to finish today, maybe if this has to be continued, we could revisit the river issue if we have to at the same time that we do the lake and we could do it all. I think it just ties together for myself. I would not like to make a decision as to whether to support these new standards for the river without tying those to the lake.

Chairman Close: My understanding is, unless I'm mistaken, is that the river standards are currently being met. We are creating no new standards for the river. Is that correct?

Ms. Basham: Right.

Chairman Close: So we're not creating any new standards for the river.

Commissioner Dahl: I can give you an example of what I have heard here where the standard would ask, or

would require, ask for, we could say, a certain temperature when the Lahontan cutthroat trout are in that reach of the river.

Chairman Close: Correct.

Commissioner Dahl: I can see problems with that standard because the Lahontan cutthroat trout is an endangered species.

Chairman Close: My understanding is there are no trout in that reach of the river. Is that correct?

Ms. Basham: In the lowest reach, the reach that flows into Walker Lake the Lahontan cutthroat trout will swim up into the river. They can't go past Weber Dam. So they're only in that lowest stream.

Commissioner Dahl: And isn't it true that the standard would ask that the temperature be 21 degrees Celsius at the time that the LTC is in that portion of the river?

Ms. Basham: That's one of our proposals, yes.

Commissioner Dahl: Okay, now see since that is an endangered species, I can see a scenario where at some point someone may be able to say that in order to protect that endangered species we're going to have to have the temperature at 21 degrees in that portion of the river when that fish is there. You see? So even though for the most part we're reaching the standard in the river, I can see some problems with these proposed standards.

Chairman Close: And I have no problem with even discussing them now if that's something you want to raise now you should probably do it and have it responded to because that's a legitimate concern about the river.

Commissioner Dahl: I just worry about all of these people who are here to address the lake and . . .

Chairman Close: Exactly, that's why I want to take care of the river now, which I think we can get out of our way very quickly and then immediately go into the lake.

Commissioner Doppe: Mr. Chairman for different reasons I too would like to not take action on these items individually and my rationale for that is I'm going to be, I mean if the Commission decides to do so obviously I will vote on it, but my preference will be to submit a list of background information that, I believe that there are more questions being raised than answers given here and I would feel more comfortable about getting some more information, more background out of the Division first.

Chairman Close: I surely have no problem if there are unanswered questions to postpone any consideration of the river at this time until those questions are answered. That is surely a legitimate request. So then if that is the . . .

Comm. Crawforth: Mr. Chairman I have a question, maybe Adele can help me with this, I can't find it right .

. . . are we not changing the temperature in the reach between the confluence and either the inlet to Weber or down to Schurz?

Ms. Basham: What we're proposing to do is add a footnote. The footnote "b" that you see on section 15 which is the Walker River at Schurz Bridge, page 21 of this LCB version, the footnote actually occurs on page 22, so the actual temperature numbers in the table for that lower reach we're not proposing changes to, but we're proposing to add the footnote. Then the next reach upstream, we are proposing one change to the temperature in the table. That's on page 19. We're proposing to change the 24 degrees to 23 degrees to be consistent with the reach downstream.

Commissioner Johnson: And also the reach upstream that's south of Yerington is 23 also, on page 17.

Ms. Basham: Right.

Comm. Crawford: So from Weber to the confluence we're changing the temperature by 1 degree?

Ms. Basham: Right.

Commissioner Johnson: At one point.

Comm. Crawford: What do you mean at one point?

Commissioner Johnson: It's only at the inlet to Weber that we're changing.

Ms. Basham: Right.

Comm. Crawford: Okay. Thank you.

Chairman Close: So then are there others then who wanted to ask questions beyond what has been responded to today that Commissioner Doppe suggested? If there are we can continue this. We may not even resolve the river today is what I understand if we go along with his request, even though we might or might not resolve the lake. So is that acceptable to everybody? If it is then we'll go into the lake issues.

William Schaeffer: Again for the record William Schaeffer. Taking up where I left off, first off I'm referencing the 1995 Thomas Report which is formally known as the Water Budget and Salinity of Walker Lake Western Nevada by James Thomas Ph.D. of US Geologic Survey Office Fact Sheet FS 115-95. The 1995 Thomas Report makes it clear that the objective cannot reasonably be met. First, the report requires that 700,000 acre feet of fresh water would initially have to be introduced apparently instantaneously to bring Walker Lake up to a level where the TDS would be at the proposed 10,000 mg/l so the fish currently in the lake would, again, thrive. That would cause the lake level to rise to 3,964 feet above sea level. Then another 47,000 more acre feet per year would be required to maintain the lake at that level. However, the Thomas Report goes on to state that the salinity level, and therefore the TDS level would continue to rise because Walker

Lake is a terminal lake. As noted, it is well known that the Dead Sea and the Great Salt Lake are likewise terminal sinks which have had their salinity and TDS levels rise to a point where freshwater fish cannot survive. Worse yet, the current proposal of 10,000 mg/l for total dissolved solids may actually run counter to good environmental quality and the Commission's duties under both state and federal law since it could have a negative impact on wildlife. Both the federal Clean Water Act and NRS 445A.520 specifically address wildlife and keep that term separate from fish and shellfish. Therefore, wildlife necessarily refers to something other than fish and shellfish. That something else has to be the traditional understanding of animals like deer, antelope, feral horses, rabbits and such. In order to bring down the total dissolved solids from the current level of 11,500 mg/l to the proposed standard of 10,000, more water is likely to be appropriated from an already over-appropriated basin. That water will likely come from agricultural uses. Well, when a rancher waters his cattle or sheep he also ends up watering deer, antelope and other wildlife. Likewise, when a farmer raises crops as much as he hates it and tries to prevent it he ends up feeding mice, rats, rabbits, deer and other wildlife. Further, eagles, hawks, coyotes and mountain lions feed on the mice, rats, rabbits, and deer. Thus, agriculture in arid regions, such as Nevada actually improves wildlife numbers and range. A comparison of the wildlife numbers before Los Angeles destroyed the Owens Valley and afterwards will make this point plain. Accordingly, any diversion of water away from agriculture and towards Walker Lake may not only fail in helping the fish, shellfish, and recreation there, but may also result in a decline of wildlife upstream. No reason nor excuse is offered for ignoring the upstream portion of the Walker River, Walker Lake ecosystem in the current proposal. This is another troubling parallel to the Owen's Valley situation. Just as in that ecologic and agriculturally economic disaster, the upstream effects are being ignored. Setting a standard designed to meet an unattainable objective in a downstream environment while ignoring the havoc that would be reaped upon the upstream environment is therefore contrary to both law and sound environmental policy. The current proposal simply fails to consider these upstream environmental and economic consequences. Finally, by aiding the diversion of water from agriculture upstream, setting the proposed standard would contravene the policy of this State as declared by the legislation in the Nevada Water Pollution Control laws. Specifically, NRS 445A.305(2) states, "That it is the policy of this State and the purpose of NRS 445A.300 to 445A.730, inclusive, to maintain the quality of the waters of the State consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, the operation of existing industries, the pursuit of agriculture and the economic development of the State." Existing industries and agriculture already use the upstream water which would necessarily be diverted to attempt to attain the unattainable standard this bureau has proposed. That would adversely affect the economic development of the upstream region. Contrary to the spirit of 33 U.S.C. 1251G, a part of the Clean Water Act, the proposal would necessarily aid in the abrogation of existing agricultural water rights in an already over-appropriated basin. Accordingly, the proposal would run counter to the legislative purpose of the acts the proposal was designed to implement. Until and unless the State Environmental Commission can show how the proposed standard can be met and maintained without adversely affecting upstream terrestrial wildlife, industries, economic development, and agriculture no standard should be set. Inasmuch as the

supposed goal of the proposed standard is unattainable due to unalterable geologic factors it follows that Walker Lake should have no standards and upstream water users should be left in peace. At the very least, before setting any standard, the Commission has a duty to explain how that standard is going to be attained. I wish to thank all of you for your time and your anticipated careful consideration of these concerns. Thank you Mr. Chairman.

Commissioner Johnson: I have a question. You balance the agricultural and industrial uses. The upstream users, but we're setting here and how do we balance those same industries, tourism, recreation on the lake with that? It seems that they should have some similar protection? How do you address this issue that you say that we have to consider the upstream, but ignore the downstream?

Mr. Schaeffer: One of the problems, frankly, with the Nevada Revised Statutes is that frankly there's a tension between what you're doing today in setting standards and what the State engineer's duty is when he hands out those appropriations. In effect, that determination has already been met by the State engineer having appropriated this. The other folks upstream that have gotten, those first in time, first in right, the basic property rights theory, have already gotten their rights to the water and they have increased the wildlife and everything as I've said. If there isn't enough water to go around, there isn't enough water to go around and that's why we have a State engineer. He has to figure out where you put it. But what I'm saying is before you set a standard, your own statute, the Water Pollution statute says it has to be reasonable that it can be met. It can't be met anyway. That lake is doomed.

Commissioner Johnson: Are you a hydrologist.

Mr. Schaeffer: No. But you've got that right from the Thomas Report. It says so itself. It says thus, at the tail-end, it says thus even with a stable lake surface altitude, dissolved solids concentrations will slowly increase because Walker Lake is a terminal sink.

Commissioner Johnson: How many years are they proposing that to happen? I think there's a rate mentioned in the report of some 20 mg/year.

Mr. Schaeffer: Yes.

Commissioner Johnson: It probably comes out to be hundreds of years.

Mr. Schaeffer: But the overall flows, first off you have to get 700,000 acre feet of water in there right-off-the-bat just to bring it up to the level where it would be at the 10,000 ml. Their flows, if you look over here, they've got a range where they cite other studies, that is where Thomas cites other studies of 76,000 acre feet in one study, 69,600 in another and 85,000 in another. Even at the 85,000 per year, you're talking a lot of years, well over a decade, at the highest flow level of the entire flow just to get it up to that level. So that means everybody in the Mason Valley and all over here shuts down everything for over 10 years in order just to get you to your 10,000 level. That's not attainable. Even

reasonably attainable.

Commissioner Johnson: Or you've had very high flood years like happened in the '80's which happened in the last few years and you get your 12 to 14 feet that we have achieved and you're predicting that that's not going to happen in the future. The big problem comes that you say that there is this first in right which is true, and nothing that we're doing here abrogates that right. But there also the State engineer has the power with a willing buyer, willing seller, to transfer water rights. Is that not true?

Mr. Schaeffer: That much is true. But, again, ultimately with all of the fluctuations, you'd somehow, in order to make it even for an extended period and you can't do it permanently I mean according to the Thomas Study, I'm not the engineer, I'm just going on the basis of the studies that I see. But under the law, you have to, somehow you would have to make it assuming that you could get it for an extended period of time, you'd have to make it so that it could survive those, that is the fish could survive the circumstances for a long period of time and you have to make it for drought periods in order for that to occur such that yours would be the highest priority particularly in the river. Let's go back to the river. We were talking, that's one of the reasons we left this open, if you want to keep the water temperature down, then you're going to have to make sure that there's enough water in the river so that the sun in the middle of summer or even in the spring isn't heating up the river to the point where the temperature gets too high. The simplest way to do that is to make sure that there's enough water in the river and that's probably what somebody would attempt to do in the future.

Commissioner Johnson: But the testimony was that we're presently meeting those temperature standards.

Mr. Schaeffer: Presently we are, but we're not presently in a drought like we were a few years ago. It would be interesting to find out how well we were doing then.

Commissioner Johnson: They have the record.

Mr. Schaeffer: I don't know. I'm just saying that's one of the things you may want to look into. This isn't my judgement. This is yours. I'm presenting a case and the case is that whatever you do it's going to have affects and you need to be aware of them. Thank you.

Chairman Close: Any other questions?

Commissioner Gifford: For the Division.

Chairman Close: Oh, for the Division.

Commissioner Gifford: I was just wondering in light of the questions, given a normal snowpack which is some kind of a happy average between the good years and the bad years for a normal snowpack on the Walker River system is there enough water coming into the lake under current use conditions to maintain even the status quo? And the reason I ask that is that the last four years have all been above average snowpacks and that's the 12 to 14 gain

that we've been talking about. But for an average snowpack is there enough water to maintain even the status quo for the lake?

Mr. Heggeness: John Heggeness, Environmental Protection. On average in order for the lake to maintain the current elevation I have heard numbers of 35,000 to 50,000 additional acre feet that would need to go to the lake to maintain the elevation.

Commissioner Gifford: Above and beyond what normal flow would be, above the average snow melt for an average snowpack?

Mr. Heggeness: Yes.

Commissioner Johnson: What is average? A 30 year average? I'm a geologist and the time frame of this lake and its residual it's probably been lower than it is now and certainly much higher within a couple of hundred years. We think of ourselves as 150 years as being our time frame, but that's certainly not the time frame that weather cycles run on. I mean when Fremont got to Pyramid Lake, Winnemucca Lake was dry. In the late '80's when we were distributing water rights was a phenomenally wet year. So if you took the average in the 1880-1890's you probably have that 35,000 or 50,000 extra acre feet of water. So, what is average and we hear a lot of comment about the drought years, but we can go back a couple hundred years and our drought years were really very wet years when compared with some cycles. So, what are we really looking at? I think this is very important when we look at what we intend to do and how we intend to protect a fishery if that's what we intend to do. But, I think we need to understand that our average is kind of a temporal thing. We don't really know what the next 30 years are going to be.

Mr. Porta: Tom Porta with the Division again. We have a table that looked at average snowpack versus the change in volume just to give you a couple of examples. In 1980 apparently the snowpack was estimated at 170 percent of "average." That resulted in a change of approximately 53,000 cubic feet to the lake. With regard to 1981 where we had a 73 percent, it resulted in a decrease of 105,000 cubic feet. So, there is that relationship there.

Chairman Close: Any other questions of the committee?

Frank Elwell: Mr. Chairman may I comment on that question?

Chairman Close: Yes. Give us your name.

Mr. Elwell: My name is Frank Elwell. I am from Wellington. Just to comment regarding averages. Averages can be used as some things, some aspects, but if we take the flow on the Walker River in we'll say a wet year, I think it would, I could be wrong on these, but I think it's 380,000 acre feet in a good year. If I remember correctly also the low figure for the drought years was 83,000 acre feet. Now you have little fish over here trying to get along and make his way in the world and when the flow is high, he's happy. He may not be in Walker Lake, but he's happy. So, you drop the flow down to 83,000 now what

happens? You're going to evaporate off of Walker Lake, we're talking about Walker Lake, I think the evaporation rate is 176,000 acre feet a year. So, now we had eight years of drought, I believe. So, if you have eight years of drought, what's going to happen to that fish when that Walker Lake evaporates down 176,000 acre feet a year and the input is not 83,000 because it's also taken off upstream. But whatever small amount goes into that lake, it's going to continue to depreciate and the old fish is going to get unhappy. So, I think uses of average for a living thing such as we are talking about, it really can't be applied. I think you have to look at the situation from both good years and what happens at bad years. Thank you.

Chairman Close: Donald Fulstone?

Commissioner Ricci: Excuse me Mr. Fulstone, could I make a comment first? I want to make sure everybody understands. I'm the State engineer here and everybody has been saying what I should or what I shouldn't do. Let me tell you one thing that happens on the Walker River is the State engineer is not responsible for the Walker River except under certain conditions set out in the Walker River Decree and that is to accept change applications which has a process that also goes through the U.S. District Court for the District of Nevada which has sole jurisdiction for the Walker River and all of the apportionments thereof. So, I want to make sure that everybody understands the State engineer is not the . . . thank you Mr. Fulstone.

Mr. Fulstone: And thank you Mr. Chairman and welcome to Mason Valley and Lyon County. I am David Fulstone, Lyon County Commissioner here, but most importantly I'm a farmer in this valley. My family has farmed on the Walker River since some time around 1860 and we've been good stewards of the land from that time until today. Lyon County is annually either the first or the second top agricultural county in the State of Nevada. That is primarily due to the agriculture in Mason Valley and Smith Valley, predominantly the south end of Lyon County and predominantly a bunch of the Walker River. Lyon County is lucky, sometimes lucky to have influence from all three of the western rivers in Nevada: the Carson, the Truckee and of course the Walker. What we've talked about today are attainable standards and sometimes we set goals and sometimes we set standards and there's a big difference. All of our goal is to find a situation that we could both live with, Walker Lake and the agriculture of this part of Lyon County. The question is whether that will be reached. At present time there is a lot of litigation pending on the Walker River in federal court, in state court with lots of different entities. Right now almost every federal agency that ever heard the word "water" is involved somewhere on the Walker River. Bureau of Reclamation, U.S. Fish and Wildlife, Corps of Engineers, BLM, BOR, BIA and on and on and on and all of them have a stake or a claim within the Walker River that hopefully someday in some near future most of that will be settled. But until that time, for you and this is a very important body, to set a standard which we perceive as unattainable in front of all of that all of a sudden becomes a tool that everyone says, "Well, this State body has said the standard should be this, so here in this litigation we should be trying to attain that standard." And I think that is very unfair to everyone involved in the issues. So, the attainable standard is really what you need to focus on.

Early on in the presentations today, and I will be brief because I know there's lots of smarter people and better information coming to you, but they did say that your job is to protect and ensure beneficial use of the waters and obviously there is (inaudible) between beneficial use of what is the beneficial use on the system, agriculture or recreation and can they co-habitate and I think that's what the litigation is about as well. Section 2 that was presented said that you are not supposed to supersede or modify water rights, setting a standard that could have a specific indication on flows and things could possibly do that so I think you need to look at that very, very closely. One of the staff people here says, "Well, if these standards don't work we can come back and adjust them." Well, in that case, set something that's attainable. Set, and I look at mostly dissolved solids because that's what we get talked about a lot in the whole issue, set it where it is today or where it was last year or where you think it's going to be next year and if that doesn't work, then come back and change it. They also said that there was no outlet to this lake so it is impacted mostly by climate and that's true. We also talked about during the drought, which was devastating to all of us, the fish harvest went down. Well, I want you to remember that also the agricultural harvest went down dramatically during that drought. The standard that you're trying to set was stated today that's generic for all lakes whether this is a lake in Wisconsin or Minnesota or in Nevada, the driest state in the union. So I think you have to take that into consideration when you set a standard. Again, it was stated today by staff that it's the standard that you might be able to reach in the future. I don't think that's something that you ought to set a standard on, something that you might be able to reach in the future. The Lahontan cutthroat trout, which the 10,000 standard is set on, is debated throughout this whole river. California is opposed to a Lahontan cutthroat trout recovery on the river, California Fish and Game. Nevada Fish and Game has opposed the Lahontan cutthroat trout, if I'm not mistaken, I don't want to speak for them. The Lahontan cutthroat trout recovery on the upper reaches of the Walker River in Nevada. That's a problem. So, how can you use LTC, Lahontan cutthroat trout to set standards when there is no standard between U.S. Fish and Wildlife, Nevada Fish and Wildlife, California Fish and Wildlife, or anybody else on the system? You can't make that balance by standards. Mr. Chairman you asked, "Can we reach this goal?" Specifically, that's what you said. Well, I ask you can you predict the weather and can you predict the outcome of the litigation? If you can do those two things, then we can predict the goal.

I really don't want to get into everything on the Lahontan cutthroat trout. The strain that is in there is a strain that was propagated and it's not the natural strain of Lahontan cutthroat trout. It's one that has been bred for that. It is specifically planted in that lake and specifically taken and there is no, in Nevada there is no natural propagation of Lahontan cutthroat trout on the Walker River. I'm glad evaporation came up, 175,000 or 185,000 acre feet of evaporation every year. That's the problem. You used the dates from 1930 to 2000. Why not from 0 to 2000? Most people tell me that that lake has been dry at least twice. We know what caused these little lakes in the Great Basin were by glacier and that's been gone for a long time and since that time things have changed. I appreciate the good questions. It shows that you guys have really done your homework and looked at it. I'm impressed with that. I appreciate that because your decisions have a great deal of affect on our futures and the future of the people that live and work and

recreate in Lyon County. I kind of want to leave it with you is what do you do to Mother Nature when she doesn't meet the standards? And that is, that has so much to do with that standard is Mother Nature here in Nevada in Lyon County. Thank you for your time.

Chairman Close: Any questions? Thank you. Frank Euell?

Frank Elwell: Well, that's Elwell sir.

Chairman Close: Elwell.

Mr. Elwell: I just have a couple of comments. I can't talk very long and you ought to be happy about that. I think that Mr. Schaeffer covered a lot of the territory I agree with. Just a couple of things I'd like to bring up as far as some of the I guess the conditions would be concerned. And one of them is temperature. And I get the, incidentally I'm not any of the specialties here. I merely read the various reports that have come out and tried to make some sense out of that. As far as the temperature is concerned, generally speaking, it's proposed to be at or below 2 degrees C maximum allowable increase in the boundary of an approved mixing zone. Now we're talking about the beach, Sportsman's Beach. And one of the things that gives me a problem there is that it was determined in the Close Report, that's the Desert Research Institute, the temperatures of 65.3 to 68.36 degrees Fahrenheit are lethal for the cutthroat trout. The temperatures at the Sportsman's Beach area reach 76 degrees Fahrenheit. So, I don't quite understand how you would take a temperature of 76 degrees, drop that approximately I think that's 3.8 degrees Fahrenheit which would bring you down to about 72 and make that a standard when the cutthroat trout are reported to have problems living in 65.3 to 68.36. So, I question that particular temperature standard. The pH, generally speaking, the U.S. EPA criterion recommend a pH of 6.5 to 9.0. The proposed standard is 6.5 to 9.7. That doesn't sound like very much, .2 off, but the pH scale is an exponential scale and 9.7 is far above 9.0. So, I don't see how they can say by increasing the pH considerably how you can say that that's for the protection of aquatic life when it exceeds the recommended standards.

The dissolved oxygen, I don't know what the dissolved oxygen is at Sportsman's Beach, but the dissolved oxygen in the lower strata is below 1 mg/l for two or three months of the year and no fish can survive in this condition. As a matter of fact, all of the fish leave there at that period. And what is accomplished with a proposal of 5 mg/l of dissolved oxygen at Sportsman's Beach, I don't know. I don't understand what that would accomplish. In other words, you have a situation where you have 1 mg/l or ppm, that's the same thing, at the bottom of the lake and then you propose 5 mg/l at another point in the lake and it doesn't make any sense to me.

As far as the total dissolved solids, the standard is proposed to be 10,000 mg/l. I note that in the late '40's with the total dissolved solids in the area of 5,700 mg/l the trout numbers decrease so rapidly that sport fishing became nonexistent. Now this came from the Nevada Department of Wildlife and Fisheries plan for 1998. Now they published that. The Knowl Study shows that the total dissolved solids exceeding 5,000 mg/l causes

damage to the tissues and organs of the cutthroat trout. If these standards are for the survival of the cutthroat trout, this 10,000 mg/l standard must be reduced to 5,000. Otherwise, why would you make a standard of 10,000 when the fish are going to be damaged at 5,000? And so that doesn't make sense to me.

Someone mentioned chloride earlier. The recommended criteria for chloride is 1,500 mg/l, yet the proposed standard is for 3,200 mg/l for the propagation of wildlife. That puzzles me a little bit. This is over twice the recommended standards. Just how does this propagate wildlife by doubling the amount of chloride allowed? The Knowl Study shows that the tissue alterations of the fish, they have some technical words here that I have problems with, chloride hyperplasia, which is overdevelopment of the (inaudible) it causes problems with the gills. It causes problems with the gill place and tissue deteriorating. It also causes kidney glandular swelling and congestion in the kidneys and I presume that these problems are due to the high chlorides and if that's the case, how in the world can you recommend a double standard of the chlorides if it causes problems in these fish? I'm really at a little bit of a loss to understand whether they're proposing these standards for the survival of the cutthroat trout or to comply with the Clean Water Act. The original standards came out it looked as though the cutthroat trout was predominant. But then going through the various studies, the cutthroat trout cannot survive at the standards they propose. As far as the Clean Water Act I don't believe they are complying with that in that there's no cross-study, no method of implementation, and then the other thing, Mr. Schaeffer covered that. That's all I have. Thank you sir.

Chairman Close:

Any questions? Thank you. Gordon DePaoli.

Gordon DePaoli:

Chairman Close and members of the Commission my name is Gordon DePaoli. Today I'm appearing on behalf of the Walker River Irrigation District. I know that most of you are quite familiar with the district, but I just might say a few brief words about it. The district was established in 1919. There are 246,000 acres of land within the boundaries of the district of which about 80,000 acres are water-righted. The district owns, operates, and holds water rights for two reservoirs on the Walker River system: Bridgeport Reservoir, which is an on-stream reservoir located entirely in California and Topaz Reservoir, which you've heard some discussion about with respect to river standards which is an off-stream reservoir on the west Walker downstream of Antelope Valley located partly in Nevada and partly in California. The district is the principal agricultural area in Lyon County and is the most productive agricultural area in Nevada on a per acre basis. In addition to the normal livestock and hay crops, the district produces more white onions than any other area in the United States. About half of all of the seed garlic used by California Garlic Growers comes from western Nevada and most of it is grown in the district. Additionally, an estimated 8,500 tons of potatoes are grown annually within the district. The irrigated lands within the district, as Mr. Schaeffer noted, provide habitat and food for eagles, geese, ducks, quail, wild turkeys, deer and many other birds and animals. The district's reservoirs are prime recreation areas in Mono County, California and Douglas County, Nevada. Bridgeport Reservoir produces the food chain which makes the east Walker in California and Nevada world-class German Brown trout fishery. The district is the home to the Nevada Division of Wildlife's Mason Valley Fish

Hatchery and Wildlife area. NDOW is the single largest water right holder in the district. That fish hatchery rears cutthroat rainbow, cutthroat brown trout for planting in streams and rivers throughout the State of Nevada. Today the district is going to ask you to postpone adoption of standards for TDS and chloride in Walker Lake because those standards do not meet the requirement that they respect historical agriculture and irrigation practices. The standards do not meet the requirement that they be reasonably attainable. The static standards do not appear to be reasonably sustainable once established. Implementation of the static standards as designed cannot account for the natural variability and climatic conditions in the watershed and because of the lack of any plan for implementation of the standards which will result in varied interpretations of their role in watershed management and ongoing litigation. The district, in consultation with Entrex Inc., has prepared a detailed written presentation of the reasons for its request. That's been handed out too. I ask that it be made a part of our record. Included with that material is a statement of the qualifications of the persons at Entrex who consulted with the district on much of the technical information included. Present today are Jane Baldrige from Entrex and Dale Ferguson of my law firm who helped put the presentation together. I'm going to try to summarize just some of the salient portions of the presentation. And you've heard quite a bit about those already. The two standards that we're asking you to postpone adoption of are without question tied to lake elevation. That has been established that they are directly related to the quantity of water in and the surface water elevation of the lake. In order to attain and sustain those proposed standards, the current elevation of the lake will have to be increased substantially and historically, an historic annual average inflow into the lake will also have to be increased substantially. Unless those things happen the standards can neither be attained or sustained. Your decision on these proposed standards must be guided by provisions of the Nevada Water Pollution Control law. The purpose of that law is and I quote, "To maintain the quality of the waters of the state consistent with the operation of existing industries, the pursuit of agriculture and the economic development of the state." In establishing the water quality standards the Commission, and I quote again, "Shall recognize the historical irrigation practices and the respective river basins of the state, the economy thereof and their effects to the extent that water quality standards are intended to define conditions necessary to support and protect fish and to provide for recreation they must be reasonably attainable." The proposed standards for TDS and chloride do not meet those provisions of the law because the water quality standards cannot be met with the existing annual average inflow into Walker Lake. With the exception of extremely wet years such as 1997, water is simply not available within the watershed to attain the water quality standards without severely impacting existing beneficial uses of water, including irrigated agriculture. Climatic conditions in the watershed are variable and include wet and dry cycles. The proposed water quality standards are not sustainable through cycles without severely impacting existing beneficial water uses including irrigated agriculture. The proposed static water quality standards do not take into account the climatic variation in the watershed through some form of sliding scale that might provide protection for biological resources in Walker Lake while respecting existing water rights and beneficial uses. Commissioner Fulstone mentioned to you the existing situation with litigation on the river system and I want to describe that in a little bit more detail. As Mr. Ricci indicated, the Walker River system is administered

pursuant to a federal court decree that was entered in 1936 and amended in 1940. That decree has administered the system without a great deal of issues or disruption until recent times and in 1992 the Walker River Paiute Tribe and the United States filed claims for additional water for the Walker River Indian Reservation, which geographically is a federal Indian reservation which is between this valley and Walker Lake. In their claims they seek to establish a new water right under federal law for Weber Reservoir and a new water right for, a federal reserve water right for 167,460 acres of land included in the reservation in 1936. In 1997 the United States amended its claim and that litigation to seek additional water rights from the top of the system to the bottom of the system based upon federal reserved water rights and other types of, and state water law for the benefit of the national forest, the United States Marine Corps, Bureau of Land Management, Indian allotments along the system, the Yerington Paiute Tribe and the Bridgeport Indian colony. In addition, since 1994 Mineral County has pending in the federal court action a claim based upon the public trust doctrine, let me back up, Mineral County seeks to intervene in the federal court action to (inaudible) a public trust doctrine claim to have the waters of the Walker River reallocated to preserve minimum levels in the Walker Lake. In June of this year Mineral County and the Walker Lake working group filed a similar action with the Nevada Supreme Court which is pending in that court. Finally, there is no binding interstate allocation on the Walker River system between Nevada and California. The 1971 compact which was approved by the Nevada and California legislatures sought to have a binding interstate allocation between Nevada and California with respect to the Truckee, Carson Rivers, Walker River and Lake Tahoe. That compact has never been ratified. The portions of it dealing with the Truckee, the Carson and Lake Tahoe are part of Public Law 101618, which is the federal settlement on the Truckee and Carson Rivers and so therefore it is highly unlikely that the compact as it exists today, the 1971 compact, will ever be ratified and therefore there needs to be an independent pursuit of an interstate allocation on the Walker River system between the two states. What I wanted to comment on primarily in that context is what is needed to attain and sustain the proposed TDS standards? Several models have been used or are being developed to predict the volume of water needed to attain the lake elevation associated with the TDS criterion of 10,000 mg/l. The USGS predicts that lake surface elevation would need to be at approximately 3,964 feet. That seems to be consistent with the material in your blue book. In addition to that, once that elevation is attained, another 47,000 acre feet more water than the long-term average is needed to maintain this level assuming 1939 to 1993 hydrologic conditions. That is also based on the USGS estimate. The question is, what is the likelihood of achieving and then sustaining those levels first with respect to lake elevation. I think you can see from the material that you've been provided that the annual average water surface elevation and TDS concentration in the lake reflect variability of water inflow into the lake. The TDS has ranged from 2,500 mg/l in 1882 to over 13,000 in July of 1994. In 1995 at the end of the seven-year drought lake levels reached the lowest point in this century, 3,941 feet above sea level and water quality conditions deteriorated accordingly. Higher than average precipitation during the years 1995 to 1998 have resulted in an increase in lake water elevations, improved water quality, and improvement to health and reproduction of aquatic species. Due primarily to the 1997 flood, by September 30, 1998 lake elevation was approximately 3,955 feet above sea level with a TDS of about 10,800 mg/l. Since then

precipitation has changed again and lake elevation and TDS has changed with it. The approximate lake elevation at August 30 of this year was 3,951.6 feet above sea level and the TDS level was reported at 12,200 mg/l. How do you place in perspective the probability of getting back to that 3,964 lake elevation? A couple of ways are outlined in our paper. One is to attain an elevation of 3,970 which admittedly is a bit higher than 3,964. The Nevada Division of Water Planning estimated that you would need to increase the average annual inflow into the lake by 46,000 acre feet for 100 years and during that 100 year period the salt loading into the lake would increase so that the resulting TDS increase would be about 1,000 mg/l more every 50 years. Another way to look at it is to look at what happened in the 1995 through 1997 period. During that period the lake elevation went from its low and increased about 12 feet. As I noted today, Walker Lake is probably 12.4 or more feet below the elevation needed to attain the 10,000 mg/l standard. A repeat of the hydrologic conditions for the 1995 through 1998 period, including a 1997 flood, would probably not produce that lake elevation because the lake is higher today and evaporates more water today than it did at the end of the drought in 1994. But assuming for the sake of argument that there was some way that you could predict that you will attain that elevation, you then have to figure out how you increase the average inflow into the lake by 47,000 acre feet per year above historic averages. We've heard some discussion this morning about some, perhaps there was some technological advances to deal with this problem without water, but if you're going to do it with water you will have to look upstream and you will have to affect substantially more than 47,000 acre feet of water upstream and that's primarily for two reasons. One is the lake is, as we know, at the very end of this water system and therefore the transportation laws to get water to the lake is significant and it is extremely significant, as Assemblyman Dini indicated, below Mason Valley. Second, in order to move water upstream water rights you're only going to be allowed to move in net-consumptive-use component of the water right, that is the quantity which was not available to satisfy other water rights is all that's going to be transferrable. The part that was not consumed is left in the stream system for use by others as the return flow is used by those water rights upstream today. So that it is certain that it will take substantially more water than 47,000 acre feet to get that much water to the lake. How much? One predicted that about one third of the long-term annual yield of the drainage basin is needed to preserve the lake and that an outright purchase of about one half of the water rights in the basin would be necessary to achieve and maintain TDS levels of 10,000 mg/l. In summary then, the lake increase elevation needed to attain the proposed standards can only be achieved by a major flood or by cessation, and I mean cessation of all upstream beneficial uses of water for a substantial period of time. And if that lake elevation is achieved, it cannot be sustained without the demise of perhaps as much as 50 percent of upstream agriculture. I submit that those proposed standards do not satisfy applicable Nevada law which requires that they recognize historic irrigation practices and be reasonably attainable. They are not consistent with the operation of the existing industries with the pursuit of agriculture and the economic development of the State. Adoption of unattainable standards also will have some unintended effects. Without a clear plan for implementation of the standards or relationship to an ongoing watershed, to ongoing watershed management, their activities will be open to varied interpretation. The proposed standards are too static and once established no matter how unrealistic or

unattainable, it is likely that they will become a fixed point of consideration in any water resource management decision, litigation and development of subsequent regulations. That places an unfair burden on the existing water users and resource agencies because it establishes the false impression that the standards are attainable and essential for protecting beneficial water uses in place. In addition, it seems to me it sets you up to get on the 303D list for Walker Lake almost immediately and why you would want to be on that list I can't imagine.

The district recommends that the proposed standards be modified to allow them to be an integral part of a comprehensive watershed management approach that actively considers the relationships among climate, hydrology, ecology, land use and resource allocation and protection. Changes in lake level during dry, average, or wet years are to be expected and water quality targets should reflect the ability of the populations of organisms as well as communities to respond to natural variation. The single standards proposed for TDS and chloride do not recognize this variability. We suggest that a more appropriate approach would be to use a sliding scale that recognizes this climatic and hydrologic variability. Life within a desert lake ecology is likely to be adapted to natural fluctuations and while conditions may not be optimal in all years, the stock and natural aquatic communities and associated terrestrial and avian communities can persist and thrive if water quality conditions occur over a suitable range. Therefore, the district recommends that the Commission postpone the adoption of the proposed water quality standards for Walker Lake and requests that the Division explore the development of water quality standards for the lake that: (1) are scientifically defensible based on a sliding scale that is responsible to variable climatic conditions; (2) are attainable and sustainable and tied directly to a clearly defined and realistic implementation schedule; (3) are respectful of existing water rights and decrees and beneficial uses of the watershed while being protective of the biological resources and designated beneficial uses of Walker Lake and (4) clearly recognize the State's mandates for water quality standard development and revision. The lack of a standard or the lack of a static standard does not mean that one cannot take action allowed by feasible technology to achieve a particular goal.

You have in your proposed regulation a statement which some of you had questions about which says, "Because Walker Lake is a body of water without a natural outlet, the Commission recognizes that water quality can be significantly impacted by climatic conditions and thus that attainment of standards may not be achievable at all times." That statement is, itself, a recognition that the proposed static standards for TDS and chloride are not appropriate and that the approach suggested by the district of standards that are flexible with climatic and hydrologic conditions is the approach that you ought to take and I'd be happy to answer any questions if you have any.

Chairman Close: Any questions?

Commissioner Gifford: In terms of your recommendation on, let me just read it here, on scientifically defensible and based on a sliding scale that is responsible to variable climatic conditions, I think the presentations, yours included, pretty well nail down the fact that a normal year isn't

going to be sufficient to maintain the lake. That it's going to take additional water to do that and that's the way systems operate. I think they adjust to the norm and you can have floods for example and they'll alleviate the situation in this case for a little while, but things will gradually adjust back to that norm and if the norm's less than what you need, at least in my way of thinking, things are just going to tend to go downhill, in this case the water is going to recede in the lake and so you've suggested a sliding scale and do you have anything specific there that you can suggest and what comes to mind is the fact that if you have a sliding scale and you really plan for drought for example, I mean we had six years running of drought a few years back and that's a drop in the bucket to what we might have next time. I mean we might have 10 years of drought. Who knows? But with a sliding scale there's a point there where the TDS will be high enough where, in this case, the fish disappear. And so the sliding scale from the standpoint of fish ceases to exist. And so I'm wondering there are you really serious about that kind of a recommendation or are you really suggesting that recommendations for example with the TDS and chloride just not be passed period? And the reason for that would be climatic variation and so forth that will make or break the system or systems. Whether it's a fish system. Whether it's something else. And things change, I mean the lake if it goes down I don't know maybe some day it'll go from whatever it is today to brine shrimp and entirely different bird population than it is today. I mean things change and new things come in and replace the old. But are you really talking about a sliding scale in trying to encompass climatic variation or deep-down are you suggesting to the Commission that at least from the TDS standpoint and the chloride standpoint that we not pass anything at this point?

Mr. DePaoli: I guess from the standpoint of the sliding scale, I would allow the scale to slide with the hydrology and the climate. What is going to happen will happen whether we have a static standard, no standard, or a sliding scale standard. And I guess what we are proposing is a sliding scale that recognizes and allows the standard to work with the hydrology and with the climate. But I'm not suggesting that through the other things that I describe as ongoing that there won't be at least some attempt to deal with the issue that you raise that there may need to be at some point in time something else happen in order to ensure that what's there or what's there at that point in time can survive. But if that's going to be accomplished, it's not going to be accomplished by the adoption of standards that we all know can't be achieved.

Commissioner Gifford: And it's specifically TDS and chloride that you're concerned about? Or was your statement encompassing? Did it include all standards proposed?

Mr. DePaoli: It was TDS and chloride, unless Jean wants to correct me on that. She's the expert in this arena, not me.

Jean Baldrige: My name is Jean Baldrige and I'm a fisheries biologist and I think that to address your question about would a sliding scale work, I think that it does have some relevance here. We often use sliding scales when we're setting in-stream flows in systems where we have a higher in stream flow during wet years, a lower in stream flow during drought years and then normal years it carries it's own in stream flow. The thoughts that we had

would envision a similar system here with Walker Lake looking at TDS and chloride and I think ammonia it's important that ammonia be worked into that formula too because from a fish health perspective TDS and ammonia and chloride all work together for fish survival. The sliding scale would have some years where there weren't good conditions in Walker Lake. We know we're going to experience those. And there's also going to be years like our current situation where the conditions are fairly good in Walker Lake.

You know when you look at any system there's a lot of resiliency in the biological resources. Some are more sensitive than others. Of course the Lahontan cutthroat are very sensitive and that's why we're stocking them in Walker Lake. They're not a reproducing population. So, when you look at a sliding scale those fish can be reintroduced to Walker Lake at any time. What we're really concerned about then is preserving the ecosystem that allows those fish to live and grow when the conditions are good. We have had some fairly high levels of TDS in Walker Lake. We still have tui chub though. They're not stocked. They're in the lake and they're populations respond up and down to climatic conditions. Through a sliding scale it seems that we would work harder to attain the standards that we have. If you have a particular standard like what's proposed that we know we can achieve, then people don't work very hard to achieve it. By setting the standard so that it's a more reasonable goal I think we'll find that we can be more innovative in our approaches to how we decide that we can achieve that standard. Thank you.

Chairman Close: Questions?

Commissioner Johnson: I'd really like to have you explain the sliding scale and how you would base this. As I would understand it might be retrospective. You would base this year's on whether there's a violation on what last year's stream flow was. So you'd never have an exceedence of a sliding scale. If you're talking about 15,000 or 6,000 you can talk about achievable in effort, but a sliding scale appears to me that it's even worse than the goals that we recognize now because there really isn't a scale or a standard or a goal because no matter what the weather cycle is or the climatology is, it would shift with what happened this year or last year so you would always have, you'd be in compliance. Even though all of the fisheries are dead and gone, but we're still are in compliance with our standard.

Ms. Baldrige: I guess I'm not suggesting that you set your sliding scale so that whatever happens is what you're scale is. That's not my, that wouldn't be how I would approach it. You have a lot of people that have done years worth of research on Walker Lake. I'm fairly new to the system. So, I don't think that I would be able to establish those levels without getting a lot of information from others that have worked in the system for years. I do think you have a basis of information to work on developing a sliding scale that would be protective but doesn't set unattainable standards. I think the goal is good. The goal of 10,000 TDS level is a good goal. But I'm not sure that it's a good standard without having a clear pathway to how we're going to achieve it. So I think the first step would be to establish a sliding scale which looks at what could you achieve in a drought year? What would happen? And how would you do that? And are there actions that you can

take within the basin that would help you achieve your drought year standard? You'd have another standard for a normal year. You've already heard that the normal year hydrology doesn't really get us to where we want to go for our ultimate goal. But what can we achieve? What steps can we take so that ultimately as we work our way through this restoration of Walker Lake which I don't know if it'll be complete in my lifetime, these things are very long term and we should recognize that as we set up the strategy for how to recover a watershed.

Commissioner Johnson: I think there's a lot of concern in the audience that the things that we really aren't deciding now, we're looking at as what this standard would do to drive other things. And I'm certainly attuned and sympathetic to some part of that argument. But I'm looking at, we've already depleted from, this right up against the edge of the ecosystem that has been there that I think was natural before we arrived and started taking water out and I'm not trying to make the argument of agriculture versus fishery and relative public interest or anything like that. That's an argument that's going to come in a different forum. But what we're looking at is the testimony, the scientific testimony of the studies that said that we're right on the edge of the viability of the existing ecosystem there. And what do we need to set for the standard in the beneficial use to maintain that? But we're not talking about, and I certainly agree that there should be somebody tasked to address the issue of what we propose to go on from here and I don't expect to see the resolution in my lifetime. But I have a strong inclination to look at some standard whatever it is and to me it's a viable fishery in Walker Lake. What it takes to get there, whether the technology to do desalination and all that is there, it's how much money we want to spend and whether there's a public appetite for it. I don't mean to lecture you, you just happen to be there. I think the sliding scale is something I have real difficulty in comprehending how this would move this discussion and any action along. I guess I just simply, what I ask you to explain to me what basis you would use to develop a sliding scale. I think we're already slid maybe too far with the standard we're looking at. We're already looking at the tissue damage and the reproductive cycle of the Lahontan cutthroat trout and we're very nearing some of the other food chain things.

Ms. Baldrige: With the Lahontan cutthroat trout the Fish and Wildlife Service thinks that we need 5,000 TDS to have reproducing population. So clearly we're not going to be in that world with our Lahontan cutthroats. But if you look at it from a sliding scale perspective, a sliding scale recognizes that you're not going to achieve the 10,000 standard in drought years. I think that we all recognize that that's true. So rather than setting up a system for failure where you can't be in compliance, it seems to me it would be much better to take a look at what is reasonably achievable, what's really beneficial, and how do we get there and I think through a sliding scale you could do that.

Commissioner Johnson: And I think, as demonstrated, that the river's already on the list and what action that we've taken is propose additional studies that I don't think we're in danger of economically impacting on a short-term basis by having a listing, the regulatory things that happen there I think can only increase the priority that we would give to achieving some funding.

Ms. Baldrige:

Let me just make a comment about the phosphorus stuff that we were talking about earlier. I think that one of the things that maybe didn't come out is, you know, you have a lot of places in the Walker River, both east and west Walker where you have really great fisheries. Those streams are on the 303D list because of phosphorus. Now what your staff is saying is they're not sure that the phosphorus standard that was used to put those streams on the list is appropriate. Maybe there needs to be a revision of that. It's likely going to be a revision upward so that you would go off the 303D list because the marker that we have that measures whether you should be on it or not is incorrect. So, I think maybe you should consider what kind of beneficial uses you have in the system before you get worried about that. Thank you. Any more question?

Commissioner Iverson:

I was reading your resume which you've had a lot of experience in fisheries and that's your background. I guess I have to ask a question because I've had some concerns all day as these discussions have been taking place. And I've heard a lot of "we haven't collected enough data, we're not sure, I don't know." I hear Fish and Wildlife, federal Fish and Wildlife and our Department of Wildlife with different opinions on temperatures and where the fish really are and I guess I would like to ask you a question because it seems like you know a lot about this. Are we using the best available sciences to make our determinations and to set these standards? It doesn't seem that we are if we're setting standards that can't be obtained. I'm not so sure that that's wise as you indicated. It's pretty hard to get people to be innovative and implement good management practices when no matter what you do it doesn't make any difference. How do you go back to the farmers in Mason Valley, who I consider part of nature now, maybe I'm wrong, but humans do have a part in this ecology. How do you go back to them and say, "We would like to encourage you to implement good management practices, to repair the streams, to build up your riparian areas, to maintain your temperatures" and to do all of this work and not be able to obtain the goals that we're looking for. And, again, I go back to a lady who came up here and talked about economics. I think maintaining any part of our ecology is very, very important. But, again, when you look at mankind's part of that ecology, do we have any right to be here, to farm, to ranch? And the legislature, I think in their wisdom, made agriculture an area that we want to continue to maintain. You know we only have two basic industries: mining and agriculture and if we lose those we haven't got a lot. And this being a major agricultural area in the State, I think it's very, very important that we maintain something here and that we address this ladies' issue that came up here and say, "Don't tell me there's no impact." And I said the same thing she said. There's no impact on small business. I hear what David said. If we implement standards what happens tomorrow when somebody wants to look at water quantity? I realize quality and quantity shouldn't be addressed, but if these standards are effective and we start looking at endangered species and we start looking at what's happening to the lake, it would be very, very easy to come back and start looking at our water quantity in this valley start taking away from in order to obtain those thousands and thousands of acre feet of water that we need to maintain. And I'm not so sure if you ever get to a maintenance level whether you can ever get to a sustainability level. Nature's going to play an important role in Walker River. We have a geologist sitting here and I'm sure if you had other geologists sitting here, there's things that are happening that none of us in this room will ever have an

impact on down there. I go back to my first question. Is best available science being used? I've only seen two references up here.

Ms. Baldrige: I think that you have a lot of good science here. You have some developing science, but remember best available means what's available. We don't really have enough information to answer all of the questions that we would like to be able to answer. But you have some monitoring programs that are in place that will give you the answers in the future and you have some very qualified people in a lot of your agencies working on this system. So you have the best available that's available now. You have their thoughts and energies to take advantage of to figure out how are you going to implement a plan that's going to work for Walker Lake. But I would urge you to set standards that can be achieved so you can motivate people to work towards achieving the standard that, a standard is different than a goal. And I think what we've heard a lot today about is a goal. I'm not sure that we have good standards set yet.

Commissioner Iverson: Mr. Chairman?

Chairman Close: Yes.

Commissioner Iverson: One of the other observations I've made today . . .

Chairman Close: Well first is there any questions before she sits down? Okay.

Commissioner Iverson: Is that I haven't heard anybody say that we don't want to protect Walker Lake the best we can. I know we definitely, we are concerned about the fishery there and the environment of the lake. However, I still think we have to remember that there's unattainable standards really are concerning to me and I don't, with a regulatory body I don't know why you'd want to adopt unattainable standards. How do you implement a program like that? You brought it up right at the first with your 10,000 on the dissolved solids. I looked at that graph, you know, it's been up to 13,000 and 12,000 and we're lowering down to 10,000 and what's to say five years from now we aren't looking at 5,000 or less. You know that will have a dramatic impact in this valley and I think 10,000 will have a dramatic impact. So I think these last two comments, and the last few comments have been very educational and sort of draw this thing together. I don't see there's, that there can't be a sliding scale. I think if it's worked out between the users and the best science we have, it's something that's very practical. And one other thing I have to say is I can't, I think we have to look at this system as a whole because I don't think you can set standards at Walker Lake that doesn't ripple all the way upstream and vice versa.

Chairman Close: If there's no objection we'll accept the presentation of the Walker River Irrigation District as part of our record. The next person to testify is Marlene Bunch.

Marlene Bunch: Rose Strickland has asked if she can step in at this time. They have to leave and go back to Reno. Is it okay if she intercedes and steps in and I'll take my spot later?

Chairman Close: Okay.

Rose Strickland: Thank you. We have to get back to ask some late questions. We appreciate the opportunity to participate in the process for setting water quality standards for Walker River and Walker Lake and behalf of our 4,300 plus members in Nevada and the eastern Sierra, I'm glad to contribute these comments which will be very short so other people can speak. Our first point is that we strongly support the establishment of the four beneficial uses for Walker Lake identified in the document and the only question on that is we wonder and we asked in our earlier comments, our scoping comments back in February, why weren't standards and beneficial uses set for Walker Lake back in 1978 and 1985 when the first standards were set and then when they were revised? And the answer we got back from NDEP was that they didn't know. And I would like to know if there is an answer to that. I would kind of like to know what it is.

Secondly, we strongly support a level of 8,000 mg/l for total dissolved solids for Walker Lake. We do greatly appreciate NDEP's response to public input during the scoping period to lower the TDS level from the original 12,000 mg/l at which LCT are nearing death to the 10,000 mg/l. But we question whether the (inaudible) can prosper at the 10,000 level. We could not find information in the NDEP documents on the affects of higher levels of TDS on the reproductive capacity or health of the chubs and suckers which are the prey base for the LCT. The LCT cannot survive without these fish even if they're planted, I don't think. But I couldn't find the information and the documents to answer those questions.

My last point is that we strongly object to the statement that was added to the proposed standards since the scoping period which you have heard quoted to you today many times because Walker Lake is a body of water without a natural outlet, the Commission recommends is that water quality can be significantly impacted by climatic conditions and thus that attainment of standards may not be achievable at all times. We feel that this provision totally eviscerates the water quality standards being proposed for Walker Lake because it is un-quantified and because it is unprovable. And let me expand on that a bit. While water quality standards for the Truckee River are set, I think, I checked on this so I'm not a technical person, but are set to be met at 90 percent over 10 years rather than one number every year, and this was to respond to violations of turbidity requirements during high river flows and violations of other standards at low or no flows. The Walker Lake provision makes no attempt to quantify how often or under what conditions water quality standards for Walker Lake can be violated. Ten times in ten years? A hundred percent of the time five years in a row? I do not believe that the Nevada Environmental Commission can set a "climatic standard" for water quality levels for Walker Lake which is not quantified. You've heard quite a bit of comments about a sliding scale. It seems sort of counter-intuitive to me too, but I'm wondering what are the standards for Pyramid Lake and what are the standards for Lake Tahoe? Do they have a sliding scale? They are subject to the same kind of climatic variations that Walker Lake is. We probably shouldn't reinvent the wheel here. What can we learn from other water bodies in the State?

And then the second part of my statement, the reason we oppose this statement is this false assumption that you've heard many times here today that droughts are responsible for water shortages and therefore to subsequent water quality violations of Walker Lake. This reasoning totally ignores the reality of artificial droughts caused by upriver diversions. And I'm pleased to enter into the hearing record a graphic showing a comparison of reconstructed lake level records since the mid-1800's by Wendy Milnes who wrote a Master's thesis in 1987 for the Colorado School of Mines. It shows simulated lake levels without diversions over time. At the time period the lake would have been 4,114 feet in 1987. This is including the droughts. Actual lake levels were 3,967 feet in 1987, also with the periodic droughts. I'm sorry I don't have extra copies of this for you, but I will pass that around and you can see the graphic of the lake without diversion and the lake with diversions. So there is some argument about this kind of cliché that seems to be encroaching on this hearing that somehow droughts are simply natural and due to Mother Nature. There are many kinds of droughts, some of which are under our control and, obviously, some of which are not under our control. My question to you is how can the State, if you use this climatic standard, how can the State determine whether low lake levels and corresponding violations of the TDS standard for example are a result of natural climatic condition, are a result of artificial droughts due to upriver diversions? I don't know the answer to that question. I'm just simply raising the question that I don't think this is a good idea. Even if you could quantify it by putting some parameters on what climatic conditions mean, how would you know which kind of a drought that you are facing? An artificial drought or a natural drought? In other words I don't think that this is the right road for us to go down and I know, I mean obviously there are variations in lake levels, in river flows that are climatically connected. I just don't know how you factor those in other than there was nothing in the document that said, "What do they do for Lake Tahoe water quality standards? What do they do for Pyramid Lake water quality standards?" It would be helpful to have that information to illuminate this discussion that we're having on this factor.

Chairman Close: If we adopted a firm standard of 10,000 TDS, how would you propose that it be implemented to acquire the number of water, of acre feet that would be required to dilute the lake to get to that point?

Ms. Strickland: Well I think there's many processes that are already started to do that. There's an environmental impact statement process that's being conducted by the Bureau of Land Management whose end result will be acquiring water from willing sellers upriver to start beginning to get the water supply down to the lake. Obviously, I didn't understand the discussion about only it would take so many years to acquire the initial input of water we need to raise the levels because I think 2 years in the last 20 years we've had this enormous flood of river that has totally raised the lake level, you know, I don't know, 15 - 20 feet in one year. It's pretty hard when we're trying to do this stuff mathematically and use averages when we never know exactly what Mother Nature is going to do. So I think we have to proceed with what we've got and knowing that we may get a really good year, or really five good years in a row, which would take care of that particular problem. But in the mean time we do need to begin to find this additional 35,000 to 45,000 acre feet annually which we have learned from many sources is needed to keep

the TDS levels at a point where the fish can be healthy.

Chairman Close: If you'll give that to our secretary we'll make that a part of the record.

Ms. Strickland: Yes. Thank you very much. I appreciate that.

Chairman Close: Question?

Commissioner Dahl: Rose, if in order to increase the flows and to raise the levels of the lake as high as we understand it would have to be, would you be willing to see the area along the river the same thing happened to that that's happened to the Owens Valley?

Ms. Strickland: No. Environmentalists don't choose, we're often asked that question, would you sacrifice one environmental value in order to gain another? And the way I answer that is it is like being asked if only one child could live would you choose your son or would you choose your daughter? And we don't answer questions like, we don't sacrifice, we try not to sacrifice one value in order to achieve another value.

Commissioner Dahl: But didn't you say that that's what, I mean that the way to raise the level at the lake to bring the TDS to 10,000 would be to move water upstream, more water upstream into the lake?

Ms. Strickland: To acquire water rights from willing sellers upriver, yes, I did say that.

Commissioner Dahl: And we've had testimony here today that it would require half of the water that is diverted in order to do that?

Ms. Strickland: I don't agree with the testimony that you heard here today. There's 99 ways to skin a cat and just drawing this is a scenario and this is exactly what's going to happen I don't think is reflective of real reality in the real life that we live in. That hasn't happened in Lahontan Valley. It hasn't happened in Reno in other places where water has been transferred from one use to another use. We have to work hard to make sure that, whatever the solution is, that the environmental values of each area are protected and I endorse that.

Chairman Close: Any other questions?

Commissioner Doppe: I think that a lot of what you said makes sense. Unfortunately, we're hearing a whole bunch of true things today. And the problem is they're all coming true at the wrong time and space you know. If we'd have known what we know now 100 years ago, perhaps we'd have done things differently and unfortunately now what's happened is it strikes me the thing I'm hearing most today is we're being asked to look at a set of standards that are shooting right down the middle of two things that don't seem to want to come together and I don't think it solves anything is the problem. I think there's a more comprehensive solution that we're going to all have to step back and decide on. You know, how do we balance out these conflicting requirements? And perhaps your

litigation's going to get you there. It's striking me more and more as though this Commission to try and step in and impose a standard that you can't get there from here without extraordinary things is counterproductive. We're being asked to solve a problem that's not yet defined and not yet ready to be solved. There's too much groundwork that has to be laid here before we're going to be able to really get to these things. I don't know if I should be establishing the cutthroat trout standard of 5,000 or 10,000. You know, if it's not attainable what's the point? I've heard that it's a doomed lake. I heard that today.

Ms. Strickland: Well there might be some disagreement over that.

Commissioner Doppe: Maybe so, but there ought to be some science where we ought to be able to say this much is coming in, this much is going out.

Ms. Strickland: I don't think you heard science.

Commissioner Doppe: Once we get a better understanding of that and some of the policies that are going to have to maybe some of the water right buy backs and stuff like that, then I think we could probably reach a rational standard. But short of that it sounds like to me we're trying to guess what color horse is going to come out of the barn and we don't even know it. And the doors not even open.

Ms. Strickland: Can I respond to that? You've put your finger on the problem. It's a very complicated one. It involves a lot of things upriver and downriver and we're all connected by that river. But I don't think that that's what you're being asked to do here today. I think what you're being asked to do here today is to help the State comply with the Clean Water Act and your piece of the puzzle which will hopefully contribute to the solution over time is to set beneficial uses and water quality standards the best that you can given the information that you have. I don't think anyone here expects this Commission to solve Walker Lake's problem. I mean if you could I think we'd all stand up and clap and you'd be heroes in the State. I don't think that's what is being demanded of you. I think you have authority and you have responsibility to carry out the Clean Water Act in the State and I think that's all you're being asked to do. It's up to the rest of us to figure out how to build a bigger solution to the bigger problem.

Comm. Crawford: At the risk of being rude to my fellow Commissioners, we've got a lot of public that has sat here for a long time today and we're obviously not going to finish this today if maybe we ought to hear from the rest of the public, unless Rose . . .

Chairman Close: We're very nearly finished with the public. Rose you're the next to the last person to talk. Pete finish yours and then I think that's all that I have in . . .

(Audience): No. No. I mean all the Walker Lake people haven't talked.

Chairman Close: Let me repeat again. There are cards out on the desk to sign in.

(Audience): You have our cards, but you haven't called us.

Chairman Close: You may not have been here when I called you before. That's possible. Louis Thompson? I called you earlier and you weren't here.

Louis Thompson: I told you I was for the lake and not the river.

Chairman Close: Okay.

Mr. Thompson: Thank you. My name is Louis Thompson. I'm with the Walker Lake Working Group in Mineral County. In some ways it's fortunate that I've come up towards the last here. It's changed my remarks considerably. First off, as Rose was saying, I believe what you're asked to do are set standards for the beneficial uses of Walker Lake which include the aquatic and wildlife and not to determine whether or not those standards that would support that wildlife and that aquatic life are going to impact something that we have no answers to and that is the ultimate state of Walker Lake. A couple of statements have been made that I need to respond to. To say the proposed TDS level is not reasonably attainable I think is fallacious. The 10,000 mg/l has been present at Walker Lake within the past 10 years. And in fact 1983-84 time frame the TDS was down around 8,500 ml. So it is not an unattainable standard that we're talking about. It is very attainable. Asserting too that there's not enough water in the system to meet the needs of both agriculture and the lake, I believe is fallacious. This would assume that there are no more efficient irrigation system methods or other water conservation methods that would allow for continued agriculture and increase flows to the lake. The continued adherence to this position and the unwillingness to consider other methods is in my belief the very reason we are in court today. The standards I want to address have both one that I think has been left out completely here is the tui chub. The tui chub is the basic food fish for the Lahontan cutthroat trout and all of the water birds who come to feed there including the loons, the grebes and so forth. And the study, again, by Galat that Mike Sevon issued referred to earlier they found that although juvenile and adult tui chub are relatively tolerant of high TDS, their eggs are vulnerable at TDS levels. Embryonic development of tui chub was adversely affected in the range of 8,759 mg/l to 9,342 mg/l TDS. Tui chub eggs experienced 80 percent mortality at 12,379 mg/l and 100 percent mortality at 15,532 mg/l TDS. Without the tui chub we will not have Lahontan cutthroat trout, we will not have food for the birds who come there, we will have essentially a destroyed ecosystem. The tui chub eggs are, in fact, more vulnerable to TDS than the cutthroat trout themselves. Walker Lake, as we expressed many times, is unique as one of only two of its kind in the western hemisphere. High desert fresh water lakes, terminal lakes. It and Pyramid are the only two in the western hemisphere of the type with only another six or so throughout the world. It's also historically been unique as a trophy fishery with Lahontan cutthroat trout over 30 lbs. having been taken from the lake. As such it needs to be preserved as a trophy fishery. There's a difference between the requirements for the LCT to survive and those for them to live and grow to trophy size. Therefore the water quality standard should be set at a level to ensure full growth potential for the trout. And, again, from Galat some lethal effects of TDS on Lahontan cutthroat trout have also been documented and they talked about the hyaline degeneration in levels of TDS

exceeding 5,000 mg per level. So when we're talking about 10,000 mg/l standard we're still not protecting the fish where it can grow to its full life expectancy until it's full size. We would suggest 8,500 as a reasonable compromise from the 5,000 that we know starts to harm the fish to whatever higher level that other people might suggest. I've heard suggestions as high as 12,000 and above and tui chub will not reproduce at 12,000. The survival of the Walker Lake ecosystem is dependent upon the quality of water in the lake. In addition, the survival of Mineral County, its economic survival is dependent upon Walker Lake as a viable fishery and recreation area. We've heard a lot about the impact upstream. If you want to see some severe economic impact, come visit us in Mineral County. Our economy follows the level of the lake. As the lake level increases, the fish get big, we have a lot more recreation, a lot more angling and our economy improves. When the lake goes down, the fish get small, the anglers quit coming and Mineral County suffers even more. We empathize with those upstream, but again it is my belief there's enough water in the system to provide for both agriculture and the lake if we can get together and realistically look at different water distribution methods, irrigation methods, conservation methods and look at them seriously I believe we can solve the problem. But I would urge you to set standards that it will support uses of, in the report before you, that will support a viable fishery and wildlife recreation area at Walker Lake. Thank you.

Chairman Close: Any questions? Thank you very much. Does anyone else wish to speak who has not yet been spoken?

Marlene Bunch: Mr. Chairman I let Rose take my place, so does that mean I'm out?

Chairman Close: Let him go now, then you go next.

Ms. Bunch: Okay.

Mr. Tuttle: Okay, again I'm Peter Tuttle with Fish and Wildlife Service. Okay a couple things concerning the lake here. First of all we do support the standard, proposed standard of 10,000. Okay, for several reasons I think. First of all it is based on the science. We do know from the work out there that Lahontan cutthroat trout and other fish can actually survive and grow at this level. We would also remind you that while standards are part of a dynamic process and that there are these tri-annual review to come back and again take a look at the numbers here. I do believe that the level of 10,000 is attainable and I think also for reasons here that if we do set the standard we do recognize the impairment and it does also open up certain avenues for funding research through things like the Clean Water Act 319 process.

Okay, secondly the ammonia standard was dropped from consideration during this review process here. I do understand that NDEP is currently reviewing the EPA's 1999 criteria. However, I would recommend including ammonia standards in this go 'round here and I would recommend going with what is currently accepted throughout the rest of the basin, the unionized ammonia standards in this case, because there is Lahontan cutthroat trout, the cold water standard of .02.

Okay, third - the arsenic standards or proposed arsenic standard. Obviously, arsenic is a toxic constituent here and it certainly is concern for the fish and the wildlife and the humans in the Walker Lake area. The existing elevated concentrations are not reflective of natural conditions in the lake. They are reflective of the degraded conditions and decline in water levels and changes in the geochemical cycling of arsenic out there. I think the EPA criteria are well-researched and scientifically defensible whereas there's little scientific basis for the proposed standard for arsenic for Walker Lake here. The proposed levels and the current levels at the lake now will contribute to the loss of species and other adverse effects out there. Also, a change in the toxic standards, it is a different part of the Nevada Administrative Code, NAC 445A I think 144. I think it's a bad precedence to change these particular toxic standards based on existing conditions.

Okay, finally I would also echo the recommendations of Rose Strickland earlier on the verbiage added for the climatic conditions. Again, for reasons given earlier for when adequate flows exist, I think they do open up ambiguity and certainly points of contention. That's all I had. Any questions?

Chairman Close: Any questions?

Commissioner Gifford: On the arsenic level, I didn't understand. Were you advocating then falling back to the EPA-recommended level?

Mr. Tuttle: Yes. I think it's, I don't think we should endorse, or y'all should endorse a higher arsenic standard there. I think maintaining the existing one while recognizing we're exceeding it.

Chairman Close: Okay. Thank you. Any other questions? Thank you. Yes ma'am?

Ms. Bunch: I think now I can almost say good evening. I'm Marlene Bunch with the Walker Lake Working Group and I sincerely sympathize, empathize, however you want to feel with it with your responsibilities that you're going to have to make a decision on water quality. It's going to be a hard decision because no matter what you do you're going to be stepping on somebody's toes. My question to you would be are you going to make a decision that's going to be cast in stone that can never be changed? Probably not. We know the changes that take place in the Nevada legislature every time they meet. So, let's get started somewhere. If we don't start somewhere, we're not going to go anywhere. You know in 1991 I was working a lot with Mike Sevon, this gets real tough guys. We were talking about Walker Lake and at that point we were two to three years of having a dead lake. Right now we are four years from having a dead lake. At that time we hadn't had water into the lake for around eight years, not a drop down the river. The riverbed was so grown over, so full of trash, nothing could get down it anyway at that point in time. And I called Mike up one day and I said, "Mike irregardless of when the lake dies, when will the lake not exist? Can you figure that up and get back to me?" And he said, "Sure." He says, "In fact, I can do it right now." He bases everything on a history from Winnemucca Lake which you know is a dry lake. Within about a minute he says, "Less than 20 years." Reality Check No. 101. At that time I was, I'm a woman I

never admit real age, I was in my mid-40's okay? And I'm saying, "Realistically 20 years is in my lifetime. I will not have a lake." But he says, "Wait a minute Marlene, it won't be completely gone. You're going to have a sludge pond down in the deepest part and the solids are going to be so deep, so thick nothing will grow there." And he said, "The rest of it is going to be blow-sand. You know the problems they're having in Owens Lake?" And I said, "Yeah." He says, "Well that's what you're going to be having right there if the lake dries up." This is your task gentlemen. Don't let the lake dry up. You're creating more problems. Everybody is willing to work. Let's make it work together. And it can very well start with you right here. We have to start somewhere. I don't envy you. I don't envy you at all. But I've been like this for a long time and I have a long ways yet to go. We just passed the tax override again. I know we're here until the year 2007 if we have to be. I hope to God we're not. The sooner this gets resolved, the sooner things work, the sooner this whole thing can end. We're having economic impacts. We have businesses right at the lake and they will close up and dry up if the lake closes up and dries up. We have a community out there that their water system relies highly on the level of the lake as to their water being provided. Now, granted you're talking about water from the river going into the lake. But we have worked with the base and all the cottonwood water that is not needed for the base is being turned into the lake. So, there is other sources and we have turned them, and in the last couple of years in the high runoff, as high as a million gallons a day. The lake has not been our sole source through these last few years to maintain the river, my apologies. We're trying every available resource we can. You know I was quite shaken at Mr. Schaeffer's response about the lake is geologically doomed. Like hell. The lake is not geologically doomed. The reason it would have been doomed is because of man intervention. I heard Mr. Fulstone say, "Well the lake dried up a couple of times already." Yeah, over 2,000 years ago. But it wasn't man-caused. If man causes it to dry up, it's man's responsibility to put it back. God was who dried it up before. God put it back. That's the bottom line. We have a responsibility to make for sure that lake stays there. I have a lot of other things I could say, but gosh guys it's late and I know as well as all of you we want to get on the road. Louie and Shirley even had to teach classes tonight. They had to leave. I'm the last of the group here. If you've got any questions, now's the time to ask them.

Chairman Close: Any questions?

Commissioner Ricci: I'm a little confused. What I think you're saying is that by setting the standards we're going to solve the problem of the level of the lake. Is that?

Ms. Bunch: I did not say you were going to solve the problem. I said you would begin. There's a lot of other aspects. Is it the lake's fault that the river is over-allocated 140 percent?

Commissioner Ricci: Well I'm still trying to figure out your comment as to how the water quality standards gets water to the lake.

Ms. Bunch: By setting water quality standards you are beginning the steps that sets the qualifications of stream flows and everything else to get to it. And you are setting the standards for the

lake itself.

Commissioner Johnson: I could perhaps elaborate on this. We heard earlier that the listing generates a priority for federal and other funding and without the standards you don't have the listing, which you don't have the priority to proceed with other possible technological or transmission or conservation or whatever issues that other agencies would use to do this. What we're really talking about in this whole business is where's the money coming from to do the things that need to be done? The studies that we've said that we still need to do, the implementation of whatever kind of channelization or not channelization or riparian repair or concrete lining of ditches or actual purchase and transfer or whatever else that may be out there in the future is depending upon having the listing. This is the process by which the funds are allocated and generated and driven from various entities and agencies. And without that we can depend upon State legislative appropriations or Mineral County appropriations or whatever else or private foundations for that matter. But for the federal funds to be there you need some prioritization and justification. And as it has been for the last century or so that we didn't recognize the beneficial uses of the fishery or the wildlife in Walker Lake and the standards are part of developing a listing.

Ms. Bunch: Thank you Mr. Johnson.

Chairman Close: Any other questions? Thank you very much.

Ms. Bunch: Thank you very much.

Chairman Close: Does anyone else wish to testify that's in the audience this evening? Hearing and seeing no other witnesses we'll call this hearing to a close.

Susan Gray: Mr. Chairman can I just, there's a couple of housekeeping issues. You have a big packet of exhibits that need to be accepted.

Chairman Close: Good point. If there's no objection we'll accept Exhibits 1 through . . .

David Cowperthwaite: You've already accepted 11, 12 and 13. So it would just be 1 through 10, scripted out already.

Chairman Close: So we have 1 through 10 on the log and some of those we have not accepted yet. We will accept those if there's no objection. We have accepted the Walker River. We have accepted Mr. Schaeffer's letter. Were there any other exhibits?

Mr. Cowperthwaite: Yes. The Sierra Club one too. They've also been accepted.

Chairman Close: Sierra Club, you have a copy of that?

Mr. Cowperthwaite: Yes.

Chairman Close: We'll accept that document. Anything else?

Mr. Cowperthwaite: No. Nothing that I have in hand.

Ms. Gray: In addition there was some comment about perhaps hearing additional public comment at a future meeting. If you wanted to continue this meeting it wouldn't require the 30 days notice. If you don't intend it to be in the next 30 days, then it does doesn't require notice.

Chairman Close: We don't know when we would be continuing it to. What date we'd choose even. So we'll have to reschedule the meeting and we will do that and of course give everyone notice of the fact that we have rescheduled the meeting for further consideration. Anything else on this issue?

Commissioner Ricci: Tom what are the consequences of not setting the standard?

Mr. Porta: Well you know I hate to speculate. We've heard a lot of that today about what could potentially happen if we set this standard, it's not met, potential lawsuits. On the flip side of that we have a requirement under the Clean Water Act to conduct a tri-annual review. If we determine that we think there's enough scientific information available, we come to you and request a change to those. If we fail to do that, we have not met the requirements of the Clean Water Act. That could potentially open us, you and the State up to litigation on that side of the coin. But, again, it's pure speculation. Fortunately, Nevada's one of 15 remaining states which have not been sued over water quality standards because of our proactive nature, our work with TMDLs and so forth. So, having said that, we might potentially be in jeopardy. But, again, it's pure speculation just as it is on the other side of the fence.

Chairman Close: Is anybody here on any of the settlement violations?

Commissioner Johnson: I would like a little clarification on the postponement or future planning, what we would expect from NDEP in further studies or reports or recommendations to us and perhaps some elaboration and discussion about sliding standards or some other options that we may have. I mean I think that if we are simply just delaying the resolution that we, I wouldn't wish just to see that, but if there was simply additional information that we have, questions, we may need to digest this or subject ourselves to additional lobbying by various interest groups, I would certainly appreciate that. But I think if there is something that we could define as particular information, I particularly would like to see some of the background references that came with this blue document that in some cases the references cited in the text are not referenced in the reference list and I'd like to see some of the actual documents behind some of these claims.

Mr. Porta: We could certainly provide those with regard to new or additional information. We have spent two and a half years on this issue with over a year of public comment and clearly today I think you saw what we've been dealing with for the last couple of years. We can provide those. But with regard to new information and heading off into a new direction with something, we have other priorities in the State. Again, our resources are limited. We have the Carson, we have Lake Tahoe, we've got Lake Mead, Las Vegas Wash, the

Humboldt. These other river systems and our Water Quality Standard branch, which there are three people in, have to go on to other priorities to keep us as best we can caught up with the requirements of the Clean Water Act. So, what we can provide you between now and the next meeting would be the reference documents supporting what we have given you in the blue books if it's not there. If you're asking us to come back with additional information or additional studies we are then talking probably several years down the road before we could come back with that information while we address other things in the State.

Commissioner Gifford: I would suggest that if individual Commission members have needs for additional information that they simply contact Tom or Allen, either one, and if it's available they get it and if it's not they don't.

Chairman Close: And Mark had some similar-type of questions that he was going to submit to you for response.

Commissioner Doppe: I can live with that standard. I'm not looking for a three year resolution here.

Mr. Porta: Okay and we welcome those and would be happy to provide a response at the next meeting.

Commissioner Doppe: And in honesty a lot of mine are not so much technical water quality standards, but they're bigger picture issues as to what role is the Commission stepping into and you're not going to be able to address those. I'm going to want to talk it over with some fellow Commissioners on those things.

Chairman Close: So if anybody has anything specific though they want to ask them to provide to us within grounds of reasonableness, then surely you request it.

Commissioner Johnson: That would be for them to decide what's reasonable too. I think I've expressed my . . .

Chairman Close: Well I guess he's going to decide what's reasonable and what he can do and so if you ask him he'll tell you if he can do it within a reasonable time frame or not.

Mr. Porta: I think the first thing we need to establish is when you need to get me the request. I think we need to make that a fairly short time, within 30 days? Is that reasonable for everyone to get me what information you need and then I can respond back to you with a time or if I can or can't do it?

Chairman Close: I would think 30 days should be more than adequate. I would think even less than that would be possible.

Comm. Crawford: Tom is there a time frame where this review is required to be completed?

Mr. Porta: We're a year past due. Typically our standards revisions, tri-annual reviews take 12 to 18 months. We're now approximately two and a half years into this process. So, we're

behind schedule about 12 months.

Comm. Crawford: Mr. Chairman I wonder if you would accept a suggestion that we establish a meeting date here in a month or so and see if we can attempt to get this on.

Chairman Close: We will establish a meeting date and we'll do it by having David call and see who's going to be available and when. We have to get a quorum. See what everybody's calendars look like and we'll get it set up. It will be fairly quick.

Commissioner Dahl: Will it be held here in Yerington?

Chairman Close: Possibly. Maybe it will be held next time in Mineral County. I don't know. I'm going to give that some thought. You've given the people here an opportunity to come and make a presentation, I think now that what I've heard it would not be unfair if we have another meeting, it may be reasonable to have one in Mineral County or at least in Reno where it's halfway between the two entities.

Mr. Porta: Our four workshops, two were held in Yerington and two were held in Hawthorne.

Chairman Close: Sure and so we might very well, we'll consider that and see what we should do. We want to make it fair for all of the interested parties and make everyone available to the committee easily and without a great deal of difficulty. Surely this meeting is more simple for those in this area and less convenient for those from Hawthorne and Mineral County. We want to give everybody a chance to be heard on this matter. And so we will do it fairly quickly but I'm not sure, I don't think we can select a date today.

Commissioner Iverson: I have some problems Tom with your comment about no new material, no new change, I'm not so sure why we would want to meet again because I'm not so sure if we go any further other than exactly what you said, it gives everybody a chance to lobby with their side again. I'm thinking that maybe we do need some additional information, at least some, you know, because there are some concerns and comments. Somebody talked about a sliding scale. I think it's incumbent on that group to maybe take a look and see if there's a possibility. We talked about unattainable standards. What would be attainable? And maybe we need to look at how that impacts upstream users and you know I know we need to get there someday and I'm not so sure if we had another hearing if we're going to get there unless we do have some additional stuff to go with this because we need to do something because if we don't do something I think we are definitely in jeopardy of some lawsuits.

Mr. Porta: And I don't know what information we can provide in a timely manner to answer some of these questions. Again, we came to you with the best information we have today.

Chairman Close: I think the information we're talking about is that information that we specifically ask you to provide to us unless you have heard something in the presentation that you would be able within the next little while to pull together and give to us. You've surely heard comments from different people, you've answered most of them. But if you've heard

something that you think needs further elaboration then you could provide that to us.

Mr. Porta: Okay. I will wait for your questions and then formulate my responses and we can either provide those to you prior to the next hearing or at the next hearing.

Chairman Close: Is there any reason why you can't get your questions to him in two weeks?

Commissioner Iverson: Absolutely. That's fine.

Chairman Close: Mark, two weeks?

Commissioner Doppe: Yeah, no problem.

Chairman Close: So we'll get them to you in two weeks.

Mr. Porta: Yeah. E-Mail, call, call David, whoever.

Chairman Close: And then we might have then, 45 days or so, or two months. That will give you more time so you get your answers put together.

Mr. Porta: Okay.

Chairman Close: I think we have to leave. We have these three, we can take those three matters very quickly.

Mr. Cowperthwaite: Do you want to take the matters quickly or do you want me to just rotate them into the next hearing?

Chairman Close: I think that would be better if you can, if it's not going to be a problem for you.

Mr. Cowperthwaite: I'll rotate them then.

Chairman Close: Anything else to come before the Commission before we adjourn? Hearing nothing the meeting is adjourned.

**Nevada State Environmental Commission
Regulatory Hearing
Exhibit Log**

Hearing Date: December 5, 2000

Location: Yerington, Nevada

#	Item	Item Description	Reference Petition #	Offered	Accepted
1	119 Page Bound Document	Walker Lake Water Quality Standards Rationale - Rationale for Proposed Revisions to The Nevada Water Pollution Control Regulations and The Walker River Water Quality Standards Review and Rationale - Rationale for Proposed Revisions to the Nevada Water Pollution Control Regulations (NAC 445A.159 - NAC 445A.169) - Walker River, Desert Creek and Sweetwater Creek dated September 2000 by Nevada Division of Environmental Protection, Bureau of Water Quality Planning	2000-10	YES	YES
2	16 Page Document	Document containing letters from Kenneth C. Spooner, Walker River Irrigation District to John Heggenness, NDEP dated February 28, 2000, to Alan Biaggi, NDEP dated November 20, 2000, and to David Cowperthwaite, NDEP dated November 20, 2000 regarding the Proposed Nevada State Water Quality Standards for the Walker River and New Water Quality Standards for Walker Lake.	2000-10	YES	YES
3	1 Page Memorandum	Memorandum from Jon McMasters, Water Resources, Walker River Paiute Tribe regarding Walker River and Walker Lake Water Quality Standards.	2000-10	YES	YES
4	2 Page Document	Document from NDEP regarding Comments and Questions from Walker River/Lake Water Quality Standards Workshops held on September 6, 2000.	2000-10	YES	YES
5	1 Page Document	Document from NDEP outlining meetings held with Walker River-Walker Lake Stakeholders from November 1998 to September 6, 2000.	2000-10	YES	YES
6	2 Page Document	Notices of Public Workshops from NDEP. One is dated December 1999 announcing workshops to be held in Yerington and Hawthorne on January 20, 2000. The other is dated August 2000 announcing workshops to be held in Yerington and Hawthorne on September 6, 2000.	2000-10	YES	YES
7	3 Page Document	Fact Sheet from NDEP, Bureau of Water Quality Planning, dated September 2000 regarding Proposed New Walker Lake Water Quality Standards explaining the Background and Summary of New Water Quality Standards.	2000-10	YES	YES
8	3 Page Document	Fact Sheet from NDEP, Bureau of Water Quality Planning, dated September 2000 regarding Proposed Revisions to the Walker River Water Quality Standards explaining the Background and Summary of Proposed Revisions.	2000-10	YES	YES

**Nevada State Environmental Commission
Regulatory Hearing
Exhibit Log**

Hearing Date: December 5, 2000

Location: Yerington, Nevada

9	68 Page Document	<p>Document containing letters as follows:</p> <p>Letter from Cassidy D. Williams, Walker River Paiute Tribe, dated June 4, 1999 regarding Proposed Changes - Walker River Water Quality Standards.</p> <p>Letter from Stephanie L. Wilson, State, Tribal & Municipal Programs Office, US EPA dated June 21, 1999 regarding the Draft Proposed Changes to the Water Quality Standards for the Walker River and the New Proposed Standards for Walker Lake.</p> <p>Letter from Stephanie L. Wilson, State, Tribal & Municipal Programs Office, US EPA dated February 14, 2000 regarding the Proposed Revisions to the Walker River Water Quality Standards and the Proposed New Walker Lake Quality Standards.</p> <p>Resolution dated January 20, 2000, signed by the Chairman of the Lyon County Board of Commissioners regarding Walker River and Walker Lake Water Quality Standards.</p> <p>Letter from Kenneth L. Roberts, Tribal Chairman, Yerington Paiute Tribe dated January 26, 2000 regarding Resolution proposed to NDEP by the Lyon County Commissioners regarding Water Quality Standards for Walker River.</p> <p>Letter from Robert D. Williams, U.S. Department of the Interior, Fish and Wildlife Service dated January 31, 2000 regarding Review and Modification of Water Quality Standards for Walker River and Walker Lake.</p> <p>Letter from Robert D. Williams, U.S. Department of the Interior, Fish and Wildlife Service dated August 23, 2000 regarding Review and Modification of Water Quality Standards for Walker River and Walker Lake.</p> <p>Letter from Mike D. Sevon, Division of Wildlife dated February 4, 2000 regarding Water Quality Standards for the Walker River Basin.</p> <p>Letter from Mike Sevon, Division of Wildlife dated May 5, 2000 regarding Revision of Nevada Division of Wildlife's Position on Water Quality Standards for Walker Lake.</p> <p>Letter from Carrie Stilwell, Western Environmental Law Center dated February 14, 2000 regarding Public Comment on Proposed Water Quality Standards for Walker Lake.</p> <p>Letter from Carrie Stilwell, Western Environmental Law Center dated February 25, 2000 regarding Additional Public</p>	2000-10	YES	YES
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**Nevada State Environmental Commission
Regulatory Hearing
Exhibit Log**

Hearing Date: December 5, 2000

Location: Yerington, Nevada

9 Cont.		<p>Letter from Rose Strickland, The Toiyabe Chapter of the Sierra Club dated February 18, 2000 regarding the State's December 1999 Draft Review and Modification of Water Quality Standards for Walker River and Walker Lake.</p> <p>Letter from Kenneth C. Spooner, Walker River Irrigation District dated February 28, 2000 regarding Proposed Revisions to Nevada State Water Quality Standards for the Walker River and New Water Quality Standards for Walker Lake.</p>		YES	YES
10	25 Page Document	<p>Letter from Allen Biaggi, NDEP to Kenneth C. Spooner, Walker River Irrigation District dated November 27, 2000 responding to Mr. Spooner's letter dated November 20, 2000. Letter includes attachment titled "Walker River-Walker Lake Proposed Revisions to Water Quality Standards Response to Comments.</p>	2000-10	YES	YES
11	3 Page Statement	<p>Oral Statement of William Schaeffer, Attorney at Law , dated December 5, 2000 opposing adoption of the Proposed Walker River and Lake water quality standards.</p>	2000-10	YES	YES

**Nevada State Environmental Commission
Regulatory Hearing
Exhibit Log**

Hearing Date: December 5, 2000

Location: Yerington, Nevada

	ITEM	ITEM DESCRIPTION	REFERENCE PETITION	OFFERED	ACCEPTED
12	22 Page Presentation	Presentation of the Walker River Irrigation District dated December 5, 2000 by Gordon H. DePaoli, and Jean Baldrige	2000-10	YES	YES
13	3 Page Letter	2 page letter dated December 5, 2000 from the Toiyabe Chapter of the Sierra Club, Rose Streckland, Conservation Committee, with chart title "Pristine Lake - Level Reconstructions for Walker Lake, 1870 to 1995."	2000-10	YES	YES