Appendix L

Comment Letters and Responses

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L.0 Comment Letters and Responses

This appendix contains copies of the comments received regarding the Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement (EIS) and the associated responses of the Bureau of Reclamation (Reclamation) and the National Park Service (NPS). The comment letters were received during the 60-day comment period from October 7, 2005, through December 7, 2005. The comment period was unofficially extended one week for the Environmental Protection Agency (EPA), as well as other interested parties that needed additional time to comment. Comment letters were accepted through January 30, 2006. The chronology of the comment letters is random. Each numbered comment letter is subdivided into specific comments and these comments are numbered sequentially. Each comment and its corresponding response are included in this appendix. Table L-1 lists the letters in the order in which they have been presented in this appendix and the number assigned to each comment letter.

Table L-1. Commenters

Number*	Commenter	Representing
F1	Cynthia Martinez	U.S. Fish & Wildlife Service
F2	Duane James	U.S. Environmental Protection Agency
T1	Shan Lewis	Fort Mojave Indian Tribe
S1	Rebecca Palmer	Nevada State Clearinghouse, Dept. of Administration, Budget and Planning (State of Nevada-State Historic Preservation Office)
S2	Gerald Zimmerman	Colorado River Board (State of California)
S3	William E. Werner	Arizona Dept. of Water Resources (State of Arizona)
S4	Jon C. Sjoberg	Nevada Department of Wildlife (State of Nevada)
S5	Stephen A. Owens	Arizona Department of Environmental Quality (State of Arizona)
S6	Leo Drozdoff	Nevada Division of Environmental Protection
E1	Diane Rae Vick	Mayor (City of Bullhead City, AZ)
E2	Harvey Jackson	Mayor (Lake Havasu City, AZ)
E3	Buster Johnson	Mojave County (District III), Arizona
E4	William J. Ekstrom Jr.	Mojave County Board of Supervisors
L1	Mary A. Scott	La Paz County Board of Supervisors
L2	Michel D. Remington	Imperial Irrigation District
L3	Patricia Marchese	Clark County Department of Parks and Recreation
L4	Kay Brothers	Southern Nevada Water Authority
L5	Laura Simonek	Metropolitan Water District of Southern California
L6	David Mansfield	City of Scottsdale Water Resources Dept
L7	Clifford Edey	La Paz County Board of Supervisors
L8	Gene Fisher	La Paz County Board of Supervisors
O1	Rayond Lee	Foundation of North American Wild Sheep
O2	Walter Johnson	Citizens Advisory Committee

Table L-1. Commenters (continued)

Number*	Commenter	Representing
O3	James E. Brooks	Desert Fishes Council
O4	Gerald R. Zimmerman	Lower Colorado River Multi-Species Conservation Program
O5	Clifford Edey	Colorado river Regional Sewer Coalition
O6	Dennis Ghiglieri	Sierra Club (Toiyabe Chapter)
I1	Walt Johnson	
I2	Mark Carlton	
I3	James Deacon	
I4	Lorraine J. Tucker	
I5	Adrian LaPiene	
I6	James Deacon	
I7	Jeanjcb2@aol.com	
I8	Merna L. Wagner	
I9	Bill McLeod	
I10	Robert Glenn	
I11	Michael R. Davis	
I12	Steven Taylor	
I13	Carol Mayer	
I14	Carol Mayer (2)	
I15	mayerjg@scglobal.net	
I16	riverbrat@cilink.net	
I17	Sam Gay	
I18	Martin Koppel	
I19	Bill Harton	
I20	Stan Davis	
I21	Jeanne Kentch	
I22	Bill Losasso	
I23	Steven Ahrens	
I24	Tom and Nan Nicoll	
I25	Richard & Peggy Ashmead	
I26	Bill and Judy Kendrick	
I27	Steve Webster	
I28	Bob and Joal Morrison	
I29	Rusty Coad	
I30	Kris Kidder	
I31	Patricia Young	
I32	Laura L. Smith	
I33	Wildflowerlhc1@webtv.net	

Table L-1. Commenters (continued)

Number*	Commenter	Representing
I34	Bill and Pat Wallace	
I35	Bob Vessells	
I36	Michael R. Davis	
I37	H. Bruce Wallace	
I38	John Scully	
I39	Edsigamay@aol.com	
I40	Dan Hernandez	
I41	Gary Hoskins	
I42	Cecilia and Dean Tweedy	
I43	Peggy Sheppard	
I44	Eleanor Koppel	
I45	Gordon Atteberry	
I46	Mary Helen Hollensbe	

Notes:
* Comment Identifier Number
F – Federal Agency T – Tribe S – State
L – Local Agency (City or County) O – Organization I – Individual

A number of comments received had common concerns. Because these issues were reoccurring, a general response to each issue has been prepared. These general responses are presented in the following pages and are referred to by name in the responses to individual comments.

General Response 1 – Process Improvements Alternative

Comment:

Certain comments suggested that the NPS and Reclamation analyze a Process Improvements or "enhanced treatment" alternative in the Final EIS. Some comments referenced a study conducted by Dr. David Jenkins for the Metropolitan Water District of Southern California (MWD) in which Dr. Jenkins stated that there are currently available treatment technologies that can be employed to meet the purpose and need of the proposed action (Jenkins 2005).

Response:

In the Draft EIS, plant optimization and additional treatment technologies were considered as part of the No Action Alternative. In response to comments that additional treatment should be considered as a separate alternative, the existing No Action Alternative has been divided into a Process Improvements Alternative, in which optimization plus additional treatment are provided, and a No Action Alternative, in which optimization is provided but additional treatment is not. In the Final EIS, the Process Improvements Alternative includes information provided by commenters and analysis developed in response to those comments.

After reviewing the additional information and analyses, the Final EIS concludes that the Process Improvements Alternative cannot meet key elements of the purpose and need of the project. As described

in the Purpose and Need, Section 1.5 of the Draft and Final EIS, management flexibility and adaptability are important reasons for the proposed project. The alternatives that continue to discharge the treated effluent to only the Las Vegas Wash do not provide flexibility in the management of the flows and cannot adapt to low Lake conditions. Reclamation predicts the Lake to drop to levels between 1,050 and 1,000 ft. This would require the plants to treat to phosphorus levels lower than 0.02 milligrams per liter (mg/L) and still have a high probability of exceeding water quality standards.

There may be differing professional opinions, but based on the knowledge and expertise of the Wastewater Treatment Specialists and Engineers consulted, in 2006 it was determined that reverse osmosis (RO) may be the only technology that can reliably achieve combined effluent TP levels of between 0.02 and 0.05 mg/L on an annual average basis. However, implementation of RO was eliminated from further consideration, as described in Section 2.7.12, because it would result in a significant loss of return flow credits for southern Nevada and it creates a large waste stream that would require disposal.

Although the Process Improvements Alternative has been analyzed, after reviewing the additional information and analyses, the Final EIS concludes that the Process Improvements Alternative cannot meet key elements of the purpose and need of the project. The elements of the purpose and need that are not met include the need to ensure compliance with water quality standards for Lake Mead at a Lake level of 1,000 ft, and to provide the management flexibility to respond to future water quality issues and regulatory requirements.

The analysis provided by Dr. David Jenkins provides specific confirmation of the statement made in the Draft EIS that additional treatment sufficient to attain water quality standards would result in significant water losses. Dr. Jenkins confirmed that even microfiltration could not reduce phosphorus concentrations below 0.05 µg/l (Jenkins 2005). Lower concentrations require treatment technologies such as RO, which result in large water losses because they produce wastestreams that cannot be returned to the Colorado River. Even relatively minor water losses are incompatible with the purpose of the project and the needs of southern Nevada. Although Dr. Jenkins concluded that microfiltration would be sufficient to meet the existing permit requirements for phosphorus, he did not consider whether it would be sufficient to ensure compliance with chlorophyll standards for Lake Mead. Modeling discussed in the Draft EIS, combined with the data provided by Dr. Jenkins, show that the minimum loadings obtainable through microfiltration would still be too high to ensure compliance with chlorophyll standards in Lake Mead when lake levels are low, so long as the phosphorus continues to be discharged to Las Vegas Wash.

Discharging through a deep outfall in Lake Mead provides at least three types of benefits that are not provided by the Process Improvements Alternative. First, it places the discharge deeper in the Lake, where constituents in the discharge are less likely to promote algal growth, and less likely to affect fish frequenting shallower waters, while remaining subject to natural assimilative processes in which the Lake cleanses itself. Second, it broadly disperses the discharge across a wide expanse, rather than concentrating it in a small area at the mouth of Las Vegas Wash, a location where large numbers of fish are present and spawning (Kaczynski 1991). Third, it allows for flexibility in managing the discharge, including flexibility in adjusting the depth of the discharge to avoid affecting the drinking water supply, limit algal growth, promote fish productivity, and maintain water quality as Lake levels decrease.

Increased treatment without an alternate discharge location does not provide the flexibility that is clearly the key concept described in the purpose and need for the action.

The Process Improvements Alternative is described in Section 2.5 of the SCOP Final EIS, and potential impacts are described throughout Chapter 4.

General Response 2 – Range of Alternatives

Comment:

Certain comments suggested that a broader range of alternatives be analyzed in the EIS. Example alternatives that were suggested for analysis included: increasing reuse of tertiary effluent, changing of effluent flows to the Las Vegas Wash and Lake Mead, water conservation, and percolating effluent into the desert. There was also concern that the water quality modeling conducted for SCOP did not consider water that is reused in its calculations.

Response:

The Las Vegas Valley (Valley) currently reuses treated effluent for golf courses, cemeteries, parks, landscape medians, and cooling water for power plants. However, the amount of area available to reuse the treated effluent represents only about 20 percent of the effluent that is produced. The other 80 percent of the treated effluent is sent to the Colorado River, where it produces "water return flow credits" for Nevada. Every gallon of Colorado River water that is used in Las Vegas and is returned to the Colorado River system produces a gallon that can be re-used again. Nevada's consumptive rights to Colorado River water total 300,000 acre-feet per year (AFY). But, Nevada is able to divert nearly 480,000 AFY because of return flow credits. Water is a very important resource to Nevada, and all the Colorado River states in this time of drought. Wastewater reuse flows have been included in all flow rate calculations presented in the Draft and Final EIS. A summary of the ongoing reuse of treated effluent in the Valley and its limitations has been added to Section 1.4.1.4 of the EIS.

As described in Section 1.4.1, return flow credits are extremely important to southern Nevada. Therefore, any alternative that reduces or eliminates Nevada's ability to earn return flow credits, such as percolation into the desert, does not meet the purpose and need for the project and is not considered a reasonable alternative.

The Southern Nevada Water Authority (SNWA) is implementing aggressive water conservation measures in the Valley. These measures are not part of the SCOP. The goal of the water-conservation measures is to reduce the actual water use in the Valley. Although the results of conservation efforts affect the urban-runoff flows in the Las Vegas Wash, the wastewater treatment agencies are not responsible for urban runoff. A list of the water conservation measures being implemented by SNWA has been added to Section 1.4.1.3. A reference to Section 1.4.1.3 has been added to Appendix D, Section D.1.3.1.

Many alternatives were considered throughout the alternatives development process, which began in 1994. The alternatives considered and eliminated from further study are described in Section 2.7 of the Final EIS.

General Response 3 – More detail regarding plant optimization

Comment:

Commenters suggested that more detail be provided regarding plant optimization, which is a component of all alternatives.

Response:

As described in Chapter 2 of the Draft and Final EIS, optimization of the plants would be implemented as needed as part of all alternatives. A description of the optimization that would occur at each plant is provided in Section 2.1 of the Final EIS. The text in Section 2.1 has been revised to read, **"**Optimization

of the plants would continue to be implemented to treat wastewater to levels needed to meet water quality objectives. The treatment plants would be able to achieve combined total phosphorus (TP) levels of 0.14 mg/L during plant optimization."

General Response 4 – Impacts to downstream users

Comment:

Concerns were raised about the possible change in water quality downstream of Hoover Dam and its impact on humans. The impacts to downstream users from constituents such as TP, total organic carbon (TOC), salinity, N-nitrosodimethylamine (NDMA), pathogens, and xenobiotics were requested.

Response:

In the *Colorado River Watershed Sanitary Survey—2000 Update* (MWD 2001), none of these substances are among the four substances identified by the MWD, the largest downstream drinking water user, as the key constituents of concern. The constituents of concern were pathogens (mainly Cryptosporium, Giardia, and enteric viruses), coliforms, MTBE, and perchlorate (MWD 2001).

The impacts to downstream users from potential changes in water quality resulting from the SCOP are described in Section 4.1 of the Final EIS. The potential impacts to other resources are presented throughout Chapter 4 of the Final EIS.

Total phosphorus is discussed in General Response 8.

Xenobiotics and NDMA are currently not regulated by National Pollutant Discharge Elimination System (NPDES) permit requirements and are not the subject of water quality standards. They are being investigated by EPA and other agencies, and may be regulated in the future. Available data do not establish a significant effect from any of these substances on downstream users. Changing the point of discharge would not be expected to have any effect on downstream users. That is, the annual average mass load of these and other chemically stable (conservative) substances through the Hoover Dam outlets would be nearly identical for all of the discharge locations. Future increased discharge volumes may produce additional mass loadings of these substances, but the project would not preclude, or have any effect on, the ability of the dischargers to respond to any issue identified in the future. Text briefly describing NDMA and xenobiotics is provided in Sections 1.4.2.4 and 1.4.2.5 of the Final EIS.

Wastewater discharged by the treatment plants contains potential endocrine disrupting chemicals (EDCs) and pharmaceuticals and personal care products (PPCPs). Concentrations of these substances generally decrease with increasing distance from Las Vegas Wash, and drop to nondetectable levels, but the data are limited. It is not clear whether detectable levels are found below Hoover Dam. Even if there are detectable levels, or if detectable levels result from the project, downstream water users are unlikely to be affected by discharges of EDCs and PPCPs attributable to the project, because scientific evaluations have concluded that "no appreciable risk for humans exists at the low levels measured in drinking water" (Appendix K). The MWD has reported that nondetectable levels of potential endocrine disrupters have been found at its water intake, although the majority of compounds of interest were not monitored (MWD 2001 [page 4-34]). Pharmaceuticals and personal care products were not identified as one of the four key constituents of concern to MWD (MWD 2001).

Pathogens are currently regulated through the use of indicator fecal coliform (FC) and E. coli bacteria. Because existing discharges are given exceptionally high levels of treatment, their bacterial concentrations are well under those required by their permits, and well under those levels established to protect water quality in Lake Mead and the Colorado River.

The Draft EIS presented modeling results that showed insignificant impacts of each of the alternatives on the Total Dissolved Solids (TDS) concentrations within Lake Mead and the Hoover Dam outlet. Salinity is closely represented by TDS, so it can be concluded that none of the alternatives would have significant impacts on salinity for water users in the Valley and downstream of Hoover Dam.

Concentrations of TOC in Lake Mead result from biological productivity, which tends to generate organic carbon, or from biological and physical processes, including ingestion, respiration, and sedimentation, that tend to remove organic carbon. Total organic carbon concentrations at Hoover Dam appear to have decreased since the 1970s. The data show no sign of an increase, despite the substantial increase in wastewater flow. Increasing wastewater flows in the future are not expected to increase TOC concentrations. Total organic carbon is one of the monitoring parameters in the Boulder Basin AMP as indicated in Section 2.2.2.6.

General Response 5 – Impacts to water quality in the Las Vegas Wash

Comment:

Requests were made to evaluate the effects of increased concentrations of TDS, selenium, and perchlorate in the Las Vegas Wash and Las Vegas Bay. The decrease in effluent flows to the Las Vegas Wash would result in less dilution of non-effluent related constituents.

Response:

The impacts to the Las Vegas Wash and the Las Vegas Bay due to the decrease in effluent flows to the Las Vegas Wash are described in Sections 4.1 and 4.2 of the Final EIS. The potential impacts to other resources are presented throughout Chapter 4 of the Final EIS.

The reduction of effluent flows through the Las Vegas Wash would decrease dilution, which would increase the concentration of selenium in the water, thus potentially impacting wildlife species in the Las Vegas Wash. Selenium enters the Las Vegas Wash through tributaries, shallow groundwater, and treated wastewater effluent. The EPA recommended water quality criterion for bioaccumulation (accumulation in the tissues of organisms) in aquatic life is 5 micrograms per liter (µg/L). It is estimated that the selenium concentration in the Las Vegas Wash would increase from the baseline level of approximately 2.5 µg/L (City of Henderson [COH] 2002d) to a value between 5 µg/L and 7 µg/L, depending on the location within the Las Vegas Wash. However, the method used to predict the future concentration was conservative. Therefore, the conservative estimate is likely higher than the actual concentration. Selenium may be present in water in a number of oxidation states depending on conditions such as pH, the presence of other chemicals, and the presence and type of aquatic life. Although the different oxidation states are combined in the Las Vegas Wash Model (Black & Veatch 2005a), not all oxidation states pose bioaccumulation hazards. The model also did not include two potential removal methods of selenium from the system. Some oxidation states of selenium are volatile and will leave the water to the air. Other oxidation states are accumulated in aquatic vegetation. The only removal method included in the model was the precipitation of selenium into the sediment. The proposed SCOP project, however, may result in an increase in selenium concentrations in the Las Vegas Wash to a level slightly higher than the EPA-recommended water quality criterion for bioaccumulation in aquatic life of 5 µg/L.

The question of the appropriate concentration for protecting birds, however, is complex and is outside the scope of EPA's recommended aquatic life criterion (EPA 2006). Although not included in the EPA recommended standards, the southwestern willow flycatcher may be affected, but is not expected to be adversely impacted by the bioaccumulation of selenium because it is migratory in this area. It does not nest in this area and thus does not stay long enough to be adversely impacted. However, because of its

migratory nature in this area, it is difficult to quantify the exact impacts from selenium levels within the Las Vegas Wash because some sources of selenium within the Las Vegas Wash are nearby tributaries such as Duck Creek Wash. It would be difficult to identify where the birds would be getting the selenium in their system.

The level of perchlorate in the Las Vegas Wash, which was approximately 900 to 1,000 lbs/day (408 to 454 kilograms per day [kg/day]) in 1998, has decreased to approximately 120 to 130 lbs/day (54 to 59 kg/day) in 2004 (Croft 2004a). The decrease in perchlorate concentrations is the result of the groundwater remediation program, and levels are expected to be much lower in the future. Although decreased flows in the Las Vegas Wash may result in an increase in perchlorate concentrations in the Las Vegas Wash, current remediation is expected to reduce concentrations enough that the reduced flows would not result in impacts to wildlife.

Although the concentrations of selenium, perchlorate, and TDS in the Las Vegas Wash would increase, the decreased volume exiting the Las Vegas Wash would be diluted by the water in the Las Vegas Bay and have the same impact as the No Action Alternative. Therefore, elevated selenium and TDS concentrations in the Las Vegas Wash would not impact the razorback sucker or other organisms in the Las Vegas Bay. Water quality modeling indicates that during operation of the Lake Conveyance System (LCS), parameters such as conductivity, density, dissolved oxygen (DO) content, and temperature of the waters in the Las Vegas Bay would remain within the ranges preferred by razorback suckers. The razorback sucker would not likely be adversely affected by the reduction of effluent flows through the Las Vegas Wash.

The adaptive management of flows in the Las Vegas Wash under the Boulder Basin Adaptive Management Plan (AMP) will help balance potentially unfavorable conditions in the Las Vegas Wash and the Las Vegas Bay. The Core Management Team (CMT), in coordination with associated committees and workgroups, may direct the treatment facilities to increase effluent delivery to the Las Vegas Wash.

Standards for toxic materials applicable to designated waters, including the Las Vegas Wash and Lake Mead, are listed in Nevada Administrative Code (NAC) 445.144. For aquatic life, the 1-hour average standard for selenium is 20 µg/L and the 96-hour average for selenium is 5.0 µg/L. The 5-mile (8-kilometers [km]) segment of the Las Vegas Wash between Telephone Line Road and Lake Mead is on Nevada's 2004 303(d) lists of "waterbodies warranting further investigation" due to total selenium concentrations exceeding the 96-hour toxicity criterion (Nevada Division of Environmental Protection [NDEP] 2004). Waterbodies exceeding the 96-hour criteria (with 10 samples, 2 or more exceedances during any 3 year period) but not the 1-hour criteria were placed on this list because there was not sufficient evidence to be included on the 303(d) List. In general, a waterbody was included on the 2004 303(d) List if any of its numeric beneficial use standards were exceeded more than 10 percent of the time during the 7-year period of October 1, 1997 through September 30, 2003. This list is intended to serve as a planning tool for future NDEP assessment activities and total maximum daily loads (TMDLs) are not currently required for these waterbodies.

In Nevada, the NDEP Bureau of Water Quality Planning is responsible for developing the 303(d) List, establishing priorities, and developing TMDLs as needed. The NDEP is required by Section 303(d) of the Clean Water Act (CWA) to identify and prioritize those waters for which TMDLs are needed. If the Las Vegas Wash is included on the 303(d) List for selenium, the NDEP would need to establish a TMDL for selenium for the portion of the Las Vegas Wash impaired. When a TMDL is developed, the draft is noticed for public comment. After making any appropriate modifications in response to public comment, the TMDL is sent to the EPA for approval. Once approved, the TMDL is implemented through existing NPDES permits for point source discharges and voluntary non-point source control programs, to achieve

the necessary pollutant reductions. The NDEP would also be required to develop a monitoring plan (to monitor effectiveness of the TMDL), a schedule for reviewing and (if necessary) revising the TMDL and associated implementation elements. This plan may include a description of best management practices (BMPs) and point-source controls or other actions needed to reduce loadings to the allocated levels.

General Response 6 – Impacts of Endocrine Disrupting Chemicals and Pharmaceuticals and Personal Care Products

Comment:

Commenters expressed concerns about the potential impacts to humans and wildlife from EDCs and PPCPs that may be present in the highly treated effluent.

Response:

Appendix K, Endocrine Disrupting Chemicals (EDCs) and Pharmaceuticals and Personal Care Products (PPCPs), has been rewritten after a more extensive review of the studies and literature that are available on the subject. A discussion of the treatment capabilities of the plants and the effectiveness in removal of EDCs and PPCPs is presented in Appendix K.

Some uncertainty exists about the effects on fish. Studies in Lake Mead have suggested that EDCs or PPCPs may have some effect on fish, although the cause of the effect has not been identified, and the magnitude is uncertain. This uncertainty may not to be relevant to possible effects below Hoover Dam, however, because the effect appears to be associated with discharges from Las Vegas Wash, which are highly concentrated as they enter Las Vegas Bay, but are rapidly diluted as they mix with Lake waters. A summary of existing credible scientific evidence is provided in Appendix K. Based on this evidence and the environmental setting, it is reasonable to conclude that potential effects are likely to be focused on the area near the mouth of the Las Vegas Wash, where concentrations are high, and to dissipate as the elevated concentrations decrease through mixing and assimilation. Even in the area of higher concentrations, the potential effects appear modest. They are not lethal. No effect has been identified on fish population levels, which are high at the mouth of the Las Vegas Wash. Because the effect is uncertain and modest, even at the higher concentration levels, and because of the great dilution and assimilation capacity of Lake Mead, EDCs and PPCPs are not expected to affect fish below Hoover Dam. See Section 5.0 of Appendix K for the conclusions drawn upon completion of the literature review.

A long-term water-quality monitoring program, which includes monitoring of emerging compounds, would be implemented as part of the Boulder Basin AMP. A summary of the AMP including the emerging compounds to be monitored, is presented in Section 2.2.2.6 of the Final EIS.

General Response 7 – Destratification of Lake Mead and its Effect on Water Quality

Comment:

Concerns were expressed regarding the water quality modeling results when Lake Mead does/does not destratify. Requests were made to rerun the model to provide a detailed discussion of water quality for the years that the Lake completely destratifies, as well as years when destratification does not occur.

Response:

Based upon the 10 years of data spanning 1995 through 2004, Lake Mead did not completely destratify 40 percent of the time (LaBounty & Burns 2005). Thus, additional refined simulations were carried out using meteorological and hydrological conditions from 2003, which is one of the years when Lake Mead

did not completely destratify. These simulations confirm that the reservoir did not destratify and that the original modeling conclusions do not change as a result of the incomplete destratification. Specifically, the modeling indicates that effluent from a diffuser at Boulder Islands does *not* accumulate in the bottom of the hypolimnion in the event that Lake Mead does not completely destratify. This is due to the effluent being discharged more than 200 ft above the lowest elevations in Boulder Basin and then rising as a result of it being warmer than the ambient Lake water. The following text addressing destratification of Lake Mead has been added to Section 4.1 of the Final EIS. "Simulations using the Estuary and Lake Computer Model/Computational Aquatic Ecosystem Dynamic Model (ELCOM/CAEDYM) model were performed for the years 1999 through 2003 (Black & Veatch 2005b). Of those years, complete destratification of Lake Mead occurred in 1999, 2001, and 2002. Complete destratification did not occur in 2000 and 2003 (LaBounty & Burns 2005). The modeling indicates that there is no accumulation of effluent when it is discharged into the hypolimnion through a diffuser, whether complete destratification of the Lake occurs or not. This is mainly a result of the effluent being significantly warmer and thus less dense than the ambient reservoir water." Note that even when the Lake did not destratify completely, the lake was mostly destratified. Also note that the decoupling of the discharge from the highly-saline Las Vegas Wash baseflow would prevent the discharge from sinking to the very bottom (currently, the combined effluent/baseflow flows along the bottom in a part of the reservoir during periods in the winter). Additional information regarding destratification is presented in Attachment 1 of Appendix D of the Final EIS.

A description of the factors that affect stratification of Lake Mead are presented in Section 3.1.3.4.1 of the Draft and Final EIS.

In early 2005 flooding in the Virgin and Muddy Rivers resulted in a large flow of cold, salty, dense water that flowed through Lake Mead and came to rest in the deepest portion of Boulder Basin, below the proposed diffuser level of 880 ft. There was concern that this layer of dense water could remain for years or even decades, because of questions about whether there was sufficient energy to stir up the dense water and flush it out, particularly in years when the Lake does not fully destratify. However, personnel from Reclamation and SNWA, who were tracking the event, have reported that it was flushed out in a few months.

General Response 8 – Phosphorus loading in Lake Mead and through Hoover Dam, related concerns regarding the years used for the Baseline

Comment:

Concerns were expressed regarding the increase in phosphorus loads as a result of the increase in effluent flows. The TMDL for phosphorus in the Las Vegas Wash would not apply to discharges in the vicinity of Boulder Islands or the Las Vegas Bay. Therefore, there is concern that increasing loads of phosphorus would be discharged to Lake Mead and would flow through Hoover Dam to downstream users. It was suggested that the Clean Water Coalition (CWC) commit to a maximum TP concentration through Hoover Dam of 10 parts per billion (ppb). Commenters also expressed concern that baseline water quality conditions in Boulder Basin were developed using one year (2002) of data. It was suggested that a longer time period of baseline data should be incorporated. One commenter suggested that 10 years of baseline data be used.

Response:

As a result of the comments received, the description of the alternatives have been revised to indicate that under ordinary operating conditions, the TP discharged to Lake Mead would not exceed 334 pounds per day (lbs/day) on an annual average basis. Therefore, the Boulder Islands North, Boulder Islands South,

and Las Vegas Bay alternatives include a pipeline, plant optimization, and increased treatment (as needed). The revised alternatives are described in Chapter 2 of the SCOP Final EIS, and potential impacts are described throughout Chapter 4.

The Final EIS presents modeling results for the alternatives at effluent TP loads of 334 lbs/day on an annual average basis, which represents the maximum expected phosphorus load under ordinary operating conditions. At these loads the Boulder Islands alternatives (at the 1,178-ft and 1,000-ft water surface elevations) are predicted to result in an increase from 5 ppb to 6 ppb of TP through Hoover Dam. This concentration of TP through Hoover Dam is comparable to the baseline period, and lower than historical levels over an extended period of time. No impacts to downstream users were identified for the 1999 to 2003 conditions or historical conditions. Therefore, the impact to downstream users, including Lake Mohave, from the Boulder Islands alternatives would be insignificant. These model results and the impact to downstream users are fully described in Attachment 2 of Appendix D of the Final EIS.

The description of the alternatives have been revised as previously stated. However, no commitment is made to not exceed 10 ppb of TP leaving Hoover Dam as suggested by one commenter. There are too many factors that are not in the control of the CWC to make such a commitment. Data will be collected and used to develop a methodology for determining management decisions that will maintain TP through Hoover Dam below the State of Nevada Requirement to Maintain Higher Water Quality (RMHQ) level.

The following paragraphs provide additional information that addresses MWD's comments regarding a commitment for TP through Hoover Dam to not exceed 10 ppb, and the baseline conditions used in the water quality modeling and impacts analyses.

Although the Draft EIS reported that average annual phosphorus levels passing through Hoover Dam were less than 10 ppb, there is some variation in the concentration throughout the year, and data indicates that it exceeds 10 ppb at times.

Consideration was given to the effects of phosphorus leaving Hoover Dam on users downstream. Regular meetings were organized with federal, state, and local agencies; downstream users; and public representatives. As part of these meetings, which continued over years, issues relating to the effects of alternatives were identified and considered. Following those meetings, there have been continued meetings and discussions with downstream users. Information requests were made to identify operational issues that may be affected by water quality in the Colorado River. Nevertheless, the suggested 10 ppb limit was not previously identified as a need or goal.

Consistent with the commenter's request that comparisons with baseline conditions not be limited to the year 2002, conditions extending back as far as 30 years were considered. Because phosphorus is of concern not in itself but because it has the potential to increase algal growth, consideration was also given to chlorophyll concentrations and algal growth below Hoover Dam.

In recent years, the Valley wastewater treatment plants have been discharging less phosphorus than they have been at any time during the last 30 years. From the early 1970s until 1981, phosphorus loadings entering Lake Mead from the Las Vegas Wash routinely exceeded 1,500 lbs/day (NDEP 1987). In July 1981, a phosphorus limit on discharges from the municipal wastewater treatment plants went into effect. The dischargers began adding chemicals to reduce phosphorus concentrations, and the phosphorus loadings generally decreased to the range of 500 to 1,000 lbs/day (NDEP 1987). In 1987, the Nevada State Environmental Commission adopted chlorophyll standards for the Las Vegas Bay and Lake Mead, and in 1989 NDEP established a TMDL for phosphorus loadings to Lake Mead through the Las Vegas Wash. The NPDES permits for Valley dischargers were revised, and beginning in 1994 the dischargers

met the wasteload allocations (WLAs) limiting them to 334 lbs/day during the growing season of March through October. In the wintertime months of November through February, when the permit limits did not apply and temperatures were too low for significant algal growth, higher concentrations of phosphorus were discharged. In 2001, following the unusual algal bloom of that year, the dischargers began providing year-round phosphorus removal.

According to data collected by the U.S. Geological Survey (USGS), concentrations of phosphorus leaving Lake Mead were higher in the past than they are now (USGS 2006). Before treatment plants implemented phosphorus removal in July 1981, phosphorus concentrations measured at Hoover Dam were often 20 ppb or more. They reached 310 ppb in December 1979, 280 ppb in March 1980, and 160 ppb in May 1981. Concentrations dropped after the dischargers began removing phosphorus, but were occasionally 20 ppb or more. They reached 110 ppb in March 1988, and 280 ppb in November 1988. Phosphorus concentrations decreased again after additional phosphorus removal was implemented in 1994. The average annual phosphorus levels passing through Hoover Dam vary throughout the year, and data indicates that it exceeds 10 ppb at times.

The University of Nevada Las Vegas (UNLV), under contract to Reclamation, investigated water quality in the Colorado River in the early 1980s. The UNLV study reported average TP concentrations of 17 ppb in the canyon downstream of Hoover Dam, and in the 10 to 15 ppb range in Lake Mohave and Lake Havasu. The UNLV study reported that chlorophyll concentrations were in the 2 to 4 ppb range in Lake Mohave, and 3 to 4 ppb in Lake Havasu.

Extensive data collection in Lake Mead has shown that chlorophyll concentrations are elevated near the mouth of the Las Vegas Wash, where effluent and urban runoff enter the Lake. However, chlorophyll concentrations decrease with increasing distance from the Las Vegas Wash, owing to mixing and natural attenuation. In Boulder Basin (i.e. outside of Las Vegas Bay), concentrations are much lower, and the water is noticeably clear. Discharges leaving Hoover Dam undergo additional natural attenuation, including removal and retention by reservoirs. Southern California's diversion of water from the Colorado River is located more than 100 miles downstream of Hoover Dam.

No data have been received identifying impairment of water uses in the Colorado River downstream of Hoover Dam, either in the present or past. The MWD, the largest downstream drinking water user, did not identify phosphorus or algae as a concern in its survey of potential sources of contamination within the Colorado River basin (MWD 2001). Phosphorus concentrations tend to increase between Hoover Dam and Lake Havasu, despite natural removal and retention in Lake Mohave, because of additional sources downstream. Even in Lake Havasu, however, phosphorus concentrations are low in comparison with other sources of California's water supply. Water received by MWD from northern California, in comparison, contains phosphorus concentrations in the 150 to 200 ppb range.

Phosphorus concentrations in the Colorado River are usually much lower than the water quality standard of 50 ppb established by the State of Nevada (NAC 445A.193). Normally, conditions are also well below the antidegradation requirements, known as RMHQ established by the State of Nevada. These numeric requirements are established when existing water quality is better than the quality required to maintain beneficial uses. The RMHQ criteria prevent water quality from being degraded without special consideration and approval. The RMHQ criteria for the Colorado River below Hoover Dam include 20 ppb of phosphorus as an annual average, and 33 ppb of phosphorus as a single value.

For an average annual TP loading of 334 lbs/day, modeling results for the Boulder Islands alternatives at water surface elevations of 1,178 ft and 1,000 ft, indicate that the Boulder Islands alternatives result in

predicted phosphorus levels through Hoover Dam that are similar to those that occurred over the extended baseline period of 1999 through 2003.

It is clear that with an average annual TP loading of 334 lbs/day, the Boulder Islands alternatives are predicted to result in TP loads through Hoover Dam that are essentially equal to recent historical values. In particular, at a water surface elevation of 1,178 ft, which is comparable to recent historical years, the TP loads through Hoover Dam are predicted to be less than three of the five modeled recent historical years. At a water surface elevation of 1,000 ft, which is much lower than recent historical years, the load is predicted to be less than that experienced in year 2000.

The USGS data extending back to 1974 indicates that the TP concentration through the Hoover Dam has historically been far higher than in recent years. Clearly, the predicted TP concentrations through Hoover Dam for the Boulder Islands alternatives are lower than historical levels over an extended period of time.

Worst-case conditions are not likely to occur. The project would not inevitably produce any specific level of phosphorus. Rather, phosphorus levels would continue to be regulated by NDEP, acting under authority of the CWA and Nevada law. The NDEP and EPA are responsible for establishing water quality standards that protect downstream water uses, including the use of the Colorado River for municipal water supply, and for ensuring that water quality is not impaired. For these reasons, a not to exceed level of 10 ppb phosphorus is not appropriate.

General Response 9 – Potential impacts to the Razorback sucker and the Lower Colorado River Multi-species Conservation Program

Comment:

Concerns were expressed regarding the impact of the project on razorback suckers in the Las Vegas Bay and downstream of Hoover Dam. Commenters requested further information on down stream impacts to the razorback in relation to the Lower Colorado Multi-species Conservation Program (LCR MSCP).

Response:

The information addressing the existing conditions and the effects of the proposed SCOP on selenium levels in the Las Vegas Wash and Lake Mead, as well as the potential impact to biological resources have been inserted into the Final EIS in Sections 4.2.1.3 and 4.2.2.1.3. Further information regarding the impacts of other contaminants is contained in Section 4.2.1.3.

The reduction of effluent flows to the Las Vegas Wash would reduce the dilution of non-effluent related constituents such as TDS, selenium, and perchlorate. The total volume of water entering the Las Vegas Bay would remain the same. Perchlorate and TDS would be diluted by the water in the Las Vegas Bay and not likely affect the razorback sucker. Selenium would also be diluted by the water in the Las Vegas Bay, however, it has been determined through consultation with the U.S. Fish and Wildlife Service (USFWS) as required under Section 7 of the ESA, that selenium may adversely impact the razorback sucker population in the Las Vegas Bay. There would be no change in selenium concentrations downstream of Hoover Dam resulting from the proposed alternatives.

Discussions of the LCR MSCP have been added to Section 1.8 and 5.2.2.7 of the Final EIS. In addition, impacts to downstream users including the LCR MSCP have been added throughout Chapter 4 of the Final EIS.

Section 3.0 of Appendix K describes the studies and conclusions regarding the potential impacts of EDCs to fish. Sections 1.4 and 4.2 of the Final EIS have been revised to include the information presented in Appendix K.

General Response 10 – Adaptive Management Plan

Comment:

Additional details regarding the Boulder Basin AMP were requested. The specific information requested included the organizational structure for the Boulder Basin AMP, water quality monitoring parameters and locations, and actions to be taken if necessary. There were several requests that the Boulder Basin AMP CMT meet at least twice per year, once before and once after the growing season, to determine whether action is needed. Additionally, commenters were concerned that the public would not have an opportunity to be involved in the Boulder Basin AMP.

Response:

The decision was made by the federal co-lead agencies to provide a summary of the Boulder Basin AMP in the Draft EIS. This decision was based on the fact that by nature, the AMP is a living document that will be revised as needs, goals, and environmental conditions change and additional data becomes available. However, additional information regarding the AMP has been added to Section 2.2.2.6 of the Final EIS. Preparation of the Boulder Basin AMP is ongoing.

The Boulder Basin AMP is different from the type of adaptive management program in which management is adapted to achieve identified goals. The Boulder Basin AMP is not needed to achieve project goals or comply with requirements, which will be achieved and complied with no matter how the project is managed. Instead, the AMP envisioned by the Draft and Final EIS has four main purposes. First, the AMP allows for operational changes in response to future requirements. Although unknown future requirements are by definition unknown, the AMP is likely to improve the ability of the project to comply with future requirements by providing more flexibility. Second, the AMP allows for additional improvements through fine tuning. The Boulder Islands alternatives, for example, would improve chlorophyll levels, compared with baseline conditions. The AMP may allow for even more improvement. Third, whenever operation of the facilities results in a balance, so that an increase of one benefit results in a decrease in another, the AMP allows for adjustment of the balance. It may, for example, be best to use additional energy at one time of year to promote mixing, while saving energy at another time of year when natural processes produce all the mixing necessary. Fourth, the AMP allows for responses to unexpected ambient conditions. If, for example, an unprecedented condition should arise (e.g. the 2001 bloom, an unprecedented condition that has not recurred since) the facilities could be managed to respond to the conditions observed.

Long-term water-quality monitoring of the Las Vegas Bay, Boulder Basin, and downstream of Hoover Dam would be implemented through the Boulder Basin AMP. The information presented includes the parameters to be monitored and the monitoring locations. In addition to regulated parameters, a host of non-regulated parameters would be monitored as presented in Table 2.2-8 of the Final EIS. The results of this monitoring program would be reviewed and the program adjusted, if necessary, under the provisions in the Boulder Basin AMP. A protocol for testing in the total water column including the hypolimnion has been developed and is presented in the Boulder Basin AMP. Monitoring data would provide the information necessary to evaluate and adjust the diffuser operations.

The Las Vegas Wash monitoring program is implemented and managed by SNWA. As a member of the CMT for the Boulder Basin AMP, SNWA would participate in management decisions to address impacts in Lake Mead and the Las Vegas Wash resulting from SCOP.

As requested by several commenters, the Boulder Basin AMP management team would meet at least twice a year, once before and once after the growing season. Individuals with appropriate technical expertise would be included in the process. The Boulder Basin AMP CMT would develop procedures for taking appropriate action to maintain water quality. Sampling and analysis would be ongoing, and the data would be continuously monitored.

General Response 11 – Effluent Flow Volume in the Las Vegas Wash

Comment:

Additional information regarding the criteria used to determine the 30 million gallons per day (mgd) effluent flows for the Las Vegas Wash was requested. Some commenters expressed concern that additional flows to the Las Vegas Wash (to the extent water quality standards for phosphorus would allow) were not considered.

Response:

The suggestion to maintain a minimum base flow of 50 mgd of flow in the Las Vegas Wash was in response to water quality standards set for the Las Vegas Wash and the inner Las Vegas Bay. Results of the modeling undertaken as part of the Las Vegas Wash Model Report indicate that a 30 mgd flow added to the Las Vegas Wash base flow of 20 mgd would result in meeting the water quality standards established by NDEP for the Las Vegas Wash. However, selenium concentrations in the Las Vegas Wash may increase due to less dilution by treated effluent.

The concentrations of selenium in the Las Vegas Wash are a matter of concern even with 100 percent of the effluent being discharged to the Las Vegas Wash. A large portion of the selenium loading enters the Las Vegas Wash from the tributary system with Duck Creek, the Monson Channel, and Flamingo washes being the largest contributors. The Las Vegas Wash Model indicates that if urban BMPs and/or selenium removal processes are not implemented to reduce tributary selenium concentrations, the water quality standard of 5 µg/L on an average annual basis may be exceeded if a minimum base flow of 30 mgd of effluent is discharged to the Las Vegas Wash. For example, if the loading from the three tributaries were reduced by 50 percent, and 30 mgd of effluent were discharged to the Las Vegas Wash, the selenium concentrations in the Las Vegas Wash would be below the water quality standard of 5 µg/L. The local agencies with jurisdiction over the tributary system are reviewing mitigation measures for the selenium concentrations in the Las Vegas Wash as this EIS is being prepared.

The 5-mile (8-km) segment of the Las Vegas Wash between Telephone Line Road and Lake Mead is on Nevada's 2004 303(d) lists of "waterbodies warranting further investigation" due to total selenium concentrations exceeding the 96-hour toxicity criterion (NDEP 2004). In Nevada, the NDEP Bureau of Water Quality Planning is responsible for developing the 303(d) List, establishing priorities, and developing TMDLs as needed. The NDEP is required by Section 303(d) of the CWA to identify and prioritize those waters for which TMDLs are needed. If the Las Vegas Wash is included on the 303(d) List for selenium, the NDEP would establish a TMDL for selenium for the portion of the Las Vegas Wash impaired. When a TMDL is developed, the draft is noticed for public comment. After making any appropriate modifications in response to public comment, the TMDL is sent to the EPA for approval. Once approved, the TMDL is implemented through existing NPDES permits for point source discharges and voluntary non-point source control programs, to achieve the necessary pollutant reductions. The

NDEP would also be required to develop a monitoring plan (to monitor effectiveness of the TMDL), a schedule for reviewing and, if necessary, revising the TMDL and associated implementation elements. This plan may include a description of BMPs and point-source controls or other actions needed to reduce loadings to the allocated levels

The Integrated Water Managers Operations Group (Operations Group) agreed that for planning purposes, the range of flows for the Las Vegas Wash would be a minimum of 30 mgd of treated effluent. The Operations Group will coordinate the routine management of flows to the Las Vegas Wash. In order to maintain the Clark County Wetlands Park (Wetlands Park), as well as water quality, habitat, and vegetation in the Las Vegas Wash, a constant minimum inflow of water is necessary. The Operations Group is intended to ensure that multilateral decisions are made concerning flows in the Las Vegas Wash and includes representatives from Clark County Parks and Community Services, Clark County Regional Flood Control District, CWC, and SNWA.

In addition, as stated in Section 2.2 of the Final EIS, the local agencies responsible for water quality management in the Las Vegas Wash have agreed to meet at least once a year and review the need for flow augmentation in the Las Vegas Wash. The SCOP facilities, managed through the Boulder Basin AMP, would be able to accommodate flow adjustments as determined by this management group. The 30 mgd of effluent carried forward in the EIS is for a minimum base flow. Additional effluent discharged to the Las Vegas Wash will consider Las Vegas Wash ecosystem needs and the continuing requirement to meet water quality standards in the Las Vegas Bay and Boulder Basin.

United States Department of the Interior

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December 19, 2005
File No. NPS 3-2-9

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, Nevada 89074-6382

Dear Project Manager:

Subject: Comments on Draft Environmental Impact Statement for Systems Conveyance and Operations Program, Clark County, Nevada

The U.S. Fish and Wildlife Service (Service) has reviewed the September, 2005, Draft Environmental Impact Statement (DEIS) for the Systems Conveyance and Operations Program (SCOP). The DEIS describes four alternatives being considered under SCOP and analyzes the potential environmental impacts for each alternative. The SCOP is being proposed by the Clean Water Coalition (CWC) to manage increasing municipal wastewater flows from the Las Vegas Valley through the year 2050. The SCOP would divert a majority of the treated effluent that is currently discharged to Lake Mead via the Las Vegas Wash (Wash), to a new location within Boulder Basin of Lake Mead. The purpose of SCOP is to continue to meet water quality standards as wastewater flows increase by discharging into a larger body of water (i.e., Boulder Basin), thereby enhancing the mixing and dilution of effluents. The SCOP includes activities and infrastructure that would be located on lands owned and/or managed by the cities of Las Vegas and Henderson, Clark County, U.S. Bureau of Reclamation, National Park Service, and the Bureau of Land Management.

The Service is responsible for the protection and conservation of Federal trust resources, including threatened and endangered species, migratory birds, and National Wildlife Refuge lands. Our comments are intended to minimize potential adverse impacts that the proposed project or actions described in the DEIS may have on trust resources, and to enhance protection of wildlife habitat. The Service is authorized to comment under the authority, and in accordance with the provisions, of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.). These comments represent a coordinated response from the Phoenix and Las Vegas Offices of the Service. In addition to comments provided here under NEPA, the SCOP will require future consultation with the Service under Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). F1-1

TAKE PRIDE IN AMERICA

Response F-1 U.S. Fish & Wildlife Service

F1-1

Endangered Species Act Section 7 consultation is in progress. The record of decision (ROD) will not be issued until Section 7 consultation is complete. Compliance with the Biological Opinion will be included as part of the ROD.

Project Manager File No. NPS 3-2-9

Our review focuses largely on water quality issues as they pertain to wildlife health, and habitat quality. If water quality is compromised, habitat quality is degraded and sensitive species can be adversely affected. Species protected by the Service and that are known to occur in the area of the project include the federally listed as endangered razorback sucker (*Xyrauchen texanus*) and its designated critical habitat, and over 150 species of migratory birds. Our comments on the SCOP DEIS are provided below; however, we would first like to highlight several overarching concerns with the current direction of SCOP and the DEIS:

F1-2 1) The DEIS does not make a clear case for why the public is better served by investing an estimated $800 million dollars in pipelines to enhance dilution over the option of enhancing treatment at the wastewater treatment facilities. Enhanced treatment appears to be a viable option for meeting water quality standards for at least several decades, and has the added benefit of improved water quality for wildlife, recreation, drinking water supply, and other downstream uses. The Service has been a strong proponent of enhanced treatment since the inception of the SCOP. The case for pursuing enhanced treatment has been made even stronger based on recent work by Dr. Doug Drury (unpublished data) on enhanced phosphorus removal. Future management of wastewater flows should require treatment of effluents to the highest level possible, using the best available technology economically achievable. To protect the environment, it is essential that plant optimization and enhanced treatment be fully utilized to meet water quality standards before resorting to dilution in Boulder Basin. The preferred alternative appears to be committed to just the opposite approach. Pipelines have the ability to move effluents where dilution is best achieved; enhanced treatments have the ability to eliminate the need to dilute effluents.

F1-3 2) The proposed removal of effluent flows in the Wash and subsequent increase in selenium concentrations will be detrimental to wildlife. Of particular concern are potential adverse effects to migratory birds and razorback sucker. The extent to which avian and fish reproduction will be affected is unknown; however, reproductive success in sensitive species will be diminished as selenium concentrations rise. Selenium is a known contaminant of concern throughout the lower Colorado River, and recent monitoring of wildlife along the Wash indicates that current selenium levels may exceed toxicity thresholds for sensitive species. It appears that major environmental concerns, like selenium, are dismissed within the DEIS by deferral to the adaptive management plan, the details of which are unknown at this time.

F1-4 3) Scientific research has linked a variety of endocrine-disrupting compounds (EDCs) and adverse affects in fish (e.g., feminization of male fish) to constituents found in treated municipal effluents worldwide. Therefore, the location of proposed wastewater discharges and potential effects to wildlife health and habitat quality are ongoing

2

F1-2

See General Response 1.

Enhanced treatment to meet the chlorophyll standard would be directed at additional removal of phosphorus. The commenter has provided no evidence that additional phosphorus removal would provide added benefit for wildlife, drinking water supply, or recreation, compared with the other alternatives. Phosphorus is a nutrient that is essential for living organisms. Although elevated levels of phosphorus may reduce the clarity of water, they may also increase biological productivity. The unpublished work referred to is limited to optimization of phosphorus removal at the Clark County Water Reclamation District (CCWRD) plant, and does not assess the capabilities of the other plants or provide information on any potential benefits of reduced phosphorus concentrations on beneficial uses.

Although one plant may be able to achieve lower concentrations of certain constituents, the other plants may not be able to achieve the same performance. Information regarding each plant's current capabilities has been added to Section 2.1 of the Final EIS.

The CWA requires the "best available treatment economically achievable" for industrial discharges. The equivalent requirement for municipal discharges, including the CWC members, is secondary treatment. The CWC members currently provide tertiary treatment at a level far better than secondary treatment.

See General Response 8.

F1-3

See General Response 9.Based on preliminary consultation with the USFWS as required under Section 7 of the ESA, it has been determined that the razorback sucker may be impacted by selenium. Although the mass of selenium entering the Las Vegas Bay would be lower due to reduced effluent-based selenium entering the Las Vegas Wash, it may still impact the razorback sucker. The extent of the 'selenium plume' and precise location of dilution with the waters of the Las Vegas Bay, are relatively unknown. Monitoring of selenium concentrations in the Las Vegas Bay would be conducted through the Boulder Basin AMP. The text in Sections 4.2.1.3 and 4.2.2.2.3 of the Final EIS has been revised.

Project Manager File No. NPS 3-2-9

F1-4 concerns for the Service. We find that the DEIS lacks adequate discussion of EDCs in light of recent work conducted by Dr. Shane Snyder (unpublished data) on the use of ozone to enhance treatment of wastewater effluents. Based on Dr. Snyder's presentation at the November 17, 2005, Lake Mead Water Quality Forum, ozone appears to be highly effective at removing EDCs in effluents. We contend that these findings lend further support to our position that enhanced treatment is the preferred alternative that best meets the objectives of SCOP, particularly with regard to disposing of effluents in an environmentally sound manner. We recommend that the DEIS be revised to include a discussion of Dr. Snyder's recent work on ozone enhanced treatment as it relates to SCOP.

F1-5 We recognize that the SCOP and DEIS have been in development for several years and that recent information on the capabilities of enhanced phosphorus removal and ozone treatment are based on preliminary findings. However, given the magnitude of the SCOP in terms of both cost and impacts to water quality in Lake Mead, we strongly urge that the enhanced treatment alternative be reconsidered and included in the Final EIS as the preferred alternative, or at a minimum be given full consideration as a stand alone alternative.

GENERAL COMMENTS

The DEIS is deficient in several areas, particularly in the selection of alternatives, evaluation of effects to water quality in Wash and Lake Mead, evaluation of effects to wildlife and vegetation communities, and provisions for mitigation. Discussion of water quality models and modeling results would benefit from additional explanation on why a particular model was selected. We have both general and specific comments on these and other issues identified in our review.

Alternatives

F1-6 The SCOP is aimed at how best to manage future wastewater flows in the Las Vegas Valley through the year 2050. The SCOP, DEIS, and associated modeling appear to have been designed with one purpose in mind - to maximize the dilution capabilities of Lake Mead for effluent disposal. The Service respectfully disagrees with the CWC's continued approach of dilution in Lake Mead as the best alternative to dispose of future wastewater flows in a manner that is both economically feasible and environmentally sensitive. Enhanced treatment and plant optimization are the alternatives that best meet these objectives; however, they are not fully explored within the DEIS, particularly in light of recent work presented by Dr. Snyder and Dr. Drury. Although plant optimization is mentioned as a component of all alternatives, it is not given adequate discussion or priority. The Service recommends that enhanced treatment be given the highest priority for future wastewater management since it is the best approach to protect water quality and natural resources. The environmental consequences of discharging larger and larger volumes

3

F1-4

See General Response 6.

See General Response 1.

Work conducted by Dr. Snyder and others does indicate that ozone is effective at removing many EDCs from wastewater, or at least converting them to other products. However, the individual wastewater effluents have not been subjected to bioassay testing to determine whether effluents from one or more of the area wastewater treatment plants causes endocrine disruption in fish. Bioassays would be required to determine whether these effluents are cause for concern and also to ensure that the ozonated effluents do not retain their ability to cause endocrine disruption and that the ozonation byproducts do not have toxic effects of their own. There is no consensus in the scientific community regarding the suite of bioassays that would be necessary to ensure that treated effluent does not cause endocrine disruption in fish.

The commenter has for years expressed its concern that EDCs in municipal wastewater, which is relatively concentrated in the inner Las Vegas Bay, may be detrimental to razorback suckers. By moving most of the discharge away from inner bay, the preferred alternative would greatly reduce concentrations in the inner Las Vegas Bay and thereby alleviate the concerns raised by the commenter. By providing for greatly increased mixing, the preferred alternative would alleviate concerns about elevating concentrations in Boulder Basin.

F1-5

See General Response 1.

F1-6

See General Response 1.

Project Manager File No. NPS 3-2-9

F1-7 of treated effluent into Boulder Basin is full of uncertainties, and will further degrade Lake Mead over time unless the quality of the effluent is improved. For example, the extensive algae bloom of 2001 has been attributed to high levels of dissolved phosphorous observed in effluent (Labounty, SNWA, pers. comm., 2005). Nutrient-rich effluent flows serve to continually shift the naturally phosphorus-limited waters of Lake Mead to a more eutrophic (nutrient rich) state, increasing the risk of algal blooms. Certain types of algae can be toxic to fish and may lead to large scale die-offs. Other changes to Lake Mead water quality induced by effluent discharges are far more subtle, but nonetheless potent in their ability to induce changes to the limnology of Lake Mead. As wastewater flows increase and lake levels continue to drop, these changes will become more pronounced and detrimental.

F1-8 The DEIS and preferred alternative provide no incentive or obligation for the CWC to pursue enhanced treatment and plant optimization to meet water quality standards. The preferred alternative should be altered to require the CWC to demonstrate to local, State, and Federal stakeholders that water quality standards can no longer be met through treatment enhancements before allowing dilution of effluents in Lake Mead. For example, Page ES-6, section ES.3.1.2 reads, ". . . standards for Lake Mead would continue to be met using current, conventional treatment processes or, if necessary, plant optimization." This statement suggests that plant optimization would be implemented *only* when dilution in Boulder Basin could no longer meet water quality standards.

F1-9 The project alternatives carried forward are, for all environmental effects, the same. Aside from minor changes in pipeline route, two alternatives are the same (North and South Boulder), and the third changes the location of the underwater discharge line. The need to maximize return flows drives the elimination of most other alternatives that would have met the purpose of maintaining water quality, with the exception of enhanced treatment. Section 1.5 should be revised to discuss the strict limitation resulting from the need for maximizing return flows on the development and selection of alternatives, and this should also be included in Section 2.6. A

F1-10 discussion of why provision for keeping some effluent flows in the Wash (to the extent water quality standards for phosphorus would allow) is not included in the alternatives carried forward, should also be incorporated. The option of releasing more water to the wash in the future is

F1-11 identified on page 2-28 in the discussion of the adaptive management plan, but no details are provided.

It is unfortunate that the DEIS preferred alternative of dilution in Boulder Basin appears to be an all or nothing option, financially speaking. The preferred alternative equates to placing all of our financial eggs for wastewater management into one basket, so to speak. It would indeed be preferable to incorporate both enhanced treatment and dilution into a single, flexible wastewater management strategy. However, the high cost of pipelines and infrastructure for the dilution alternative make simultaneous pursuit of both enhanced treatment and dilution cost prohibitive.

4

F1-7

Results of the sophisticated water quality modeling indicate no significant changes to water quality in Lake Mead would occur if the Boulder Islands North Alternative is implemented. In addition, the quality of water in the Las Vegas Bay, in terms of chlorophyll concentrations and Secchi depths, is predicted to improve if the Boulder Islands Alternative is implemented (see, for example, Figures 4.1-3 and 4.1-5 in the Draft EIS or Figures 4.1-3 and 4.1-5 in the Final EIS).

F1-8

See General Response 3.

The text in the Executive Summary has been revised as necessary.

Extensive highly sophisticated water quality modeling has been completed. This model has been peer reviewed by independent experts, continuously reviewed and developed with all agencies involved, including the USFWS, and has been accepted as a management tool for making water quality management decisions for the SCOP EIS. This model clearly indicates that water quality standards cannot be met and impacts would occur to the return flow credits for the SNWA water supply to Las Vegas.

F1-9

The importance of return flow credits is stated in Section 1.4.1. Section 1.5 of the Draft EIS and Final EIS includes "Integration with southern Nevada's overall water resource plan, including return flow credits, direct effluent reuse…" as "factors that have been identified as part of the need for the project." Section 2.7 (formerly Section 2.6) of the Final EIS includes the following sentence that relates the purpose and need to the alternatives eliminated from further analysis, "A potential alternative might be eliminated from detailed consideration for many reasons including, but not limited to, if the alternative does not meet the purpose and need for the project, would take too long to implement…"

F1-10

See General Response 11.

Project Manager File No. NPS 3-2-9

The $800 million dollar cost to enhance dilution in Boulder Basin will drain valuable financial resources away from investment in enhanced treatment capabilities. Two forms of enhanced treatment (phosphorus removal and ozone) have already shown promise as viable options using existing technology. To avoid unnecessary and adverse impacts to water quality in Lake Mead, F1-12 we highly recommend investment in enhanced treatment as the preferred alternative for future wastewater management in southern Nevada.

Selenium

The proposed reduction of effluent flows to the Wash (from the current average of 170 million gallons per day (MGD) down to 50 MGD) will result in higher concentrations of potentially harmful constituents present in groundwater (due to reduced dilution). Of particular concern is the trace element selenium. Relatively low concentrations of selenium in water can quickly become concentrated to potentially toxic levels in aquatic organisms and wetland birds. Toxic endpoints commonly include histopathology (diseased tissue), physiological effects, reduced reproduction, and reduced survival. Selenium is recognized as a teratogen (causing developmental malformations) and reproduction is generally considered the most sensitive and significant toxic endpoint. Although naturally occurring, selenium has been identified as a concern in the lower Colorado River, due to irrigation practices that have accelerated the leaching of selenium from soil and elevated selenium concentrations in surface water. The U.S. Environmental Protection Agency (EPA) and Nevada State chronic standard for selenium is 5 parts per billion (ppb) in water. Selenium concentrations in the upper Wash (site 10.75) exceed these standards with an average of 16 ppb. Selenium in the upper tributaries that flow to the Wash also exceeds these standards, ranging from 10 - 25 ppb. The current average for selenium in the main body of the Wash is lower due to effluent dilution, decreasing concentrations to approximately 3 ppb. If effluent flows to the Wash are reduced according to the DEIS, preferred alternative and selenium concentrations rise accordingly, wildlife will be placed at greater risk for selenium poisoning.

The Department of Interior's National Irrigation Water Quality Program has established the level of concern for selenium in fish as 2 – 4 parts per million (ppm) dry weight (dw) and in aquatic dependent birds as 3 - 6 ppm dw. Ongoing monitoring in the Wash since 2003, has demonstrated elevated selenium levels in fish tissue and bird eggs. Ten fish collected from the area of the Pabco Erosion Control Structure (ECS) in 2003 had selenium in whole body tissue ranging from 3.5 – 13.7 ppm dw; three fish exceeded the EPA's draft fish tissue criterion of 7.9 ppm dw. Likewise, all five bird eggs collected from the Wash (Pabco area) in 2003, exceeded 3 ppm dw. Based on these data, existing selenium conditions in the Wash are equal to or exceed known levels of concern, and may be adversely affecting reproduction in fish and birds. Therefore, any proposed action resulting in higher selenium will further compromise wildlife health. An increase in selenium concentrations in the Wash and Las Vegas Bay will increase the risk of

5

F1-11

See General Response 11.

F1-12

See General Response 1.

Project Manager File No. NPS 3-2-9

selenium toxicity in wildlife inhabiting those areas. Again, the extent to which avian and fish reproduction will be affected is unknown; however, reproductive success in sensitive species will be diminished as selenium concentrations rise.

F1-13 The reduction in flows to the Wash results in higher concentrations of selenium in surface water; however, the effects of this increase on the wetland and riparian areas along the Wash are not
F1-14 considered. Information on the sources and levels of selenium in the surface or groundwater of the basin should be provided. The effects to razorback sucker in Las Vegas Bay are not
F1-15 considered. The DEIS cites a 2004 Black and Veatch water quality modeling study that estimates selenium concentrations in the Wash will increase to 5 ppb if flows are reduced to 50 MGD. Additional information is needed in the DEIS to describe how the 5 ppb value was derived, including assumptions and margins of error. No evaluation of impacts to wildlife is
F1-16 provided such as comparing the 5 ppb estimate to known toxic effect levels for selenium in scientific literature. The fact that other parties in the Las Vegas area are examining the selenium issue does not eliminate the need for the DEIS to consider the effects of the action on this contaminant and risks to wildlife.

Razorback Suckers in Lake Mead

Research into the Lake Mead population of razorback suckers since 1994 has documented significant information on the use of Las Vegas Bay by one of the two recruiting groups of razorback suckers in Lake Mead. The importance of this area for the survival and recovery of this endangered species cannot be underestimated. The U.S. Geological Survey's Columbia Environmental Research Center has conducted several studies on selenium effects to larval razorback sucker, estimating a toxic threshold of 4 ppm dw in fish. Two of three adult fish (common carp) collected from the Las Vegas Bay in 2003 exceeded this threshold
F1-17 (4.7 and 6.9 ppm). Selenium in fish collected from the Wash, ranged from 3.5 to 13.7 ppm dry wt. The DEIS does not contain adequate information describing the importance of the Las Vegas Bay to razorback sucker reproduction or the effects of reducing effluent flows and the subsequent increase in selenium in flows that reaches this area.

Direction

The DEIS defers important issues about operation of the SCOP, response to contaminant problems, selenium levels, effects to Lake Mohave, and mitigation for losses of jurisdictional wetlands to the future through an adaptive management plan, other agency efforts, and permit
F1-18 issuance under the Clean Water Act. The inclusion of adaptive management is appropriate; however, the discussions on protection of environmental resources over maximizing project
F1-19 purposes should be more clearly defined. Further, the effects of the alternatives to riparian and wetland habitat have not been adequately defined in this DEIS, and it is difficult to assess which

6

F1-13

Text has been added to Section 4.2.2.1.2 to describe that decreased flows would result in increased selenium concentrations in the Las Vegas Wash. Text describing the potential impact this may have on the wildlife in wetland and riparian areas along the Las Vegas Wash has been added.

See General Response 11.

F1-14

A brief description of selenium has been added to Section 1.4.2.6 of the Final EIS.

Additionally, selenium is discussed in Section 3.1 of the Final EIS.

F1-15

See General Response 9.

See response to comment F1-13.

F1-16

Text has been added to Section 4.2.2.1.2 evaluating potential impacts to wildlife and comparing predicted levels of selenium to the EPA-recommended threshold for bioaccumulation in wildlife of 5 ppb.

F1-17

See General Response 9.

F1-18

Comment noted.

F1-19

It is stated in Section 4.2.2.1.1 that wetland habitat may transition to drier riparian habitats, such as alkali scrub and tamarisk. The water budget for the

Project Manager File No. NPS 3-2-9

F1-19 of these resources would be part of the Clean Water Act section 404 permit, since there is limited physical work in the Wash itself. The effects of this project must be considered in concert with the ongoing actions of other agencies. An example is the selenium levels in the water flowing
F1-20 down the Wash. Other groups are looking at the issue, but the DEIS does not acknowledge the effect of the proposed action in doubling the selenium concentrations in the water coming down the Wash, and the relevance to ongoing evaluations of this issue.

Purpose and Need

The functional purpose of the SCOP is to dispose of the increasing amount of treated effluent in such a way as to maintain water quality standards in the Wash and Lake Mead while maximizing the potential return flow credits for Nevada's Colorado River allocation. The three identified alternatives meet that purpose. However, it is not clear how some of the other needs identified on page 1-13 are met by the alternatives, as there is little or no discussion or evaluation of the
F1-21 effects of the alternatives on those needs. Specifically, the Clark County Wetlands Park, ongoing erosion control activities in the Wash, maintaining wildlife and recreational values, and treatment of non-point source flows in the Wash, should be more fully addressed in the effects analysis and cumulative effects portions of the DEIS. The DEIS discussion currently provided for these needs is inadequate. For example, implementation of any of the three project alternatives would reduce flows in the Wash to approximately 50 MGD, a reduction of two thirds over current releases.
F1-22 The only discussion on the effects to existing wetland and riparian vegetation along the Wash is that 50 MGD is sufficient to meet the needs of the existing vegetation, except that this reduction would likely cause a change in vegetation community and structure. While the alternatives state that from "0-100 percent" of the wastewater flows can be transported via the interceptor lines, there is no stated provision for maintaining larger flows down the Wash to contribute to wetland and riparian protection. There is no connecting information to link these statements to
F1-23 management of the Wetlands Park, or the effects of erosion control structures identified as needs for the project.

Related Documents/Actions

F1-24 Section 1.8 lists a number of environmental or other planning documents that address projects in the vicinity of the Las Vegas Wash (Wash). The DEIS does not, however, include adequate evaluation of the effects of the DEIS alternatives on the implementation of, need for, or future success of, these projects. This is not a cumulative effects analysis; however, it is necessary for an evaluation of the effects of this action on the current baseline. The DEIS is deficient in this analysis.

7

(F1-19 continued)

Las Vegas Wash indicates that these community types can be supported at 50 mgd, however, the composition and diversity may change.

Only filling or dredging within waters of the U.S. is covered by the CWA Section 404 permit. Changes in flows are not covered by the 404 permit. The permit will only apply to Lake Mead because no filling or dredging activities would occur in the Las Vegas Wash. No such permit is required for the Las Vegas Wash.

Coordination with other agencies, committees, and workgroups who have ongoing management responsibilities and actions in the Las Vegas Wash will be implemented through the Boulder Basin AMP and SNWA Erosion Control Structure (ECS) plan, and is explained in sections 4.2.2.1.1 and 4.2.2.1.2.

F1-20

The information addressing the existing conditions and the effects of the proposed SCOP on selenium levels in the Las Vegas Wash and Lake Mead, as well as the potential impact to biological resources have been inserted into the Final EIS in sections 4.2.1.3 and 4.2.2.1.3. Further information on other contaminants is contained in Section 4.2.1.3.

F1-21

The purpose and need states that effluent-management flexibility is needed to adapt to potential changes in the Las Vegas Wash resulting from development of the ECSs and Wetlands Park. The SCOP EIS addresses the potential impacts of constructing and operating the SCOP. The impacts from the ECSs and Wetlands Park have been analyzed in other National Environmental Policy Act (NEPA) documents. The ECSs are designed to accommodate flows greater than the projected effluent flows; therefore, it has been determined that the SCOP does not impact the ECSs. The potential impacts to the Wetlands Park are described in the appropriate sections of Chapter 4 of the Final EIS. Riparian vegetation and wetlands developed upstream of the ECSs would have a calmer water environment, greater hydraulic residence time (HRT), and a longer plant establishment period. The cumulative impacts section, Chapter 5, has been revised based on comments received during the public comment period.

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F1-22

See General Response 11.

Text has been added to sections 4.2.2.1.1 and 4.2.2.1.2 to describe how ECSs and the Boulder Basin AMP will manage flows to sustain existing vegetation community composition and structure.

F1-23

The purpose and need states that effluent-management flexibility is needed to adapt to potential changes in the Las Vegas Wash resulting from development of the ECSs and Wetlands Park. The SCOP EIS addresses the potential impacts of constructing and operating the SCOP. The impacts from the ECSs and Wetlands Park have been analyzed in other NEPA documents. The ECSs are designed to accommodate flows greater than the projected effluent flows; therefore, it has been determined that the SCOP does not impact the ECSs. The potential impacts to the Wetlands Park are described in the appropriate sections of Chapter 4 of the Final EIS.

F1-24

Section 1.8 lists the documents used to determine baseline conditions in the project area. Section 4.9 describes the potential impacts of the proposed alternatives on land use plans and community goals, currently established uses of the area, and other land use related issues. Cumulative impacts are addressed in Section 5.0.

Project Manager File No. NPS 3-2-9

Modeling Exercise

Much of the DEIS relies on the information on water quality developed using several models described in Appendix D and summarized in Chapter 4. The discussions of the model results used for the no action and project alternatives are confusing due to the differing use of flow amounts, future year, Lake Mead water elevations, and total phosphorus (TP). The discussion would be enhanced if the assumptions used were collected and listed in Chapter 4 prior to the discussions. Examples of some items that would be clearer to the reader if provided in a collected list include:

F1-25

- Why the TP waste load allocation for the Wash and not the current actual TP level was used for all projections in the no action alternative.
- The source of data for the increased selenium estimate(s) and how they were generated. The water quality baseline and effluent components do not record this contaminant.
- Why Chapter 4 only uses the 2030 model runs at 1,178 feet elevation for the effects discussion and not the 2050 model runs at 1,000 feet elevation. Since the program is designed for the 2050 flows, the reason why those data sets were not used in the text should be provided.
- Explain the importance of the model confidence levels for parameters in Table 4.1-1, particularly as the largest percentages are found with the two most referenced parameters; chlorophyll and TP. Does the higher percentage imply greater or lesser certainty about the modeled results? Is that level of certainty suitable for the decision-making process for this project?

Existing Environment: Riparian and Wetlands along the Wash

F1-26

The discussion of the wetlands and riparian areas along the Wash that would be affected by the reduction in wastewater flows is significantly lacking in detail. There is no map describing the location and extent of the vegetation communities, no discussion of the ongoing efforts for the Wetlands Park or placement of ECS, and how those would be affected by the alternatives, and limited supporting data for the statements that the water budget for the existing riparian areas would be met by providing 30 MGD of effluent to the existing 20 MGD baseflow. The "water budget" as described in Appendix E includes amounts of water lost to infiltration, evaporation, and evapo-transpiration by existing vegetation totaling 41.1 MGD during periods of 184 MGD of flow in the Wash. There is no discussion of the changes to infiltration or evaporation at a total flow of 50 MGD that could affect water available to the vegetation. The DEIS describes how the saturated substrate would diminish, likely causing a shift in the composition and diversity of

8

F1-25

Model confidence is explained in Section 4.1 and more detail is presented in Appendix D. Text has been added to Section 4.1 to assist with understanding the model confidence percentages in Table 4.1-1.

The model used for the SCOP EIS has been peer reviewed by independent experts, continuously reviewed and developed with all agencies involved, and has been accepted as a management tool for making water quality management decisions for the SCOP EIS. The uncertainty (confidence) levels of the model have been determined to be acceptable.

The Draft EIS presented data for the 2030 modeling runs at Lake elevations of 1,178 and 1,000 ft. Similar tables for the 2050 flows were included in Appendix D as stated throughout the text. This was done in an effort to simplify the text and avoid confusion for the reader. However, as requested by this commenter, the tables containing information for 2050 flows have been included in Section 4.1 of the Final EIS.

F1-26

See General Response 11.

A map of the vegetation communities within the Wetlands Park has been added to Appendix E.

Potential impacts to wildlife resulting from reduced effluent flow and a shift in habitat composition and diversity has been added to Section 4.2.2.1.2.

Mitigation related to a Section 404 permit is not applicable in this situation. No such permit would be required for the Las Vegas Wash.

Potential indirect losses of wetlands and riparian communities due to diversion of the treated effluent are explained in Section 4.2.2.1.2.

Text has been added to sections 4.2.2.1.1 and 4.2.2.1.2 to describe the implementation of the Boulder Basin AMP in response to potential condition changes in the Las Vegas Wash. The continuing construction of ECSs would provide improvement to wetland and riparian vegetation communities in the Las Vegas Wash.

Project Manager File No. NPS 3-2-9

F1-26 those wetland and riparian communities (page 4-51). However, nothing is discussed regarding the losses to wildlife values from these shifts, the effects to ongoing restoration efforts at the Wetlands Park and behind the ECS, and mitigation offered is limited to a not-yet prepared restoration program connected to the Clean Water Act, section 404 permit. Mitigation related to that permit may not be sufficient to address the indirect losses of wetlands and riparian communities due to diversion of the treated effluent. The effects to these resources are the same for all three alternatives, and there is no opportunity to consider alternatives that might have a reduced effect on these resources.

Cumulative effects

F1-27 The cumulative effects analysis focuses on the additive effects to environmental resources when the proposed action is added to the effects of the other approved or ongoing actions. This is appropriate; however, the presence of these other actions in the baseline and projections of the future conditions with the action are not presented. The effects of the proposed actions on the need for or success of erosion control and restoration projects already underway or approved are not evaluated. The proposed action represents a significant change to the future conditions and opportunities on the Wash that may not have been considered when these other projects were conceived and initiated. The DEIS should evaluate and discuss the ramifications of the proposed action on these actions.

SPECIFIC COMMENTS

F1-28 Page ES-5, section ES.3.1.1: Under the No Action alternative, the DEIS states that increases in effluent flows would not significantly increase erosion and that there would be a decrease in selenium, total dissolved solids, and perchlorate – this should be noted as generally beneficial to water quality.

F1-29 Page ES-5, section ES.3.1.1: The 3rd paragraph is misleading. TP loading estimates under the No Action Alternative "using current, conventional treatment processes" are invalid considering that current technologies exist to lower phosphorous levels in today's discharges. This does not consider that there will likely be advances in treatment capabilities over the next 25 years. The modeling should be revised based on the lower levels of phosphorus removal achieved by Doug Drury's studies. Please support the claim on the current ability to treat phosphorus by quantifying the current discharges for the Clark County Sanitation District, City of Las Vegas, and City of Henderson.

F1-30 Page ES-5, ES.3.1.1: It has been demonstrated that chlorophyll-a levels in the Las Vegas Bay could be controlled through enhanced treatment for phosphorus removal.

9

F1-27

The SCOP EIS addresses the potential impacts of constructing and operating the SCOP. The impacts from the ECSs and Wetlands Park have been analyzed in other NEPA documents. The ECS in the Las Vegas Wash are being designed and constructed to manage storm flows and to reduce the impacts resulting from storm flows. Therefore, the need for the ECSs in the Las Vegas Wash is not affected by the proposed project. The following sentence has been added to Section 1.4.2.3 of the Final EIS, "The ECSs are designed and constructed to manage storm flows and to reduce the impacts of storm flows on the Las Vegas Wash."

The potential impacts to the Wetlands Park are described in the appropriate sections of Chapter 4 of the Final EIS. Riparian vegetation and wetlands developed upstream of the ECSs would have a calmer water environment, greater HRT, and a longer plant establishment period.

The cumulative impacts section, Chapter 5, has been revised based on comments received during the public comment period.

See General Response 11.

F1-28

See General Response 11.

The Executive Summary has been revised as necessary.

F1-29

See response to comment F1-2.

See General Response 8.

The information is accurate as stated in the Executive Summary based on the definition of the No Action Alternative. The No Action Alternative includes the use of current, conventional treatment processes and plant optimization. No change to the Executive Summary is required.

F1-30

See response to comment F1-2.

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(F1-30 continued)

See General Response 8.

See General Response 1.

The information is accurate as stated in the Executive Summary. No change to the Executive Summary is required.

Project Manager File No. NPS 3-2-9

F1-31 Page ES-5, section ES.3.1.1: The 5th paragraph is misleading. Using 2050 effluent flows and a Lake level of 1,000 feet with no improvements in treatment technology over the next 45 years is creating a worst-case scenario that is both unrealistic and misleading to the public. We recommend that if the purpose is to demonstrate potential worst-case conditions, that this be made clear to the reader and labeled as such.

F1-32 Page ES-8, section ES.3.2.1: Scientific literature recently published by Jim Labounty and Noel Burns indicates that effluent-related nutrient loading was the lead factor contributing to a lake-wide algae bloom in 2001. This evidence appears to contradicting the statement found in the 3rd paragraph, "Water quality monitoring in Las Vegas Bay concludes that nutrient loading has not caused adverse environmental conditions."

F1-33 Page ES-9, section ES.3.2.2: The Service recommends the following changes so that the 4th paragraph reads "Any disturbance near the Wash during the breeding and nesting season for migratory birds (typically February to July in southern Nevada), including the southwestern willow flycatcher and Yuma clapper rail, would temporarily disturb nesting and foraging activity in the area. Surveys for active nests would be conducted by a qualified biologist prior to land clearing activities to avoid destruction of live birds."

F1-34 Page ES-9, section ES.3.2.2: The statement that "a group of agencies" will address the issue of elevated selenium in the Bay "as needed" is inadequate. The removal of effluent flows from the Wash and subsequent increase in waterborne selenium in the Wash and Las Vegas Bay will be detrimental to wildlife health. The Service is opposed to any action that will increase selenium levels in the Wash, Bay, or Lake Mead. Once again, the fact that other parties in the Las Vegas area are examining the selenium issue does not eliminate the need for the DEIS to consider the effects of the action on this contaminant and assess risks to wildlife.

F1-35 Page ES-9, section ES.3.2.2: Dredging activity may disperse contaminants that have accumulated in sediments. Minimization measures to reduce transportation and exposure of contaminated sediments to wildlife should be developed and outlined within the DEIS.

F1-36 Page ES-12, section ES.3.5.2: Potentially hazardous soils that may be encountered in the area of the former Henderson Landfill and Three Kids Mine would need to be tested for trace metals to determine if they qualify as hazardous material. It is not appropriate to use "odor or visible contamination" as an indicator for the presence or absence of toxic metals. If analytical results of soils testing indicate trace metals are elevated, minimization measures should be implemented to reduce the potential for wildlife exposure, including best management practices for erosion control, and to prevent off-site transport.

10

F1-31

See General Response 8.

Under the No Action Alternative, with a Lake level of 1,000 ft and using the projected 2050 effluent flows while meeting the current TMDL, there would be an unacceptable statistical probability of violating the chlorophyll water quality standard of 5 micrograms per liter in the open waters of Boulder Basin and chlorophyll levels at Boulder Beach would exceed the 5 micrograms per liter water quality standard.

The information is accurate as stated in the Executive Summary based on the definition of the No Action Alternative. The No Action Alternative includes the use of current, conventional treatment processes and plant optimization. The Process Improvements Alternative includes the use of membrane technologies. Clarifying text was added to the specified paragraph in section ES 3.1.1.

F1-32

The journal article by LaBounty and Burns (2005) in part attributes the 2001 algal bloom in Boulder Basin to increased phosphorus loads. However, they also attribute the bloom to an extended period of overflow from the Las Vegas Wash resulting in more nutrients in the epilimnion and photic zone. In contrast to the present day and No Action Alternative, the modeling indicates that the Boulder Islands alternatives would result in the majority of the effluent being inserted below the photic zone, thereby resulting in decreased algal growth. Thus, the probability of algal blooms similar to the 2001 event occurring would decrease with discharge in the vicinity of the Boulder Islands.

No changes to the Executive Summary are required.

F1-33

Mitigation measures to minimize the potential for impacts to nesting birds are included in Section 4.2.6 of the Final EIS. In addition, a map of the vegetation communities along the Las Vegas Wash has been added to Appendix E of the Final EIS.

The Executive Summary has been revised as requested.

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F1-34

Text has been added to the Executive Summary to expand on "a group of agencies" and how they would monitor the increase in constituent concentrations. Text was also added to further summarize the potential risks of the constituents on wildlife.

F1-35

Dredging activities would result in short-term negative impacts to benthic organisms in the immediate area. The area would recolonize with organisms that move in once construction activities cease. The effect of redistribution of benthic contaminants is unknown for this area of the Lake. Similar text has been added to Section 4.2.2.2.3 of the Final EIS. Minimization measures (turbidity curtain) are explained in Section 2.2.2.4. The permit process for dredging, required and administered by the EPA and U.S. Army Corps of Engineers (USACE), are explained in Section 4.1.2.1.2.

The requested information has been added to the appropriate sections of the Final EIS as stated above. No change to the Executive Summary is required.

F1-36

Geotechnical studies and sampling and analysis of the soils will be conducted during final design of the pipeline. It is premature to conduct these studies prior to the issuance of a ROD. The sampling and analyses required to determine the presence and extent of contamination will be conducted in accordance with NDEP guidance and directions. In addition, all required permits for handling potential soil contamination will be acquired before construction and any required mitigation measures will be implemented in accordance with NDEP and EPA guidelines. Text has been added to the specified sections of the Final EIS.

The Executive Summary and associated sections have been updated as necessary.

Project Manager File No. NPS 3-2-9

F1-37 Page ES-16, section 3.11.1: The DEIS states "Optimization of the three treatment facilities would cost an additional $29 million." This amount pales in comparison to the cost of the overall project, and would improve the water quality in Boulder Basin, as well as for downstream users. Please explain why this optimization measure was not fully explored in the DEIS or included as a component of the preferred alternative.

F1-38 Page 1-10, section 1.4.2.1: Please include in this section, a Table referencing the existing water quality standards discussed. We suggest moving the discussion of impairment in section 1.5 to this section, since it relates to the reason for the standards and thus the need for the project.

F1-39 F1-40 F1-41 Page 1-11, section 1.4.2.3: Please provide a map showing the locations of the existing and proposed erosion control structures and bank stabilization. Also, in the Glossary, include a definition for erosion control structure. Effects of the proposed action on the need for erosion control are lacking in the later sections of the DEIS, and additional information should be provided here or in the cumulative effects section to facilitate the discussion.

F1-42 Page 1-11, section 1.4.2.4: Include here a discussion of selenium in the groundwater. This trace element is of concern to fish and wildlife and requires additional emphasis in the DEIS.

F1-43 F1-44 Page 1-13, section 1.5: The DEIS states that a purpose for the project is "Protecting water quality for downstream users." Please explain why the preferred alternative of dilution serves this purpose better than enhanced treatment or plant optimization. We recommend that optimization be reconsidered as a component of the preferred alternative based on improvements to water quality at a relatively low cost.

F1-45 Page 1-14, section 1.5: The statement "Currently, the treatment plants are able to remove phosphorus down to a level near 0.2" ppm is misleading. Based on Dr. Drury's presentation at the November 17, 2005, Lake Mead Water Quality Forum, it is possible to enhanced phosphorus removal to levels below 0.09 ppm.

F1-46 The discussion on the 2001 algal bloom is lacking and fails to explain that the current Total Maximum Daily Load allows the unlimited release of phosphorus-laden effluents during the winter months. The 2001 algal bloom has been attributed to a large release of effluent in December of 2000 (Labounty, SNWA, pers. comm., 2005). The wastewater dischargers have been voluntarily removing phosphorus year-round since 2001, and no other algae blooms have occurred since.

11

F1-37

See General Response 3.

The Executive Summary has been revised to more clearly explain that plant optimization is part of all the alternatives.

F1-38

Water quality standards are presented in Table 3.1-2 of the Water Quality Affected Environment Section.

As stated by the commenter, the discussion of impairment supports the need for the project. Therefore, the impairment discussion does not need to be moved because it is currently in Section 1.5, Purpose and Need for the Action.

F1-39

Figure 3.1-6 shows the locations of SNWA's ECSs.

F1-40

The definition of ECS has been added to Chapter 11, Glossary, of the Final EIS as requested.

F1-41

See response to comment F1-27.

F1-42

Text regarding selenium has been added as Section 1.4.2.6 of the Final EIS.

F1-43

See General Response 3.

See General Response 8.

Section 2.8 of the Final EIS explains the rationale for selecting the Boulder Islands North Alternative as the Preferred Alternative.

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F1-44

See General Response 3.

F1-45

See response to comment F1-2.See General Response 8.

The referenced sentence in Section 1.5 has been updated based on the treatment facilities' current capabilities.

F1-46

The commenter is correct that the wastewater dischargers have agreed to voluntarily remove phosphorus year round since the 2001 algae bloom. However, the cause of the 2001 algae bloom has not been determined with any scientific certainty.

See response to comment F1-32.

Project Manager File No. NPS 3-2-9

F1-47 Page 2-1, section 2.1: Please explain why plant optimization is only considered when current treatment processes can no longer meet water quality objectives. Immediate optimization of treatment processes would improve water quality for all downstream uses, including wildlife habitat, recreation, and drinking water supply.

F1-48 Page 2-3, section 2.1: Please include in this section more detail on the TP standard, approximately when it would be exceeded, and what would be needed to address the issue when it is exceeded. The no-action alternative should also contain acknowledgement of ongoing or approved actions that may affect the environmental conditions differently than included in the baseline.

F1-49 Page 2-5, section 2.2: Please move the design flow discussion from section 2.2.1.4 on page 2-15 to the beginning of the section. This information is hard to locate in the descriptions as written.

F1-50 Page 2-18, section 2.2.2.1.2: In the second paragraph, fourth line, please clarify if the pipeline is to be placed on the bottom or suspended off the bottom.

F1-51 Page 2-28, section 2.2.2.6: The DEIS states "Current, conventional treatment processes are able to treat TP to a concentration of 0.2 mg/L. Optimization of the plants would enable treatment of combined TP to levels less than 0.2 mg/L if necessary to meet water quality standards and SCOP AMP objectives. Plant optimization could be implemented with minimal capital construction activities and time delays." Optimization of treatment processes would improve water quality for all downstream uses, including wildlife habitat, recreation, and drinking water supply. Please explain why optimization is not fully explored in the DEIS and is not included as a component of the preferred alternative.

F1-52 The decision to have an adaptive management plan for the SCOP is appropriate; however, the operation of the SCOP to maximize project purpose and not adapt to accommodate impacts from other environmental stressors may not be appropriate. The effects of the SCOP must be taken in context with the conditions existing in the lake. The SCOP must also continue to evaluate the effects of its actions on the Wash and Las Vegas Bay, and be prepared to adapt operations to address adverse impacts. This is especially important since the DEIS lacks the analysis of these likely effects or any identified mitigation.

F1-53 Page 2-50, section 2.4.2: With the likelihood of Lake Mead elevations reaching 1,000 feet mean sea level (as discussed in the modeling section of the DEIS), please provide the bottom elevation of the diffuser pipeline. The depth of water may be important to discuss in the modeling results section, particularly given the proximity to the Saddle Island Pumping Plant (drinking water intake).

12

F1-47

See General Response 3.

F1-48

Water quality standards, including the standard for TP, are presented in Section 3.1.3.4.2 of the Draft and Final EIS.

As the effluent flows increase, the treatment facilities would need to reduce TP and total inorganic nitrogen (TIN) levels in the effluent through process enhancements. As the projected Lake levels approach 1,000 ft, the TP loadings would cause the chlorophyll standards in the inner Las Vegas Bay and the open waters of Boulder Basin to be exceeded. Current treatment technologies would require each treatment facility to mitigate this situation differently. However, current technology would require RO, which would cause an unacceptable loss of return flow credits.

More detail has been added to the description of the No Action Alternative in the Final EIS.

F1-49

The text has been moved as requested and the sections in the Final EIS have been renumbered to accommodate the requested change.

F1-50

The text in Section 2.2.2.1.2 has been revised for clarity purposes.

F1-51

See General Response 3.

F1-52

Impacts analyses for many resources have been revisited and expanded. The potential impacts resulting from the proposed alternatives and mitigation, if necessary, are presented in Chapter 4.

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(F1-52 continued)

See General Response 10.

See General Response 11.

F1-53

The Draft EIS Section 2.4.2.1.2 referred the reader to Section 2.3 for the requested diffuser elevation. The diffuser elevation information has been added to Section 2.4.2.1.2 of the Final EIS as requested.

The Lake Mead modeling addresses the depth of the diffuser and discharge, as well as the potential changes to water quality at the SNWA intake structures on Saddle Island. The potential impacts to water quality at various locations in Boulder Basin, including the SNWA intake structures, are presented in Section 4.1 of the Draft and Final EIS.

Project Manager File No. NPS 3-2-9

F1-54 Page 2-62, section 2.6: Please explain why a smaller system that would allow for more water to remain in the Wash was not included in the alternatives considered. Why was a system incorporating some wetlands development under the Clark County Wetlands Park and other Bureau of Reclamation efforts (as listed in section 1.8) not considered in development of a more environmentally sensitive alterative?

F1-55 Page 2-76, section 2.7: Of the alternatives carried forward, the Boulder Islands North Alternative may have the fewest impacts to environmental resources, but the analysis of the impacts to biological resources in the three alternatives is likely the same for all three, and has not been adequately addressed in the DEIS.

F1-56 A combination alternative with maintenance of higher flows in the Wash and a smaller diversion system might provide better results than the current preferred alternative.

F1-57 Page 2-78, Table 2.8-1: Under effects to biological resources, the loss of wetland and riparian habitats and changes to contaminant loads that may bio-accumulate in wildlife species in the wash and Las Vegas Bay should be noted as effects.

F1-58 Page 2-82, Table 2.2-2: The absence of mitigation measures for surface water losses, water quality, and biological resources is a weakness of this DEIS. Reliance on future documentation of adverse effects and development of mitigation does not provide the basis for analysis of the environmental effects of the proposed actions as required in a DEIS.

F1-59 Page 3-13, 3.1.2.4: The discussion of selenium in the soil and subsequent contamination of the groundwater should be included here. Also, selenium levels in ground and surface waters within the drainage basin should be provided.

F1-60 Page 3-13, section 3.1.3: Whether or not Lake Mead remains stratified year-round or mixes completely during the winter months will dramatically influence the behavior of the discharged effluent plume in Boulder Basin. The model should be run under various mixing scenarios to fully evaluate impacts to water quality, not just under 2002 conditions when the Lake destratified, and conditions were optimum for mixing and dilution of effluents.

F1-61 Page 3-17, section 3.1.3.2: The 3rd paragraph states that the effects of reduced Lake Mead water levels are discussed in section 3.1.3.3.1. There is no such discussion in section 3.1.3.3.1.

F1-62 Page 3-18, section 3.1.3.2, Table 3.1-2, Water Quality Standards: Although the SCOP process is driven by the water quality standards presented here, other non-regulated water quality parameters may be directly or indirectly influenced by movement of wastewater flows in Boulder Basin. These additional parameters warrant further discussion.

13

F1-54

See General Response 11.

See response to comment F1-10.

Wetlands development was considered and not pursued due to the impacts to the return flow credits and the water quality requirements that would need to be met for future flows. Wetlands have a limited capability to remove phosphorus to concentrations necessary when the Lake levels reach between 1,050 ft and 1,000 ft.

The process used to develop the alternatives, and alternatives considered but eliminated from further analysis are described in sections 2.6 and 2.7, respectively.

F1-55

The impacts to biological resources from the three pipeline alternatives is likely the same (or similar) for all three pipeline alternatives. That is addressed in sections 4.2.3.1, 4.2.3.2, 4.2.4.1 and 4.2.4.2. Any minor differences in impacts to biological resources affiliated with the alternatives are described in the various subsections. Additional information regarding potential impacts to the biological resources of the Las Vegas Wash and aquatic resources of Lake Mead has been added to Section 4.2 of the Final EIS.

The Boulder Islands North Alternative was selected as the environmentally preferable alternative because although similar in biological impacts, a smaller quantity of spoils would be generated (compared to Boulder Islands South Alternative) and increased dilution of the discharge would result (compared to Las Vegas Bay Alternative).

F1-56

See response to comment F1-54.

F1-57

Table 2.9-1 of the Final EIS (formerly Table 2.8-1 of the Draft EIS) has been revised.

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F1-58

The information addressing the impacts of the proposed SCOP and mitigation measures to reduce impacts to aquatic species in Lake Mead has been added to the Final EIS in Section 4.2. In addition, Table 2.9-2, Summary of Mitigation Measures, has been updated.

Impacts analyses for many resources have been revisited and expanded. The potential impacts resulting from the proposed alternatives and mitigation, if necessary, are presented in Chapter 4.

See General Response 10.

F1-59

Text regarding selenium has been added to Section 3.1.2.4 of the Final EIS.

F1-60

See General Response 7.

F1-61

The section number has been corrected. It is now 3.1.3.4.1, Factors Affecting Water Quality.

F1-62

A host of non-regulated water quality parameters were considered and addressed through the modeling review committee. Those parameters, as modeled, were found to not be an issue.

See General Response 10.

Project Manager File No. NPS 3-2-9

F1-63 Page 3-19, section 3.1.3.2: The discussion of impairment due to selenium should be expanded to include the levels of selenium present, the sources, and any existing remediation efforts.

F1-64 Page 3-21, section 3.1.3.3.2: The statement "Selenium present in the Wash originates from the soil and is considered part of the natural conditions . . . " is misleading. Selenium, although naturally occurring, has been leached from soils at an accelerated rate throughout the southwestern United States due to irrigation practices and shallow groundwater flows of anthropogenic origin. True "natural conditions" for selenium, without the influence of human activity, would be lower than the existing concentrations found in the Wash and other surface waters of southern Nevada.

F1-65 Page 3-22, section 3.1.3.3.2, Table 3.1-3: Waterborne selenium concentrations in the Wash should be added as a parameter to this Table.

F1-66 Page 3-25, section 3.1.3.4.2: Please describe the location of these water quality monitoring stations in respect to the location of the proposed effluent diffuser outfalls.

F1-67 For Table 3.1-4, please explain the effluent flows and TP information (discussed on page 3-28 but should be footnoted in the table). Also, since the water quality measurements in Boulder Basin are at the surface (as noted in the footnotes to this table) please discuss how this relates to water quality at the depth where effluent will be released. Since, on page 3-24 and 3-25, the effects of stratification on chemical composition are discussed, the baseline conditions in the surface water are less relevant to an assessment of the effects of the proposed action than those at depth.

Page 3-30, section 3.2: This background information is inadequate to address the current conditions in the project area, and precludes any meaningful evaluation of effects from the proposed action. Information is needed on the following topics:

F1-68
- Vegetation community information, including maps and acreages for upland, riparian, and wetlands types should be provided. Appendix E contains lists of plant species, but no information on community extent. The location of restoration projects for these community types should also be provided, as should the boundaries of the wetlands park.

F1-69
- The derivation of the "water budget" in Appendix E that provides the background for the 50 MGD figure to support the existing vegetation should be more fully explained. There is a difference between the amounts of water used out of a larger total than if only the amount used is provided.

F1-70
- The document should assume that the willow flycatcher present is the southwestern subspecies. The amount of suitable breeding or migration habitat available in the project area should be provided.

14

F1-63

Text regarding selenium has been added to Section 3.1.3.2 of the Final EIS.

F1-64

The text has been revised.

F1-65

Selenium has been added to Table 3.1-3 as requested.

F1-66

The location of the water quality monitoring locations and the diffuser outfall locations are shown on Figure 4.1-1 of the Draft and Final EIS.

F1-67

The ELCOM/CAEDYM model is a fully three-dimensional model that accounts for variation in water chemistry and biology as a function of depth, as well as horizontal position. The model was validated by numerous comparisons to available data at various locations both at the surface and at depth.

See General Response 7.

See General Response 10.

F1-68

Community extent within the project alignment is included in Section 3.2 of the Final EIS. The boundaries of the Wetlands Park are included on several figures in the EIS. However, a map of vegetation communities within the Wetlands Park has been added to Appendix E of the Final EIS. The SNWA is currently in the process of mapping vegetation communities along the entire Las Vegas Wash, but this information is not available at this time.

F1-69

See General Response 11.

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F1-70

The text in the Final EIS was changed to describe that the flycatchers observed are assumed to be the endangered subspecies. The SNWA is currently in the process of mapping vegetation communities along the entire Las Vegas Wash. The amount of suitable breeding/migration habitat is not currently known.

Project Manager File No. NPS 3-2-9

F1-71 • A Yuma clapper rail was found in the Wash in 2005. Please contact us for specific information. The amount of suitable habitat present should be provided in the DEIS.

F1-72 • The biological information available on the razorback sucker in Lake Mead is significantly more detailed than what is presented in the DEIS. Because of the potential effects to this species from reduced effluent flows in the wash, additional data on the Las Vegas Bay razorback sucker community from the Bio-West reports should be provided in the text or in Appendix E.

F1-73 • The discussion of the effects of the existing effluent inflow, including the sedimentation issues, should be moved from section 3.4.1, into the biological resources section and expanded significantly to include water quality data, sedimentation data, and other relevant information that describes the characteristics of this area. This information is needed for the effects analysis.

F1-74 Page 4-5, section 4.1: The Wash model is discussed in Appendix D. The inclusion of future erosion control structures and developed wetlands into the structure of the model should be explained, particularly how the presence of these features affects flow and contaminant concentrations. The effects of the reduced flows on these features should be evaluated, since the project would eliminate over two thirds of the current flows. With greater areas of wetlands, additional water may be needed, particularly if erosion control structures also increase the evaporation and infiltration rates. The "water budget" for the existing wetland and riparian community is 41.1 MGD (see Appendix E), and most of that is lost to infiltration and evaporation. It is uncertain whether 50 MGD provides sufficient flows to support the presumed future condition. This is critical to the effects evaluation.

F1-75 In the discussion of the Lake Mead model, the use of surface water quality stations to support the model should be discussed. It is not clear if the model is assuming the same water chemistry at the surface as at depth, or if there are other assumptions made that are not clearly expressed. This information should be contained in the DEIS, although we understand more information is provided in the original model report cited. Since there is limited mixing of surface and deep water during lake stratification, the effluent plume will affect the quality of deep water to a larger extent.

F1-76 Also, information on the path of the plume should be discussed since that is what may have effects to Lake Mohave. A full discussion of the model assumptions would assist in defining the results. Also, the effects discussion for all alternatives should include the information on the effects to Lake Mohave. This topic is not discussed under water quality issues.

15

F1-71

Information has been added to Section 3.2 of the Final EIS. New information, such as the 2005 and 2006 detection of a Yuma clapper rail in or near the Las Vegas Wash, has been included. The SNWA is currently in the process of mapping vegetation communities along the entire Las Vegas Wash. The amount of suitable breeding/migration habitat is not currently known.

F1-72

See General Response 9.

F1-73

Additional information has been added to Section 3.2 as requested.

Section 3.4.1 describes recreation within the Lake Mead National Recreation Area (LMNRA). Therefore, the section referenced in the comment is incorrect. It is assumed the commenter is referring to Section 3.1.1.3, Las Vegas Wash Erosion. The discussion of erosion is located appropriately in the section describing Surface Water and Drainage, so it has not been removed from that section. However, issues regarding erosion that relate to biological resources have been added to Section 3.2.

F1-74

The Las Vegas Wash Model used the wetland areas delineated in the SNWA ECS plans as the limits for developed wetlands behind each ECS. The reduced flows do not change the wetlands area as the area is limited by the height of the ECS and the limits of the riparian side slope of the Las Vegas Wash as shown in the SNWA ECS plans. The Las Vegas Wash Model accounts for the reduced flows and wetland areas.

See response to comment F1-10.

See response to comment F1-26.

F1-75

See response to comment F1-67.

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F1-76

The Lake Mead Modeling Report discusses the path of the effluent plume in Boulder Basin, including animations of the modeling results. In addition, the modeling results of numerous water quality parameters and nutrients at the Hoover Dam outlets are provided in both the modeling report and the Draft EIS. This information from the Lake Mead model is all that is required to assess the impacts on Lake Mohave. The impacts on Lake Mohave were assessed by separately modeling 25-percent and 100-percent increases in nutrient loads. The modeling study concluded that effects on in-lake water quality were significant when the nutrient load was increased by 100 percent, but not when increased by 25 percent (J.D. Edinger 2003).

See General Response 8.

Project Manager File No. NPS 3-2-9

F1-77 Page 4-6, section 4.1: In the fifth paragraph, please explain why the 1,178 feet/2030 and 1,000 feet/2050 model runs were chosen for display and discussion in the text. Other model runs are included in Appendix D that could have been chosen. Please clarify if the results in the tables reflect surface or deep water concentrations of nutrients of concern.

F1-78 Page 4-8, section 4.1: The reasons for selecting the nutrient loads for Lake Mohave modeling should be explained here.

F1-79 The discussion of the comparison of model runs on this page and page 4-9 are confusing, particularly given the discussion on page 4-6. The need to compare, for example, the two 2030 runs (one for 1,718 and the other for 1,000) to assess effects instead of running the 1,000/2030 against the baseline should be clarified. Please clarify why the 2050 model runs are compared to the 2030 runs and not the baseline. This section requires considerable editing for clarity and understanding.

F1-80 Page 4-10, section 4.1.1: The ability for the Wash to reduce phosphorus levels in effluents through biological treatment should be discussed, and is a strength of the No Action alternative. An estimate of phosphorus removal by the Wash should be easy to quantify using the existing Southern Nevada Water Authority water quality database.

F1-81 Page 4-11, section 4.1.1.3.1: The discussion of the models in Appendix D did not contain information that selenium was a component of the model. Please explain what model was used to determine the increases and decreases in selenium in the surface flows in the Wash, what level of confidence the model has, and implications to wildlife health.

F1-82 Page 4-23, section 4.1.2.2: Please include in this discussion the information on the directional flow of groundwater that feeds the Wash, and how that flow would, or would not, be affected by the effluent interceptor.

F1-83 Page 4-27, section 4.1.2.3.2: The statement that "reducing the flow in the the Wash to 50 MGD" would result in selenium levels that are "less than half of the concentrations in many of the tributaries" is misleading. Waterborne selenium in several tributaries is very high (20 – 30 ppb) and exceeds levels known to cause toxicity in sensitive wildlife. As selenium concentrations in the Wash increase from the current average of 3 ppb to somewhere between 5 - 10 ppb, wildlife will likely be adversely affected. Monitoring of selenium effects to wildlife in the Wash is ongoing and reproductive effects to birds are unknown at this time. We cannot say with certainty that the existing conditions (approximately 3 ppb selenium in the Wash water) are safe for nesting birds, much less an increase in selenium. The DEIS should discuss the effects to fish and wildlife from these increases in selenium. That other groups are evaluating the selenium issue does not eliminate the need for the effects of this project to be evaluated and

16

F1-77

Section 4.1 has been revised to describe the potential impacts to water quality based on the changes to the alternatives. Appendix D has also been revised.

The analysis of water quality includes the highest and lowest Lake levels, 1,178 ft and 1,000 ft respectively, with effluent flow projected for years 2030 and 2050. This provides a modeled prediction of the optimal (2030) and the most restrictive conditions (2050).

The Draft EIS presented data for the 2030 modeling runs at Lake elevations of 1,178 and 1,000 ft. Similar tables for the 2050 flows were included in Appendix D as stated throughout the text. This was done in an effort to simplify the text and avoid confusion for the reader. However, as requested by this commenter, the tables containing information for 2050 flows have been included into Section 4.1 of the Final EIS.

F1-78

The loading factors for Lake Mohave were selected to provide a sensitivity level that would negatively impact Lake Mohave. The Lake Mohave model indicates that up to a 25 percent increase in TP loading would not negatively impact Lake Mohave. The loading through Hoover Dam would be monitored and maintained at or below pre-project conditions through the Boulder Basin AMP monitoring program described in Section 2.2.2.6. Therefore, an increased loading to Lake Mohave would not be a factor. Similar text has been added to Section 4.1 of the Final EIS.

F1-79

The text has been revised.

F1-80

Removal of the phosphorus by biological processes through the Las Vegas Wash was included in the Las Vegas Wash model. Although not published, the SNWA has stated that the Las Vegas Wash may remove up to 65 percent of phosphorus due to biological processes in the Las Vegas Wash. Although SNWA has stated that this is based upon SNWA water quality data, we have

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(F1-80 continued)

been unable to obtain documentation supporting the 65-percent removal of phosphorus due to biological processes.

F1-81

Selenium is a component of the Las Vegas Wash Model. Impacts to the Las Vegas Wash have been included in Chapter 4 of the EIS. Additional information regarding the impacts to selenium concentrations in the Las Vegas Wash has been included in the text of Section 4.1. The impacts to biological resources are presented in Section 4.2.

F1-82

The requested information is presented in the Draft and Final EIS. The directional flow of groundwater is described in Section 3.1.2.3 and shown on Figure 3.1-8 of the Draft and Final EIS. Section 4.1.2.2.1 of the Draft and Final EIS presents information regarding the impacts associated with:

- Removal of Groundwater from the Shallow Aquifer,
- Physical Disturbance of the Shallow Aquifer Creating Pathways for Groundwater Flow, and
- Physical Disturbance of the Shallow Aquifer Creating Barriers for Groundwater Flow.

F1-83

Clarification regarding selenium has been added to Section 4.1.2.3.2. In addition, the potential impacts to biological resources from increased selenium concentrations in the Las Vegas Wash have been inserted to Section 4.2.

Project Manager File No. NPS 3-2-9

mitigated within the DEIS. **See comments on Page ES-9, section ES.3.2.2 related to concerns with "agencies . . . will address the issue as needed."**

F1-84 Also, please use one measurement standard for selenium. On page 4-10, the levels are given in micrograms per liter, and in Tables 4.1-3 and 4.1-9 it is in milligrams per liter.

F1-85 Page 4-27, section 4.1.2.3.3: Please separate the discussion of effects to Las Vegas Bay from those for the Boulder Basin. As written, the two subjects are confusing to follow. The effects of selenium in Las Vegas Bay should be included here.

F1-86 Page 4-37, section 4.1.4.3.3: Please explain why the data presented here from the model does not use the 1,000 feet/2050 model run.

F1-87 Page 4-45 – 4.1.5.3 – The DEIS states "To eliminate any impacts, the three wastewater treatment agencies would be required to implement advanced filtration using microfiltration/ultafiltration to reduce the TP concentrations sufficiently to avoid exceeding water-quality standards." This statement is followed by a list of negative impacts. The statement and list of negative impacts should be changed in light of the enhanced treatment capabilities demonstrated by Dr. Drury at the Clark County Water Reclamation District. Dr. Drury has shown that it is possible to remove TP concentrations consistently to a level of 0.08 mg/L using optimized treatment. If all three wastewater discharge facilities were to optimize treatment, the total pounds of phosphorus with 2030 flows would be 200 pounds/day and the total pounds of phosphorus with 2050 flows would be 266 pounds/day. Treatment by microfiltration/ ultrafiltration would not be necessary.

F1-88 Page 4-50, section 4.2.1.3: The razorback sucker does not spawn twice a year.

F1-89 Page 4-51, section 4.2.2.1.1: The reduction in flows in the Wash will likely have a significant adverse effect to wetland and riparian vegetation. Emergent wetlands and cottonwood-willow riparian communities are of significantly higher value to wildlife than dry-soil tamarisk (salt cedar) or alkali scrub. There is inadequate information on the extent of these valuable habitats, and the future extent of them with completion of the ECS and Wetlands Park projects presented in this DEIS. That there is no analysis of these effects, even on an estimated basis, is a significant deficiency of this DEIS.

F1-90 Page 4-53, section 4.2.2.1.2: Riparian and wetland wildlife species, including the Yuma clapper rail and southwestern willow flycatcher, would be adversely affected by the loss of suitable habitat in wetlands and native riparian areas. This effect is not acknowledged.

17

F1-84

All of the selenium units have been changed to micrograms per liter.

F1-85

The Las Vegas Bay is part of the Boulder Basin. Therefore, it doesn't make sense to separate the discussion.

Selenium-concentration increases are described in Sections 4.1 and 4.2 of the Final EIS.

F1-86

See response to comment F1-77.

F1-87

See response to comment F1-2.

See General Response 8.

The assumption in the comment that a total loading of 266 lbs/day of phosphorus to the Las Vegas Bay in 2050 would be acceptable is incorrect. The southwest U.S. is experiencing a drought. It is predicted that the water in Lake Mead will decline to 1,000 ft. As explained in Section 4.1 of the Final EIS, the TP loading to the Las Vegas Bay would need to be approximately 100 lbs/day to meet water quality standards in the Las Vegas Bay when Lake Mead is at 1,000 ft.

See General Response 1.

F1-88

The text has been revised.

F1-89

See response to comment F1-26.

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F1-90

See response to comment F1-26.

Project Manager File No. NPS 3-2-9

F1-91 Page 4-54, section 4.2.2.1.3: The effects of reduced inflow into Las Vegas Bay on the razorback sucker should include the presence of increased concentrations of selenium and an evaluation of selenium toxicity to larval razorback sucker.

Again, the fact that other groups are evaluating the selenium issue does not eliminate the need for the effects of this project to be evaluated and mitigated within the DEIS.

F1-92 Page 4-56, section 4.2.2.2.3: The modeling done for water quality focused on surface values, not those at depth. Please refine the last paragraph on this page and throughout this section to reflect that analysis.

F1-93 Page 4-57, section 4.2.2.2.3: The likelihood of effects to razorback sucker from construction of the lake conveyance system is minor compared to the effects to the species at Las Vegas Bay due to the reduction in effluent. Please provide a similar depth of analysis for the Las Vegas Bay effects.

F1-94 Page 4-58, section 4.2.2.2.3: The discussion on the effects of reduced effluent flows to the inner Las Vegas Bay and impacts to razorback suckers is conspicuously lacking with regard to selenium. At a minimum, please provide an assessment of the effects to razorback reproduction via selenium toxicity to larval razorback sucker.

F1-95 Page 4-61, section 4.2.4.2.3: The effects to razorback sucker habitat in Las Vegas Bay in this alternative should be based on the effluent load in 2050 and at 1,000 feet elevation. The location of the lake conveyance system effluent outflow may be significant if it is nearby the area razorback suckers may move to when most of Las Vegas Bay is dry. This potential is not

F1-96 discussed. The depth of the effluent outflow at this level may also be important for mixing of effluent with Lake Mead water, since at these low levels, the depth may not be sufficient to place the effluent below the thermocline. Please provide additional information for this discussion.

F1-97 Use of the Clean Water Act section 404 permit process to evaluate the effects to wetlands may not fully evaluate the adverse effects to important wildlife habitats on the Wash. Reliance on that compliance to address mitigation for the losses of these important habitats is questionable.

F1-98 Page 4-63, section 4.2.5 Mitigation: The discussion of measures to minimize potential impacts to razorback suckers should be changed to read, ". . . construction activities within 100 yards (91 m) of known razorback sucker spawning areas will not be allowed between December 1 and May 1."

F1-99 The mitigation outlined in this section is inadequate to ensure protection of sensitive species. If the preferred alternative presented in the DEIS moves forward as is, additional mitigation to

18

F1-91

See General Response 9.

Based on preliminary consultation with the USFWS as required under Section 7 of the ESA, it has been determined that the razorback sucker may be impacted by selenium. Although the volume of selenium entering the Las Vegas Bay would be lower due to reduced effluent-based selenium entering the Las Vegas Wash, it may still impact the razorback sucker. The extent of the 'selenium plume' and precise location of dilution with the waters of the Las Vegas Bay, are relatively unknown. Monitoring of selenium concentrations in the Las Vegas Bay would be conducted through the Boulder Basin AMP. The text in Sections 4.2.1.3 and 4.2.2.2.3 of the Final EIS has been revised.

F1-92

See response to comment F1-67.

F1-93

The text in Section 4.2.2.2.3 of the Final EIS has been revised as requested.

F1-94

See General Response 9.

F1-95

See General Response 9.

The effects of these activities would be short-term, negative impacts to benthic organisms in the immediate area. The area would recolonize with organisms that move in once construction activities cease.

F1-96

See response to comment F1-67.

Project Manager File No. NPS 3-2-9

F1-99 minimize potential impacts to razorback suckers and migratory birds will be necessary. Although it is expected that additional mitigation measures will be addressed during future section 7 consultation with the National Park Service and Bureau of Reclamation, the DEIS should fully outline appropriate mitigation for resources impacted.

F1-100 Page 5-5, 5.2.2.6: The DEIS assumes that the amount of urban runoff contributing 20 MGD to the Wash will not change over the life of the project. The efforts of this drought study to reduce urban runoff should be explained in terms of the amount of future runoff availability. This may have additive effects to biological resources.

F1-101 Page 5-7, Table 5.3-1: The information presented in this table is difficult to interpret. Please explain how the numbers were generated and used.

F1-102 Page 5-7, section 5.3.1: The effects of the SCOP to reduce groundwater levels may affect the success or failure of the ECS, Wetlands Park, and Ducks Unlimited Project. The reduction in flows in the wash may also adversely affect the restoration efforts for wetlands. While this is not a "cumulative effect" it is an effect of the action that should be considered.

F1-103 Page 5-8, section 5.3.1: The information in the last paragraph demonstrates why the analysis of effects in Chapter 4 should have included the effluent loads from 2050 and the modeling runs for lake elevation 1,000. There are effects mentioned here in terms of cumulative effects that were not discussed in the previous chapter.

F1-104 Page 5-8, section 5.3.2: The statement "The reduction in flows through the Wash are not expected to have a significant adverse impact on biological resources." is not supported by scientific literature. Based on our understanding of the preferred alternative, likely increases in selenium, and selenium toxicity to wildlife, we are concerned that biological resources will, in fact, be significantly adversely impacted. We are fairly certain that loss of reproductive success in an endangered fish or migratory bird would qualify as a significant adverse effect. The DEIS fails to adequately address our concerns with increased selenium concentrations in the Wash and Las Vegas Bay.

F1-105 Appendix A – Notice of Intent – Federal Register Notice: The following statements in paragraph two "Current effluent discharge is causing erosion problems to wetlands within the Wash" and "The project will also reduce erosion within the Wash" are misleading and appear to contradict statements found elsewhere in the DEIS. For example, section ES.3.1.1 reads "under the No Action Alternative, an increase in the volume of water conveyed in the Wash during dry-weather flows would not significantly increase erosion and channel degradation." Erosion in the Wash caused by effluent flows during dry weather is negligible compared to erosion from storm events and resulting wet flows, particularly with numerous ECS in place. The vast majority of erosion

19

F1-97

Only filling or dredging within waters of the U.S. is covered by the CWA Section 404 permit. Changes in flows are not covered by the 404 permit. The permit will only apply to Lake Mead because no filling or dredging activities would occur in the Las Vegas Wash. No such permit is required for the Las Vegas Wash. The text has been revised in the Final EIS.

F1-98

The text in Section 4.2.6 of the Final EIS has been revised as requested.

F1-99

See General Response 9.

See response to comment F1-1.

F1-100

The future runoff availability is unknown. The assumption that the amount of urban runoff would not change over the life of the project is based on the goal of the Drought Plan to reduce water usage in southern Nevada by 25 percent. The majority of the conservation efforts are focused on reducing inefficient and wasteful uses of water that result in runoff that does not provide return flow credits for southern Nevada.

As stated in General Response 11, the Operations Group is intended to ensure that multilateral decisions are made concerning flows in the Las Vegas Wash and includes representatives from Clark County Parks and Community Services, Clark County Regional Flood Control District, CWC, and SNWA. In addition, as stated in Section 2.2 of the Final EIS, the local agencies responsible for water quality management in the Las Vegas Wash have agreed to meet at least once a year and review the need for flow augmentation in the Las Vegas Wash. The SCOP facilities, managed through the Boulder Basin AMP, would be able to accommodate flow adjustments as determined by this management group. Therefore, should runoff quantities to the Las Vegas Wash increase and result in adverse impacts to the water quality or biological resources, additional effluent may be discharged to the Las Vegas Wash if needed.

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F1-101

The table has been deleted.

F1-102

The impacts to groundwater that may result from dewatering during construction are direct impacts that are described in Section 4.1.2. As stated in Section 4.1.6.2, monitoring of groundwater levels in the vicinity of the dewatering operations will be conducted to detect harmful groundwater lowering, which could cause the surrounding layers to settle and therefore impose hazards to structures in the area. In addition, structures will be monitored for possible movement.

The potential impacts resulting from reduction of effluent flows to the Las Vegas Wash are described in Sections 4.1 and 4.2.

The commenter is correct in her statement that the impacts mentioned in this comment are not cumulative impacts.

F1-103

The water quality information referenced is included in Appendix D of the Draft EIS. Based on this comment, the information has been moved to Section 4.1 of the Final EIS.

F1-104

The potential impacts resulting from the increased concentrations of selenium due to a reduction in effluent flows to the Las Vegas Wash are addressed in sections 4.1 and 4.2 of the Final EIS. These impacts are considered direct or indirect, not cumulative. Therefore, they are not addressed in the cumulative impacts section.

The text in Section 5.3.2 has been revised.

F1-105

Appendix A contains the Federal Register Notice of Intent (NOI) to prepare an EIS for the SCOP. The NOI was published in July 2002. At the time, reducing erosion in the Las Vegas Wash was part of the purpose and need for the project.

Project Manager

File No. NPS 3-2-9

F1-105 in the Wash is caused by storm (i.e., wet) flows. The effluent interceptor would not convey storm flows out of the Wash; therefore, the ability of the SCOP project to prevent erosion in the Wash is negligible. The SCOP should not be touted as a means to reduce erosion in the Wash.

Sincerely,

for Robert D. Williams
Field Supervisor

cc:
Field Supervisor, Phoenix Ecological Services Field Office, Fish and Wildlife Service, Phoenix, Arizona (Attn: Leslie Fitzpatrick)

23

(F1-105 continued)

However, construction of the SNWA ECSs has reduced erosion. Therefore, the EIS does not state that the SCOP is responsible for erosion control in the Las Vegas Wash.

December 23, 2005

William K. Dickinson
Superintendent
Lake Mead National Recreation Area
c/o SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV 89074-6382

Subject: Draft Environmental Impact Statement (DEIS) for Clean Water Coalition Systems Conveyance and Operations Program, Lake Mead National Recreation Area (CEQ# 20050405)

Dear Mr. Dickinson:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act. Our comments are provided in accordance with the EPA-specific extension to the comment deadline date from December 6, 2005 to December 23, 2005 granted by Michael Boyles, Environmental Compliance Specialist, Lake Mead National Recreation Area (telephone conversation with e-mail confirmation between Laura Fujii and Michael Boyles, November 2, 2005).

Based on our review, we have rated the proposed project as Environmental Concerns – Insufficient Information (EC-2). A *Summary of EPA Rating Definitions* is enclosed. While we support the effort to address water quality issues in Las Vegas Wash, Las Vegas Bay, and Lake Mead; we have concerns with full disclosure of mitigation for water and air quality effects. We recommend further disclosure in the Final
F2-1 Environmental Impact Statement (FEIS) of specific wastewater discharge permit requirements, water and air quality mitigation commitments, and measures to preserve and enhance Las Vegas Wash. Of specific interest are measures that will be taken if
F2-2 contaminated or poor quality groundwater is intercepted during construction. These measures should be described in the FEIS.

EPA also advocates measures that will ensure a long-term sustainable balance between water supply and demand. Maintaining water quality and reducing water pollution are vital actions because they extend the useful life of water supplies and reduce treatment costs. Water conservation, reuse, recycling, and wastewater source reduction are additional means to increase the reliability of the scarce and limited water supply. The

Response F-2 U.S. Environmental Protection Agency

F2-1

Mitigation measures to minimize the potential impacts to air quality during construction of the pipeline are described in Section 4.7.

The wastewater discharge permitting requirements for SCOP have not been determined, but will reflect the water quality standards, which must be met. The current wastewater discharge permits were renewed in July 2006, and are included in Appendix M of the Final EIS.

Management of the Las Vegas Wash is conducted in accordance with the Comprehensive Adaptive Management Plan (CAMP) for the Las Vegas Wash. In addition, as stated in Section 2.2 of the Final EIS, the local agencies responsible for water quality management in the Las Vegas Wash have agreed to meet at least once a year and review the need for flow augmentation in the Las Vegas Wash. The SCOP facilities, managed through the Boulder Basin AMP, would be able to accommodate flow adjustments as determined by this management group. The 30 mgd of effluent carried forward in the EIS is for a minimum base flow. Additional effluent discharged to the Las Vegas Wash will consider Las Vegas Wash ecosystem needs and the continuing requirement to meet water quality standards in the Las Vegas Bay and Boulder Basin.

F2-2

All required permits for handling potentially contaminated groundwater will be acquired before construction, and groundwater will be handled in accordance with the requirements of the permits. In addition, all required mitigation measures will be implemented in accordance with NDEP and EPA guidelines. The specific measures to be implemented are unknown at this time.

F2-3 FEIS should provide additional information on specific measures being taken to conserve, reuse, and recycle water and to reduce wastewater production. Please see the enclosed Detailed Comments.

EPA appreciates the opportunity to review this DEIS. We are available to discuss our Detailed Comments. When the FEIS is released for public review, please send two copies to the address above (mail code: CED-2). If you have questions, please contact me at 415-972-3988, or Laura Fujii, the lead reviewer for this project. Laura can be reached at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,

/s/ by Nancy Levin for

Duane James, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures:
Summary of EPA Rating Definitions
Detailed Comments

cc: Michael Boyles, National Park Service
Anthony Vigil, Bureau of Reclamation

2

F2-3

See General Response 2.

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR CLEAN WATER COALITION SYSTEMS CONVEYANCE AND OPERATIONS PROGRAM, DECEMBER 23, 2005

Water Resources

Wastewater Discharge Requirements. The proposed relocation of the wastewater discharge point from Las Vegas Wash to Boulder Basin will remove the discharge from Las Vegas Wash Total Maximum Daily Load (TMDL) and Las Vegas Bay wastewater discharge requirements. Although the Draft Environmental Impact Statement (DEIS) states that the effluent discharge in Boulder Basin will meet Nevada Division of Environmental Protection (NDEP) requirements, it does not provide information regarding these requirements.

F2-4 ***Recommendations:***
The Final EIS (FEIS) should provide specific information on both the current National Pollutant Discharge Elimination System (NPDES) wastewater discharge requirements for Las Vegas Wash and Las Vegas Bay and future requirements for discharge points in Boulder Basin. The FEIS should describe the differences in permitting requirements for the new discharge location, and describe any increase in pollutant loadings (e.g., ammonia, inorganic nitrogen, phosphorus) that may occur in Lake Mead as a result of these changes. We recommend the FEIS provide a general description of the NPDES process, how requirements are developed, and how they are applied and enforced. For instance, describe whether "mixing zones" will be allowed at the new discharge point to meet drinking water quality standards.

Treatment of Contaminated Groundwater. Contaminated groundwater could be encountered during construction of the pipeline. The DEIS states that contaminated groundwater would be handled in accordance with NDEP requirements (pps. ES-6, 4-25). However, it does not describe these requirements or the mitigation measures that would be implemented if contaminated groundwater is encountered.

F2-5 ***Recommendation***:
The FEIS should provide information on actions that will be taken if contaminated or poor quality groundwater is intercepted. Of specific interest are the measures that will be implemented to address perchlorate and high salinity contamination.

The Las Vegas Water Cycle: Ensuring a Long-Term Sustainable Balance Between Water Supply and Demand. A goal of the Clean Water Coalition Systems Conveyance and Operations Program (SCOP) is to accommodate the projected growth in wastewater flow. Concurrently, the Colorado River Basin is experiencing severe drought and the Southern Nevada Water Authority (SNWA) is seeking additional water supply sources. As stated in the DEIS, water supply, water quality, and wastewater generation are all part of the Las Vegas water cycle (p.1-8). As a single interdependent system, the Las Vegas water cycle should be managed holistically to ensure a sustainable balance between

1

F2-4

The wastewater discharge permitting requirements for SCOP have not been determined, but will reflect the water quality standards, which must be met.

The water quality conditions that would occur as a result of the alternatives are presented in Section 4.1 of the Final EIS.

A general description of the NPDES process has been included in Appendix M. The current wastewater discharge permits, issued in July 2006, are also included in Appendix M of the Final EIS.

A reference to this appendix is provided in Section 1.7.3.

F2-5

See response to comment F2-2.

supply and demand and to maximize the beneficial use of the limited water supply. Aggressive water conservation, water reuse, water recycling, and efforts to maintain and enhance water quality can significantly extend the useful life of water and reduce treatment costs.

F2-6 ***Recommendations:***
The FEIS should include specific information on water conservation efforts; and wastewater reuse, recycling, and source reduction. We recommend implementation of measures to reduce wastewater generation, such as reducing impervious cover and over-watering of landscapes, an acknowledged problem (p. 3-20).

Return Flow Credits. An issue of concern is the effect of the SCOP on the calculation of return flow credits. Treated effluent, which is part of the diverted flow that is not consumptively used and returned to the Lower Colorado River System via Lake Mead, earns return flow credits. The DEIS states that return flow credits are important to Nevada because water usage in the state cannot be sustained without return flow credits (p. 1-8).

F2-7 ***Recommendation:***
The FEIS should provide information on how return flow credits are calculated, how they are used, and why they are so critical for sustainable water usage in Nevada. Include an evaluation of the influence of return flow credits on efforts to maximize water use efficiencies, conservation, reuse, and recycling.

Cumulative Impacts to Water Quality. The Lower Colorado River, of which Lake Mead is a key storage component, is an essential water supply for California, Arizona, Nevada, and Mexico. Declining water quality is already a significant concern with major efforts underway to address salinity and contaminants such as perchlorate. Therefore, discharges into Lake Mead and the Lower Colorado River need to be carefully analyzed regarding their cumulative effects on water quality of the entire system.

F2-8 ***Recommendation:***
FEIS should provide a cumulative impact analysis of potential impacts to Lower Colorado River water quality from cumulative wastewater discharges from Lake Mead and other downstream major discharge sources.

Preservation and Enhancement of Las Vegas Wash

Increased Concentrations of Contaminants in Flows. The SCOP would continue to discharge a minimum of 30 million gallons per day (mgd) of effluent flow into Las Vegas Wash. Together with 20 mgd of base flow; the total flow in Las Vegas Wash is expected to be at least 50 mgd (p. 4-27). While the DEIS states this flow is sufficient to sustain the wetlands and riparian vegetation in Las Vegas Wash, the reduction in flow would result in higher concentrations of substances such as perchlorate, total dissolved solids, and

2

F2-6

See General Response 2.

F2-7

A brief description of return flow credits has been added to Section 1.4.1 of the Final EIS. The equation used to calculate return flow credits is complex and long; therefore, it is not included in the EIS.

See General Response 2.

F2-8

The cumulative impacts section, Chapter 5, has been revised to include additional information regarding potential impacts downstream of Hoover Dam.

The discharge of wastewater from the Laughlin Wastewater Reclamation Facility to the lower Colorado River has been included in the cumulative impacts analysis presented in Chapter 5 of the Final EIS. However, we were unable to obtain information regarding future plans for additional wastewater discharges to the lower Colorado River from other sources. Reclamation's NEPA guidance (Reclamation 1990) states, "Future cumulative impacts should not normally be speculative, but based on known long-range plans and other plans developed by agencies, organizations, or individuals." Therefore, speculation regarding future wastewater discharges to the lower Colorado River is inappropriate.

selenium. The DEIS states that monitoring agencies will address this contamination as needed.

F2-9 ***Recommendation:***
The FEIS should describe the specific mitigation measures that monitoring agencies would take if increased contaminants in Las Vegas Wash flows become an issue. Of specific interest are measures that would address selenium, which bioaccumulates and can cause deformities in birds at very low concentrations.

Las Vegas Wash Enhancements. Las Vegas Wash is a valuable regional resource providing important wildlife habitat, recreational opportunities, and ecological services such as nutrient and sediment removal. Much effort is going into the development of the Wetlands Park and construction of erosion control structures. The SCOP would continue minimal discharges into Las Vegas Wash. However, the DEIS does not address the potential need for additional flows to enhance wetland and riparian habitat, or state whether reduced effluent flows lessen the need, funds, or reason to construct erosion control structures.

F2-10 F2-11 ***Recommendations:***
The FEIS should describe in more detail the criteria used to determine the 30 mgd effluent flows for the Las Vegas Wash. Evaluate the need and potential for additional flows to enhance wetland and riparian habitat. For instance, describe the proposed Adaptive Management Plan (AMP) process for developing wastewater allocation criteria between Las Vegas Wash and Boulder Basin.

F2-12 The FEIS should state whether the reduction in effluent flows into Las Vegas Wash modify plans or reduce funding for the construction of erosion control structures and bank protection measures.

Air Quality

Mitigation for Exceedances of Air Quality Standards. Air quality modeling indicates that the National Ambient Air Quality Standards (NAAQS) for Nitrogen Oxides (NO_X) and volatile organic compounds (VOC) will be exceeded due to construction emissions (p. 4-94). The DEIS states that these potential exceedances would be eliminated if construction vehicles use diesel engines that meet the 2007 diesel-engine emission standards (pps. 4-94, 5-15).

F2-13 ***Recommendation:***
A commitment to use construction vehicles with diesel engines that meet the 2007 diesel-engine emission standards should be made in the FEIS.

3

F2-9

Mitigation measures, when necessary, have been presented throughout Chapter 4 for each resource. However, a major component of the preferred alternative is to implement the Boulder Basin AMP. Since the AMP is part of the preferred alternative, it is not considered "mitigation". Through the AMP, agencies will monitor effects of the project once operational, and will manage the effluent as necessary to maintain the objectives identified through the AMP process. A summary of the Boulder Basin AMP is provided in Section 2.2.2.6 of the Final EIS.

F2-10

See General Response 11.

See response to comment F1-10.

F2-11

See response to comment F1-10.

See General Response 10.

F2-12

Erosion control structures and bank protection measures in the Las Vegas Wash are being constructed to handle storm flows. Therefore, the quantity of effluent flows in the Las Vegas Wash has no impact on the ECS plans or funding. Clarifying text has been added to Section 1.4.2.3 of the Final EIS.

F2-13

Text has been added to Section 4.7.6 regarding the use of diesel engines that meet the 2007 emission standards.

General Comments

Section 7 Endangered Species Act Consultation. The DEIS describes the Endangered Species Act (ESA) Section 7 Consultation process. However, it does not describe Section 7 ESA consultation for the SCOP.

F2-14 ***Recommendation:***
The FEIS should include information on Section 7 ESA Consultation for the SCOP. Describe the status of consultation and any project recommendations made by U.S. Fish and Wildlife Service (FWS). State whether the FWS concurs with the conclusions made in the DEIS regarding the potential impacts to razorback sucker populations (p. 4-57) and other threatened and endangered species.

Public Participation in the Adaptive Management Plan. The proposed program includes development and implementation of an AMP. The AMP would refine program operations and develop more specific allocation, monitoring, and management criteria (pps. 2-28, 4-46).

F2-15 ***Recommendation:***
The FEIS should describe how the AMP would ensure coordination and full participation of local, state, and federal agencies; tribes; and the public.

4

F2-14

See response to comment F1-1.

F2-15

See General Response 10.

Fort Mojave Indian Tribe
NORA McDOWELL - Chairperson
SHAN LEWIS - Vice-Chairman
DEBBIE JACKSON - Secretary
COLLEEN GARCIA - Member • MARTHA McCORD - Member
NICHOLE GARCIA - Member • APRIL GARCIA - Member
500 Merriman Avenue • Needles, CA 92363
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December 09, 2005

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV. 89074-6382
E-mail: eis@clealwatercoalition.com

Re: LAME 3031 (LAME-RM)
Fort Mojave Indian Tribe Response Comments

Gentlemen,

The purpose of this letter is to express Fort Mojave Indian Tribe Cultural Preservation comments on the Clean Water Coalition's Proposed Systems Conveyance and Operations Program Environmental Impact Statement of September 2005.

Projected 21ST century potable water needs for the Las Vegas area has prompted this century epic environmental impacting project for satisfying water users in one area and will create untold future environmental and health impact problems for the entire population of southwestern United States and we the Fort Mojave Indian Tribe just below Hoover Dam are the next users of the waters in question.

Water Rights. The Fort Mojave Indian Tribe is one of five Indian Tribes whose water rights in the Colorado River were quantified in Arizona v. California, 363 U.S. 546 (1963), decree 376 U.S. 340 (1964), supplemental decree, 439 U.S. 419 (1979); Arizona v. California, 460 U.S. 605 (1983), second supplemental decree, 466 U.S. 144 (1984). The Tribe's priority dates of 1890 and 1911 rank among the highest terms of priority on the Colorado River. Moreover, the Arizona v. California Decree provides in part that "[i]n the event of a determination of insufficient mainstream water to satisfy present perfected rights" the Secretary of the Interior (who administers the decree) shall "first provide for the satisfaction in full" of all rights of the five Tribes. Supplemental Decree, 439 U.S. 419 at 421 (1979) (emphasis added). Thus, in the event that less than the full water allocation made by the Decree for the States of Arizona, California and Nevada is available, all of the five Tribes' needs are to be satisfied first.

-1-

Response T-1 Fort Mojave Indian Tribe

We have reviewed the ES.2 Summary of Proposed Alternatives and this EIS asks for us to express comments of the proposed three action (pipeline) alternatives and the No Action (or no pipeline) Alternative and cast our consensus for:

T1-1 **ES.2.1- No Action Alternative.** Under the no action alternative we understand that there will be no pipeline with direct effluent discharge directly into the lake which has a lesser environmental impact on the inhabitants below the dam. The Fort Mojave Indian Tribe recommends improvements made to the present waste discharge systems to meet highest EPA standards; however, additional alternatives also need to be examined in disposing of direct effluent into the Las Vegas Wash.

T1-2 ES.2.2, ES.2.3 and ES.2.4 which are all pipeline alternatives that will discharge hundreds of millions of gallons of effluent directly into the lake daily and eventually down stream the only difference being the specific alternate site location and all having the same ending environmental impact on the inhabitants of the southwest region of the United States. **NO!**

With great interest we read Chapter 3.0- Affected Environment and in particular 3.3 Cultural Resources which in part states,

> A TCP is "….[a property] that is eligible for inclusion in the National register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (NPS 1998).

While we are not implying these areas (pipe alternative areas) belong on the National Register of Historic Places but the spirit of the eligibility criteria is clearly our Tribal sentiments relating to our cultural beliefs and religion where our ancestral stories carries us to these "community areas" where our people communed, lived had a "continuing cultural identity of community" for millenniums.

Our ancestral stories tell us we came to the Great River Valley at our present location of the "three corners area" millenniums ago before other peoples arrived here and it was here the Great Spirit Mata-vilya gave us this land and for us to be stewards of the spirit given land. Our stories tell us the Creation Story starting with Spirit Mountain to the north of our valley and from the north came the great source of life, "the Great River" and because of this sacred source of life, the river, life would abound forever here in the river valley for the People. This river valley became the center of the Earth and all the trails went to all the directions of the Earth including the trail to the north which took us to what is now known as Las Vegas Wash which became apart of our ancestral history.

-2-

T1-1

Treated wastewater from the Valley has been treated and discharged to Lake Mead via the Las Vegas Wash since 1956. Treated wastewater flows will continue to be discharged to Lake Mead, even under the No Action Alternative.

Treated effluent discharged, whether via the Las Vegas Wash or a pipeline, meets CWA standards.

See General Response 1.

No change to the Executive Summary is necessary.

T1-2

Comment noted.

When the "white man" came we were a healthy people and numbering in the thousands in this river valley and he brought what he thought was a good idea but it was full of environmental problems of sickness and diseases to where in the 1950s we numbered less than 500 members, we almost became extinct because of so called environmentally sound ideas. Our Elders told us the white man thinks the dams are a good idea and the Elders told us the natural flooding was Mother Earths way of "flushing her toilet" cleansing the land of salt by-products and we are now experiencing the consequence of this "environmentally good idea" and we have caused Mother Earth to become constipated.

Now today in this 21ST Century the latest "good environmental idea" is to flush the toilets of Las Vegas into our source of life, our drinking water, into the river where water is obtained to farm the land and where our families by recreation enjoy the source of life in this desert region, the Colorado River Valley.

This entire region from the Las Vega Wash to Yuma is our ancient ancestral lands where "cultural practices and beliefs created a living community" and "are rooted in our community (cultural) history. Today as we stand on sacred ground at the southern end of the valley known as the "maze", and we look to the north and survey our spirit given land, the land of the AhaMakav, the People Who Live Along the Water and we observe the start of creation, Spirit Mountain and the sacred river of life coming from the north, we join in with the spiritual cry of our ancestral Elders to "stop desecrating this sacred land" and as the tradition continues we accepting our responsibility as stewards of the land that was given to us. We stand to defend the river which is our namesake and we publicly voice our "scoping comments" to be construed as **"No Action Alternative."**

We hope this will be a useful as a decision-making document for this complex situation and that the final answer will preserve the quality of the wash, the lake, river and our drinking water.

Sincerely,

Shan Lewis, Vice Chairman
Fort Mojave Indian Tribe

cc: FMIT Council
FMIT Environmental Protection Office
Bureau of Reclaimation
Bureau of Indian Affairs
AhaMakav Cultural Society Files

-3-

KENNY C. GUINN
Governor

STATE OF NEVADA

JOHN P. COMEAUX
Director

RECEIVED
NOV 28 2005
PBS&J

DEPARTMENT OF ADMINISTRATION
209 E. Musser Street, Room 200
Carson City, Nevada 89701-4298
Fax (775) 684-0260
(775) 684-0213

November 21, 2005

PBS&J
2270 Corporate Circle
Suite 100
Henderson, NV 89074

Re: SAI NV # **E2006-125** Reference:

Project: **Clean Water Coalition Systems Conveyance and Operations Program**

Enclosed are the comments from the following agencies regarding the above referenced document:

State Historic Preservation Office

These comments constitute the State Clearinghouse review of this proposal as per Executive Order 12372. Please address these comments or concerns in your final decision. If you have questions, please contact me at (775) 684-0209.

Sincerely,

Kimberley Perondi
Nevada State Clearinghouse Coordinator/SPOC

Enclosure

Response S-1 Nevada State Clearinghouse, Department of Administration, Budget and Planning (State of Nevada – State Historic Preservation Office)

Rebecca Palmer

From: Kim Perondi [kperondi@budget.state.nv.us]
Sent: Friday, September 30, 2005 1:15 PM
To: Rebecca Palmer
Subject: E2006-125 Clean Water Coalition Systems Conveyance and Operations Program - PBS&J

NEVADA STATE CLEARINGHOUSE
Department of Administration, Budget and Planning Division
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298
(775) 684-0209 Fax (775) 684-0260
DATE: September 30, 2005

State Historic Preservation Office

Nevada SAI # E2006-125
Project: Clean Water Coalition Systems Conveyance and Operations Program

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

http://budget.state.nv.us/clearinghouse/Notice/2006/E2006-125.pdf

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than Friday, November 18, 2005.

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Kim Perondi, Clearinghouse Coordinator, (775) 684-0209 or kperondi@budget.state.nv.us.

____No comment on this project ____Proposal supported as written

AGENCY COMMENTS:

Signature: Rebecca A Palmer Date: 11/7/05

RECEIVED NOV 08 2005 DEPARTMENT OF ADMINISTRATION OFFICE OF THE DIRECTOR BUDGET AND PLANNING DIVISION

1-1 The SHPO reviewed the subject document. The SHPO has no record of ever receiving the cultural resource inventory report mentioned on page 3-46. In order for this office to comment on the federal agencies' determination of National Register eligibility and effect, the SHPO recommends that the Federal agencies submit this document and their determinations at their earliest convenience. If you have any questions concerning this correspondence, please contact me by phone at (775) 684-3443 or by E-mail at rlpalmer@clan.lib.nv.us.

1

S1-1

The Cultural Resource Inventory Report was submitted to the State Historic Preservation Office (SHPO) by the lead federal agencies on March 13, 2006. Consultation with SHPO and the Advisory Council for Historic Preservation has been completed. A Programmatic Agreement has been initiated to ensure that the agreed-upon mitigation measures are implemented to protect cultural resources in the project area.

STATE OF CALIFORNIA - THE RESOURCES AGENCY
ARNOLD SCHWARZENEGGER, Governor
COLORADO RIVER BOARD OF CALIFORNIA
770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1035
(818) 500-1625
(818) 543-4685 FAX

December 2, 2005

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV 89074-6382

The purpose of this letter is to provide the Bureau of Reclamation, Lower Colorado Region (Reclamation) and the National Park Service, Lake Mead National Recreation Area (NPS) with the comments of the Colorado River Board of California (CRB) on the Draft Environmental Impact Statement (DEIS) prepared for the Clean Water Coalition Systems Conveyance and Operations Program (SCOP). The CRB is greatly interested in the appropriate management of the quantity and the quality of Colorado River water. The CRB staff have reviewed the DEIS and have several comments and concerns that are discussed in this letter.

Reclamation and the NPS are preparing the EIS as joint-lead federal agencies to evaluate the potential impacts associated with the construction, operation, and maintenance of the SCOP. The Clean Water Coalition (CWC), comprised of the three agencies currently responsible for wastewater treatment in the Las Vegas Valley, proposes to implement the SCOP. The SCOP includes an Effluent Interceptor (EI) pipeline plus one or a combination of alternatives to discharge the treated effluent into the Lower Colorado River system via Lake Mead. The SCOP provides an alternate discharge point for the effluent, which is currently discharged into Lake Mead through the Las Vegas Wash.

The DEIS indicates that the CWC needs a system that provides maximum flexibility for management of treated effluent to:

- Meet current and future water quality standards for known pollutants, and as yet unknown standards for additional contaminants that may be regulated in the future.
- Protect and enhance the Lake Mead National Recreation Area (LMNRA) by continuing to meet beneficial uses and recreational and resource values of the LMNRA, while more than doubling the treated effluent flows discharged to Lake Mead.
- Accommodate Lake Mead's lowering water level, which is important because the amount of mixing and dilution available in the inner Las Vegas Bay is also decreasing as the Lake's water surface level decreases.
- Avoid possible impacts to source water quality at the Southern Nevada Water System's intake structures.

The DEIS presents four alternatives for dealing with the discharge of the three areas' wastewater treatment plants' effluents into Lake Mead or through Las Vegas Wash. One of the alternatives is the

Response S-2 Colorado River Board of California (State of California)

SCOP EIS Manager
December 2, 2005
Page 2

"NO ACTION" alternative and the other three are "ACTION" alternatives. The three action alternatives include the Boulder Island North Alternative (preferred alternative), the Boulder Island South Alternative, and the Las Vegas Bay Alternative.

The three action alternatives include the EI and the Lake Conveyance System (LCS) that would transport the treated effluent to Lake Mead. Under the No Action Alternative, CWC would not construct pipelines to transport effluent from the treatment facilities. Current, conventional treatment processes and plant optimization would be used to meet the requirements set by the Nevada Division of Environmental Protection (NDEP) through the National Pollutant Discharge Elimination System (NPDES) permitting program.

The CRB's general and specific comments and concerns are summarized as follows:

A. General comments

S2-1

1. In reviewing the draft EIS, the CRB has observed that there is no discussion or analysis related to potential effects or impacts associated with the proposed SCOP project on long-term implementation of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). As you may be aware, the LCR MSCP is a large-scale, fifty-year, multi-species habitat restoration and conservation program and encompasses a program planning area from Lake Mead to the Southerly International Boundary with Mexico.

   The CRB is a member of the LCR MSCP Steering Committee which is currently comprised of representatives from several federal agencies, the three Lower Colorado River Division states, Native American Tribes, local and county governments, and other stakeholder interest groups. The LCR MSCP, over the fifty-year implementation period, will result in the restoration and maintenance of over 8,100 acres of native wetland and riparian habitats and the reintroduction of over 1.2 million endangered razorback suckers and bonytail into mainstream aquatic habitats. Specific information related to long-term LCR MSCP implementation can be found at: http://www.usbr.gov/lc/lcrmscp/index.html.

   The Board requests that the Final SCOP EIS include relevant analyses and related discussion regarding potential impacts and effects to long-term LCR MSCP implementation associated with implementation of the proposed SCOP project.

2. The DEIS has focused on alternatives for discharging most of the treated wastewater directly into Lake Mead. Currently, these treated effluents are being discharged into Las Vegas Wash. With implementation of SCOP, the Las Vegas Wash would receive about 10 percent of the flow in the future. It appears that the assumption is that the current level of treatment at the wastewater treatment plants would be maintained (although it is mentioned that

S2-1

See General Response 9.

SCOP EIS Manager
December 2, 2005
Page 3

S2-2 optimization would be implemented if necessary). A significant question raised by this assumption is: why there is no mention of encouraging and expanding the use of reclaimed water as the effluent flows increase in the future? If the water reuse alternative had been evaluated, a different conclusion might have been reached. There are many potential uses of reclaimed water. For example, among many other uses, almost all of the effluent from the plants, if treated with membrane technology, could be used for groundwater recharge and replenishment as well as provide for habitat restoration in the Las Vegas Wash. This alternative would have many advantages including providing a reliable source of water for the Las Vegas Valley while less salt, nutrients and other contaminants would reach Lake Mead and the Colorado River system. The CRB recommends that various options related to the reuse of water be analyzed as an alternative in the final EIS.

B. Specific comments

1. The DEIS indicates that as part of any of the action alternatives, a SCOP Adaptive Management Plan (SCOP AMP) would be designed and implemented. It appears that the SCOP AMP is an important element of the preferred alternative. The DEIS indicates that the SCOP AMP would address:

- Maximization of the system's operational flexibility;
- Establishment of objectives regarding protection of natural resources and water quality;
- Management of flows to meet water quality and recreational requirements;
- Management of flows to optimize basin water quality for drinking water protection and natural resource and recreational requirements;
- Protection and maximization of return flow credit;
- Adjustment of treatment levels at the water reclamation facilities;
- Adjustment of effluent delivery between Las Vegas Wash and the Boulder Islands depending on Lake conditions, depths, seasonal conditions, and other variables that could impact water quality in the Boulder Basin and through Hoover Dam;
- Monitoring of water quality parameters based on federal and state water quality standards and the objectives of the SCOP AMP;
- Establishment of target parameter-concentration ranges, based on the SCOP AMP objectives that would require action;
- Establishment of guidelines for resolution of uncertainty within the operational system.

S2-3 From the above, one would conclude that the SCOP AMP is an important document and is a critical element of the preferred alternative (or any of the action alternatives). However, this AMP document is not presented as part of the DEIS process for public review and comment.

S2-2

See General Response 2.

S2-3

See General Response 10.

Every gallon of Colorado River water that is used in Las Vegas and is returned to the Colorado River system produces a gallon that can be re-used again. Nevada's consumptive rights to Colorado River water total 300,000 AFY. But, Nevada is able to divert nearly 480,000 AFY because of return flow credits. Water is a very important resource to Nevada and all the Colorado River states in this time of drought.

The SNWA is implementing aggressive water conservation measures in the Valley. These measures are not part of the SCOP. The goal of the water-conservation measures is to reduce the actual water use in the Valley. Although the results of conservation efforts affect the urban-runoff flows in the Las Vegas Wash, the wastewater treatment agencies are not responsible for urban runoff. A list of the water conservation measures being implemented by SNWA has been added to Section 1.4.1.3. A reference to Section 1.4.1.3 has been added to Appendix D, Section D.1.3.1.

SCOP EIS Manager
December 2, 2005
Page 4

The CRB recommends that the SCOP AMP be provided as an integral part of the final EIS for review and comment. Furthermore the CRB questions the objective to maximize the return flow credit. It would seem that the objective should be to maximize water conservation in accordance with best management practices.

S2-4 2. Among the current three action alternatives, it appears that the Las Vegas Bay Alternative would be a more favorable alternative for Lake Mead and downstream uses. The CRB recommends that the Las Vegas Bay Alternative be selected instead of the Boulder Island North Alternative (preferred alternative). However, we believe that if the water reuse alternative described above is included and analyzed in the final EIS, it is likely that it would become the preferred alternative.

S2-5 3. In Chapter 4.0 (Environmental Consequences) on page no. 4-9, the approach to surface water quality analysis is described. It is indicated that the modeling results for year 2030 flows and Lake levels of 1,178 ft and 1,000 ft as well as the year 2050 flows and Lake levels of 1,178 ft and 1,000 ft are considered for evaluations in relation to the baseline conditions. However, no modeling results are presented for the 2050 flows and the Lake level of 1,000 ft, except in Appendix D. Also, it should be mentioned that in the event of a sustained severe drought, there is no guarantee that Lake Mead's water surface level would not fall below 1,000 ft.

S2-6 4. The DEIS discusses the advantage of moving the effluent discharge point to obtain greater mixing and more dilution. However, by moving the discharge point, as proposed, there will be less mixing and less dilution for the downstream users and greater impacts on the aquatic resources below Hoover Dam. Some of these negative impacts might be offset by considering advanced tertiary treatment. This option of advanced tertiary treatment should be fully discussed in the final EIS.

In conclusion, the CRB appreciates the opportunity to provide comments on the DEIS. Please ensure that the CRB receives any future documents related to the DEIS, and receives a copy of the final EIS when it is released. Please feel free to contact me at (818) 500-1625 if you have any questions or require additional information.

Sincerely,

Gerald R. Zimmerman
Executive Director

S2-4

See General Response 2.

At Lake levels of 1,000 ft the remnants of the Las Vegas Bay are not sufficient to assimilate the discharge of effluent, even if the effluent were treated to phosphorus levels below 0.02 mg/L. There would be water quality standard exceedances that are unacceptable to the regulatory agencies and SNWA.

S2-5

Section 4.1 has been revised to present the 2030 and 2050 year flows.

As explained in Section 1.5 of the Final EIS, the 1,000-ft (305-meter [m]) Lake level is used for planning purposes in this EIS because it is the level that has been discussed by the Colorado River states to be "protected" in future drought conditions, and has most recently been agreed to in the *Seven Basin States Preliminary Proposal Regarding Colorado River Interim Operations*.

S2-6

See General Response 1.

SCOP EIS Manager
December 2, 2005
Page 5

C: Mr. Robert W. Johnson, Regional Director, USBR-LC-1000
Mr. George Cann, Executive Director, Colorado River Commission of Nevada
Mr. Herbert R.Guenther, Director, Arizona Department of Water Resources

ARIZONA DEPARTMENT OF WATER RESOURCES
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December 4, 2005

Janet Napolitano
Governor

Herbert R. Guenther
Director

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV 89074-6382

Re: Clean Water Coalition Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement

Dear Sir/Madam:

The Arizona Department of Water Resources (Department) is a permittee under the Lower Colorado River Multi-Species Conservation Program, which provides regulatory coverage, under the Endangered Species Act, for permitted activities for users of Colorado River water in
S3-1 Arizona. It is not clear how the alternatives considered would affect species, and conservation measures for those species, addressed by the LCR MSCP, including those listed by the Fish and
S3-2 Wildlife Service as threatened or endangered. It is not clear how the quality of effluent collected prior to flowing through Las Vegas Wash and released from a pipe directly into Lake Mead will vary from the present situation with effluent flowing through wetlands along Las Vegas Wash. It is also not clear how increasing Chlorophyll *a* concentrations in water discharged from Hoover
S3-3 Dam might affect reproduction of razorback sucker in Lake Mohave. Clarification of these points is suggested.

The Department appreciates the opportunity to review this draft environmental impact statement and we wish to remain on the project mailing list. If you have any questions please contact me at 602 771-8412. Please note that the agency mailing address has changed to Arizona Department of Water resources, 3550 N. Central Ave., Phoenix, AZ, 85012.

Sincerely

William E. Werner
Environmental Program Manager

Celebrating 25 Years

Response S-3 Arizona Department of Water Resources (State of Arizona)

S3-1

See General Response 9.

S3-2

The wastewater treatment facilities in the Valley are some of the best in the nation--the quality of treatment is in the top 7 percent of wastewater treatment facilities in the nation.

The wastewater discharge permitting requirements for SCOP have not been determined, but will reflect the water quality standards, which must be met. The current wastewater discharge permits were renewed in July 2006 and are included in Appendix M of the Final EIS.

S3-3

The ELCOM/CAEDYM modeling does not indicate any changes in chlorophyll *a* concentrations passing through Hoover Dam as a result of any of the alternatives (see Figures 4.1-3 and 4.1-5). This is a result of chlorophyll *a* existing only in the photic zone, located well above the elevations of the dam outlets. Parenthetically, it may be expected that the No Action Alternative would be the most susceptible to increased chlorophyll *a* concentrations through Hoover Dam, since modeling of this alternative indicated increased algae concentrations in Lake Mead.

These effects as modeled are negligible and not likely to affect razorback suckers in Lake Mohave.

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Southern Region
December 7, 2005

NDOW-SR#:06-52

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson NV 89074-6382

RE: **Systems Conveyance and Operations Program Draft EIS (DEIS)**

Dear Sir/Madam:

The Nevada Department of Wildlife (NDOW) has reviewed the subject DEIS and is supportive of the need to identify and implement a long-term solution for the return or disposal of treated effluent from the Las Vegas Valley. And we certainly appreciate the great amount of effort over the many years spent in developing the proposed project alternatives and analysis found in the DEIS. In view of the years elapsed for developing the detailed analysis of stated preferred alternatives two themes emerged.

S4-1 • There would seem opportunity to include consideration of any new wastewater treatment and effluent handling technology potentially arising since the 1990s; such could offer a number of additional alternatives for substantially reducing environmental consequences.

S4-2 • The descriptive approach taken in the DEIS concerning the affected environment and effects analysis relative to biological / human environment resources could be expanded. The DEIS seems to suggest that there is no substantive need to extend the description and analysis beyond species or environmental considerations which are of T&E status or otherwise recognized as sensitive or protected. Specific to aquatic species for example, Lake Mead supports a significant and diverse fish fauna comprising the largest sport fishery in the State of Nevada. This fact is poorly described in the document and is essentially lacking in the effects analysis despite the potentially significant impacts that the selected alternatives could have on this important public resource.

Enclosed are a number of specific comments which are identified by page number and document section, but those are preceded by more general observations and comments.

Response S4 Nevada Department of Wildlife (State of Nevada)

S4-1

See General Response 1.

S4-2

A description of sport fishing at Lake Mead has been added to Section 3.2.3.3 of the Final EIS. The impacts to the sport fishery are presented in Section 4.2.

General comments:

Purpose and need

NDOW concurs with the purpose and need for the action, specifically the implementation of an effective long-term strategy for return of treated effluent from the Las Vegas Valley in a manner which minimizes future negative environmental consequences from that increasing volume of effluent. We are concerned, however, that the three action alternatives selected for analysis are highly limited, technologically constrained, and do not reflect the full scope of potential options, particularly in that new technologies are evolving or are now available which could considerably expand the potential number of options for analysis. Although the total volume of effluent projected over the analysis timeline to 2030 may still require some elements of pelagic diffusion such as described in the DEIS, additional hybrid options considering or incorporating actions such as enhanced effluent constituent removal and/or microfiltration/reverse osmosis treatment should receive further consideration. As a further concern, the proposed substantial reduction of effluent flows directed to Las Vegas Wash under all the action alternatives could represent a significant increase in risk for both terrestrial and aquatic wildlife species, by increasing the relative concentration of potentially harmful non-effluent constituent compounds from groundwater and urban runoff input sources in the remaining Wash discharge. At the least, analysis should have included some evaluation of varying levels of Wash flow maintenance as potential operating scenarios, to assess the relative impacts of Wash flow reduction on biological resources. These concerns are rather summarily dismissed in the DEIS as insignificant, without foundation. NDOW participated in several workshops as part of the initial Alternate Discharge Study; we were then and are still concerned that a number of promising alternative strategies were rather summarily dismissed without adequate consideration of possible hybrid strategies which would incorporate continued Lake Mead discharge with other technologies and options.

S4-3

S4-4

Adequacy of the biological description and effects analysis

As indicated in some of our following detailed comments, we are very concerned over the inadequacy of the biological descriptions of the affected environment and subsequent effects analysis for various alternatives relative to those biological resources. In particular, the sport fishery resource in Lake Mead and Lake Mohave are essential ignored in the DEIS in terms of both description and analysis. That important public resource is the single largest recreational fishery in the State of Nevada, representing over 425,000 angler use days per year with an economic impact on Clark County exceeding $95 million annually. A cursory examination of projected effects of the action alternatives on the aquatic environment of Lake Mead suggests potentially significant impacts to that sport fishery, particularly in relation to the alterations which would occur in the distribution and concentration of nutrients important for the forage production supporting that world-class fishery, which occurs largely in Las Vegas Bay. The absence of any adequate analysis of those effects causes us to question the adequacy of the DEIS effects analysis on biological resources as a whole.

S4-5

S4-3

See General Response 1.

S4-4

See General Response 11.

Additional information addressing the existing conditions and the impacts of the proposed SCOP on biological resources has been inserted into the Final EIS in sections 3.2 and 4.2.

S4-5

The information addressing the existing conditions and the impacts of the proposed SCOP on the sport fishery in Lake Mead has been inserted into the Final EIS in Section 3.2.3.3 and Section 4.2.

Other down stream effects

S4-6 Similarly, although the DEIS identifies increases in effluent TP through Hoover Dam as a result of any of the action alternatives (Table 2.8-1), this potential impact is not discussed or addressed adequately anywhere in the DEIS text relative to water quality or biological resources. Areas downstream of Hoover Dam have been identified for extensive conservation actions through the Lower Colorado River Multi-species Conservation Program for activities including the restoration and maintenance of important native riparian and wetland habitats and stocking of native fish species, all of which could be affected by alterations in constituent components of downstream flows. Given those ongoing conservation actions, the globally important population of razorback suckers in Lake Mohave, the presence of other listed and protected aquatic species, and Lake Mohave's important public sport fish resources, additional analysis is needed to identify and explain potential effects.

Effects on other special status and terrestrial species

S4-7 As a general comment, we are concerned over the absence of detail, particularly in analysis, for special status species other than those which are federally recognized. Independent of aquatic habitat effects, the Las Vegas Bay action alternative would have the least effect on important terrestrial wildlife species. Infrastructure development for the Boulder Island alternatives through the River Mountains could have potential effects for peregrine falcon nesting territories, disturbance to desert bighorn sheep, desert tortoise, Gila monster, chuckwalla among other migratory, volant wildlife. We support the use of underground tunneling to limit potential disturbance to these species, but any surface activities in this area should be limited in the January to June period to limit disturbance to at least peregrine falcon nesting territories and desert bighorn sheep lambing.

Specific comments:

Page #

ES-8 ES.3.2.1:

S4-8
- 1st full ¶ on this page suggests that increased effluent input would somehow result in increased bank or shoreline vegetation which would provide enhanced cover and habitat suitability for native and sport fish species under increasing reservoir storage conditions. The production and availability of shoreline vegetation is more likely independent of wash flows and would be similar under any flow conditions, and potentially could be decreased under higher flows and reduced future lake levels due to incision of the wash channel at and above the Lake Mead interface.

S4-9
- ¶ 3 suggests effects from endocrine disruptors and emergent constituent compounds which ignores the potential for improvements in removal technology ongoing and likely to occur prior to project operation, and identifies potential effects to species which are not yet well demonstrated.

S4-6

The descriptions of the pipeline alternatives have been revised to indicate that under normal operating conditions, the TP discharged to Lake Mead would not exceed 334 lbs/day on an annual average basis. Modeling indicates that there would be no change to the water quality downstream of Hoover Dam. Therefore, there would be no impact to aquatic species below Hoover Dam. The revised alternatives are described in Chapter 2 of the SCOP Final EIS, and potential impacts are described throughout Chapter 4.

See General Response 9.

S4-7

As stated in 4.2.4.2.2, the impacts on wildlife from the construction of the Las Vegas Bay Alternative would be the same as those resulting from the construction of the Boulder Islands North Alternative. Surface disturbance in the River Mountains would not occur during tunneling of the LCS.

Text has been added to Section 4.2.2.2.2 to explain disturbance and potential impacts to bighorn sheep, reptiles, and migratory bird species.

S4-8

Increased effluent flows would likely widen the saturated substrate zone in the Las Vegas Wash because ongoing construction of ECSs that serve to arrest headcutting would also cause the low-flow channel to become wider at some locations. A larger saturated area would encourage the expansion of riparian plant and wetlands communities. It is likely that these communities would steadily expand in area as effluent flows to the Las Vegas Wash increase.

At the Lake Mead interface, however, Las Vegas Wash flows may or may not increase shoreline vegetation and potential habitat for fish species. Text relative to shoreline conditions in Lake Mead (Las Vegas Bay) has been deleted.

The Executive Summary has been revised.

S4-9

See General Response 6. No change to the Executive Summary is required.

S4-10 ES-9 ES.3.2.2. ¶ 7&8 this page, and 1st ¶ page ES-10: We concur that direct mortality on razorback sucker or other fish species as a result of dredging actions is unlikely, but this still could occur. Particularly disturbing is the absence of any description of potential effects on important sport and forage fish species such as striped bass and threadfin shad, which in Lake Mead are pelagic for much of their life cycle and could have significant short term impacts from construction activities, and significant long term effects from system operation, as described here including effects on dispersal, seasonal movement, forage patterns and behavior. Certain sport fish species including panfish and largemouth bass are highly dependent on near-shore littoral habitats for elements of their life cycle and construction actions would be expected to have effects on available habitats for those species as indirect and direct effects as described in the text only for razorback sucker. ¶ 1 on page ES-10 suggests potentially significant effects on nutrient quality in inner Las Vegas Bay and the Las Vegas Wash interface. This area of the Boulder Basin is of tremendous importance for annual production of threadfin shad which is the primary forage source for striped bass and other sport fish species. Project effects altering this complex and dynamic nutrient input and distribution could have significant and wide-spread impacts on the Lake Mead sport fishery, but this is not mentioned here.

S4-11 ES-11 ES.3.4: This section does not identify sport angling as a component of recreation activities on Lake Mead, or include any discussion of effects to that activity as a result of any of the project alternatives. Both direct construction impacts, and indirect construction effects such as displacement, noise and disturbance, during the October to March period could have significant impacts on sport fish species and on sport angling recreation activities. The fall and early winter months represent an important period for sport angling activity, particularly in the Boulder Basin, which continues through the winter months with shore angling for salmoind species.

S4-12 2-78 Table 2.8-1: Surface Water Quality impacts as described for the Boulder Island action alternatives in this table mention the reduction of nutrients into inner Las Vegas Bay but do not address the functional impact of this reduction, which is redistribution of this nutrient loading in Boulder Basin and potentially to locations downstream of Hoover Dam as implied by the increase in TP discharge through Hoover identified for all three action alternatives. The description for the Las Vegas Bay action alternative does not identify the functional reduction in nutrient loading to areas of Las Vegas Bay upstream of the proposed discharge point, which is a significant effect for those aquatic habitats.

S4-13 2-79 Table 2.8-1: The summaries of Biological Resources impacts for all action alternatives do not address the potential effects of nutrient redistribution to Boulder Basin and Colorado River aquatic habitats (see comment above) which is a potentially significant impact on all native and nonnative fish species in Lake Mead and downstream habitats.

S4-14 2-82 and 2-83 Table 2.8-2: This table is not tied to any narrative in Section 2 of the DEIS which would provide detail or explanation of the proposed mitigation measures. Specific to Biological Resources, it is unclear what aquatic species, if any would be

S4-10

See General Response 9.

Information regarding the existing conditions and potential impacts to the sport fishery has been added to sections 3.2, 3.4, 4.2, and 4.4.

No change to the Executive Summary is required.

S4-11

A description of sport fishing in Lake Mead has been added to Section 3.2.3.3 of the Final EIS. The potential impacts to fish are described in Section 4.2 and the potential impacts to sport fishing, as a recreational activity, is described in Section 4.4.

The Executive Summary has been updated as necessary.

S4-12

Table 2.9-1 of the Final EIS (formerly Table 2.8-1 of the Draft EIS) has been updated.

The descriptions of the pipeline alternatives have been revised to indicate that under normal operating conditions, the TP discharged to Lake Mead would not exceed 334 lbs/day on an annual average basis. Modeling indicates that there would be no change to the water quality downstream of Hoover Dam. Therefore, there would be no impact to aquatic species below Hoover Dam. The revised alternatives are described in Chapter 2 of the SCOP Final EIS, and potential impacts are described throughout Chapter 4.

The impacts to the inner Las Vegas Bay would be the same as those described for the Boulder Islands North Alternative in Section 4.2.2.

S4-13

Table 2.9-1 of the Final EIS (formerly Table 2.8-1 of the Draft EIS) has been updated. However, the table presents only a brief summary of impacts. Additional information regarding potential impacts is presented in Section 4.2 of the Final EIS.

S4-14 specifically included in the mentioned "pre-construction surveys". Given potential direct and indirect impacts to sport and forage fish species in Lake Mead from the proposed project construction and operation, development of a detailed pre-construction assessment is essential; dependent on an adequate analysis of impacts on these species from operation of the selected alternative (which is not included anywhere in the DEIS) appropriate mitigation will need to be developed for effects and impacts to this important public resource. Given the particular sensitivity to effects of razorback sucker and the potential for construction and other effects to occur in the vicinity of active razorback sucker spawning depending on the selected alternative, a 100 yard exclusion zone for this species may not be adequate.

S4-15 3-21 3.1.3.3.2: We disagree with the general statement that "Las Vegas Wash is considered poor habitat for most fish". The Wash and particularly associated developed wetlands and other habitats in the wash support viable populations of a variety of primarily nonnative fish species. It is unclear how the development of "ECSs" (presumably erosion control structures) has contributed to the alleged "poor fish habitat". Although in some cases these structures may act as upstream movement barriers, they have contributed to enhanced stability and reduced local flow velocities in the Wash which would seem to be beneficial for aquatic habitat quality.

S4-16 3-42 3.2.3.: The description of aquatic resources for lakes Mead and Mohave is inaccurate and inadequate, particularly as it pertains to the extremely important sport fishery supported by these reservoirs. Smallmouth bass *Micropterus dolomieu* and green sunfish *Lepomis cyanellus* also occur in Lake Mead and Lake Mohave, respectively. The species of crappie which occurs in Lake Mead is the black crappie, *Pomoxis nigromaculatus*. Not included in this section, or anywhere else in the DEIS, is any adequate description of the nature and scale of these sport fisheries which represent the first and fourth largest sport fisheries in the State of Nevada in terms of angler use days and yield an average annual harvest of over 1 million sport fish annually to anglers. Given the critical nature of nutrient loading and distribution to, in particular, the sport fishery in Lake Mead's Boulder Basin, an adequate description of and analysis of effects to this important public resource is essential to the validity of the final EIS.

S4-17 3-44 3.2.2.1: The discussion in this section for razorback sucker and bonytail is facile and oversimplified. Although bonytail do not now occur in Lake Mead, they are present in Lake Mohave which as identified in the DEIS has potential for effects from the increase in nutrient loading downstream of Hoover Dam. The last ¶ of this section states that "a small population of razorback suckers is present in Lake Mead, and directly behind Hoover Dam". The meaning of this statement is unclear. At least two defined and relatively independent populations of razorback sucker occur in Lake Mead focused on the inner Las Vegas Bay in the Boulder Basin and the Echo Bay area of the Overton Arm. Although adult fishes likely use pelagic reservoir habitats to some extent, Lake Mead razorbacks could not be accurately described as extensively occurring "directly behind Hoover Dam". If this is a reference to razorback suckers in Lake Mohave, that is not an accurate description of their spatial distribution in that reservoir below Hoover

(S4-13 continued)

The reduction of effluent flows to the Las Vegas Wash would reduce the TP loading to the inner Las Vegas Bay. This would potentially impact fish in Boulder Basin by reducing the algae and forage fish abundance in the Las Vegas Bay. The likelihood of the fish adapting to new locations of effluent discharge, the availability and contribution of the discharge to primary production, and the time required to attain full utilization of the nutrients by fish is uncertain.

S4-14

The mitigation measures are described in the appropriate sections of Chapter 4. Table 2.9-2 of the Final EIS (formerly Table 2.8-2 of the Draft EIS) has been updated. However, the table presents a summary of mitigation measures. Additional information regarding the mitigation measures that would be implemented are presented in Section 4.2 of the Final EIS.

Pre-construction surveys for fish would not be conducted. Existing studies provide information regarding fish presence in the project area, and existing biological opinions do not require pre-construction fish surveys. However, should surveys be identified during the Section 7 consultation as an appropriate mitigation measure, surveys would be conducted.

Existing biological opinions for projects in the vicinity of the proposed alternatives indicate that a 100-yard exclusion zone is adequate.

S4-15

The statement has been deleted. Please refer to Section 3.2.3 for descriptions of the sport fish and razorback sucker that exist in the Las Vegas Bay.

S4-16

A description of sport fishing in Lake Mead has been added to Section 3.2.3.3 of the Final EIS. The potential impacts to fish are described in Section 4.2 and the potential impacts to sport fishing, as a recreational activity, is described in Section 4.4.

Dam.

S4-18 3-59 3.4: This section on Recreation contains essentially no reference to, and no accurate description whatsoever of the Lake Mead sport fishery, which is a key component of recreational activities on the reservoir and represents an average of over 340,000 angler use days per year (2000-2004) with an economic value in excess of $77 million per year to Clark County and southern Nevada. Lake Mohave and the Colorado River below Davis Dam contribute an additional 85,000 angler days or more per year with a proportional economic contribution. An accurate and thorough description of this activity is essential to the validity of the DEIS and its analysis of project effects, particularly given the potential effects of the preferred alternatives on the public sport fish resource as we have described previously. ¶ 2 on page 3-63 does contain a passing reference to the importance of nutrient loading in Las Vegas Bay to the sport fishery but implies that this effect is restricted to only that area of the reservoir and inadequately and inaccurately characterizes the fishery resource and distribution of sport angling activity in the reservoir. The importance of this nutrient input briefly described here is not carried forward to any of the analysis or discussion in the DEIS of project impacts which would alter this nutrient loading and its effects.

S4-19 4-27 4.1.2.3.2: This analysis of effects in Las Vegas Wash (which would be carried forward to changes in water quality constituents in at least inner Las Vegas Bay under all the action alternatives) supports our concern for potential effects of the proposed actions on all aquatic species, both sport fish and native fish species. Substantial reductions in future base flows would significantly reduce nutrient input to critically important forage producing habitats in inner and middle Las Vegas Bay while increasing the proportional concentration of constituent substances from urban runoff and groundwater input. This scenario has significant potential to create substantive negative direct and indirect effects on both native fishes and the Lake Mead sport fishery.

S4-20 4-47 4.2: ¶ 2, 2nd bullet; this suggests that "impacts would be considered significant" if construction and operation of an alternative would "significantly change the existing abundance, diversity, or habitat value of…fish". We would suggest that if adequate analysis was incorporated into the DEIS to assess the effects of substantially altering the concentration and distribution of nutrients in Lake Mead, that it is probable that those effects would be significant to the largest sport fish public resource in Nevada. Since that analysis was not done, or even suggested, a determination of those effects is not possible through this DEIS. We are also extremely concerned that the following bullet statement identifies potential impacts to movement, migration and spawning/nursery sites of native species, but those impacts to a critically important public wildlife resource, the sport fishery, are apparently not significant enough to be worthy of mention.

S4-21 This section also contains impairment analysis criteria for vegetation, wildlife (defined separately from fish in the proceeding text), and threatened and endangered species, but has no such criteria for aquatic species which are not federally protected, which excludes the sport fish resource. This is curious at best and effectively removes any meaningful consideration of this important public resource from the subsequent analysis.

S4-17

Corrections suggested in the comments regarding incorrect information have been incorporated into Section 3.2.3.1.

S4-18

See response to comment S4-16.

S4-19

See response to comment S4-16.

S4-20

See response to comment S4-16.

S4-21

See response to comment S4-16.

4-50 4.2.1.3:

S4-22 • ¶ 3; how decreased lake levels would increase the concentration of effluent-related constituents under the same or increased inflow volumes is unclear.

S4-23 • ¶ 4; as mentioned previously, we believe that the opportunity to increase riparian and shoreline vegetation as a result of increased nutrient loading from Las Vegas Wash is limited at best since nutrient input is not the factor limiting the occurrence and availability of that vegetation.

4-54 4.2.2.1.3:

S4-24 • ¶ 2 of this section identifies a potential for increased concentrations of non-effluent constituents in Las Vegas Wash but suggests that effects of that increased concentration are unknown and that it is not the responsibility of the project proponents to assess those impacts or deal with the consequences. We would disagree with that conclusion.

S4-25 • ¶ 3 of this section identifies potential effects to razorback sucker aquatic habitats in inner Las Vegas Bay under likely operational scenarios of the EI, but does not identify the likely actual effects to razorback suckers themselves as a result of these alterations to nutrient and constituent loading and input flows, nor does the discussion include any of the other important fish species which utilize and occupy these habitats. This is unacceptable. Logically, increased concentrations of non-effluent constituents carried by Las Vegas Wash to inner Las Vegas Bay (see comment above) would remain at higher than existing baseline concentrations in that environment under these scenarios but there is no discussion of the effects of that change in constituent inputs.

4-56 4.2.2.2.3:

S4-26 • ¶ 2 of this section states that "associated indirect impacts [of project construction] would be insignificant and negligible" and "No impairment to aquatic species would result from construction activities in Lake Mead." Since the project analysis contains no assessment of impact or effects on the Lake Mead sport fishery this conclusion is invalid and cannot be supported.

S4-27 • ¶ 3 and 4 of this section conclude that "aquatic resources would not be adversely impacted by the discharge of effluent in the proposed vicinity" which represents a significant re-distribution and dilution of existing nutrient inputs which currently support a significant proportion of the forage production sustaining the lake Mead sport fishery, and that the reduction in concentration and relocation of nutrient inputs "…would be a minor, insignificant impact. Impairment of aquatic resources in the LMNRA [as a result of preferred alternative project operation] would not occur". The text suggests that resident fish would "relocate to areas with a good food source". Exactly where those fish would go to find a good food source is unclear since the areas of Las Vegas Bay affected by these changes produce the majority of forage supporting the entire Lake Mead fishery, and how the changes would impact and alter forage production is not identified or included

S4-22

The text in Section 4.2.1.3 clearly states that "…the nutrient loading in conjunction with the lowering water levels in Lake Mead may create less than favorable conditions for aquatic fauna because dilution of effluent-related constituents would be reduced." The key word is "dilution". At a Lake level of 1,000 ft, less dilution of treated effluent would occur because less water would be present in the Las Vegas Bay. At low Lake levels, the Las Vegas Bay becomes an almost isolated area. See Figure 4.1-1 of the Draft and Final EIS.

S4-23

As of February 2005, nine ECSs have been constructed throughout the Las Vegas Wash. A total of 22 ECSs are planned by SNWA for placement in the Las Vegas Wash. These structures help stabilize sections of the channel by slowing down the flow of water. Ponds are created behind the structures allowing for establishment of wetland and riparian plants. Increased effluent discharges to the Las Vegas Wash would thereby increase the size of the ponding areas and the amount of associated vegetation.

S4-24

See General Response 11.

S4-25

See General Response 11.

See General Response 9.

S4-26

The information addressing the existing conditions and the effects of the proposed SCOP construction on fish and their habitat in Lake Mead have been inserted into the Final EIS in Section 4.2.2.2.3. The effects of these activities would be short-term, negative impacts to benthic organisms in the immediate area. The area would recolonize with organisms that move in once construction activities cease.

S4-27 in any analysis. ¶ 3 discusses certain water quality constituent changes in the vicinity of proposed underwater diffusers but does not discuss potential effects of re-directing nutrient enhanced effluent into this zone of the water column relative to effects on aquatic species.

S4-28
- ¶ 10 and 11 of this section (page 4-58) discuss effects specific to razorback suckers for both mid-water areas of diffuser location and inner Las Vegas Bay. Although a number of potential impacts are described including reductions in nutrient concentration and increases in EDC compounds (although any discussion of increased loading of effluent constituents below Hoover Dam from diffuser operation in the vicinity of that globally significant razorback sucker population is absent), the conclusion is that no impairment to razorback sucker would occur. For reasons stated above relative to other aquatic resources, we cannot support that conclusion.

We strongly disagree with the conclusions of this section which are not supported by any reference or analysis, particularly as it applies to the public sport fish resource.

S4-29 4-61 4.2.4.2.3: This analysis states that "the release of nutrient-rich effluent in the Las Vegas Bay may increase the number of fish in that area of Lake Mead". We disagree with this statement, and in fact data included in the affected environment section of this DEIS clearly shows that effluent constituent components contributing to nutrient enhancement would be substantially reduced under this alternative compared to existing baseline conditions, and this alternative would also (assuming a reduction in effluent discharge through Las Vegas Wash) substantially reduce nutrient input to inner Las Vegas Bay upstream of the diffuser location. The suggestion that this alternative could increase fish densities in Las Vegas Bay is only relative to the Boulder Island alternatives and in fact could have a similar effect in reducing current nutrient concentrations in the northern areas of the Boulder Basin which support sport fish forage production without providing an alternative source of input adequate to support the existing aquatic species forage requirements. For the remainder of this section, our comments relative to the Boulder Island alternatives apply. We are very concerned about the total lack of any analysis relative to the sport fish resource, and disagree with the conclusions which are unsupportable given that lack of analysis.

S4-30 4-62 4.2.5: Mitigation measures as described here are minimal and do not adequately addresses numerous aquatic and terrestrial species other than razorback suckers which could be impacted by project construction and operation. Without an adequate analysis of the project actions relative to the public sport fishy resource it is impossible at this time to provide additional guidance. As mentioned previously, a buffer zone of 100 yards relative to razorback sucker spawning areas is not adequate.

S4-31 6-2 6.2: relative to biological resources, some take of aquatic species will be unavoidable but cannot be quantified in the absence of effects analysis that includes the majority of these species. For all action alternatives, substantial effects will occur to nutrient distribution in Lake Mead aquatic habitats which cannot be fully mitigated, and

S4-27

Corrections suggested in the comments regarding incorrect information have been incorporated into Section 3.2.3.1 and Appendix E.

S4-28

See response to comment S4-27.

S4-29

See General Response 9.

S4-30

The information addressing the impacts of the proposed SCOP and mitigation measures to reduce impacts to aquatic species in Lake Mead have been inserted into the Final EIS in Section 4.2.

Existing biological opinions for projects in the vicinity of the proposed alternatives indicate that a 100-yard exclusion zone is adequate.

S4-31

Text has been added to Section 6.2.

we believe that those effects could represent a substantial adverse change to existing environmental conditions.

S4-32 E-1 E.1: there is no mention of any review of existing literature or reports relative to the existing, substantial sport and forage fish resource in Lake Mead or Lake Mohave, including a substantial body of peer review literature available on similar sport fisheries in large reservoir environments, other than the Allan and Roden (1978) report which is substantially out of date. No effort was made to coordinate with or contact the Nevada Department of Wildlife to obtain available current reports on the Lake Mead and Lake Mohave sport fisheries or other relevant information. This represents a significant and substantive lapse on the part of the contractor in both methodology and sourcing of information to perform an adequate environmental and biological assessment and effects analysis, since relevant information on the vast majority of aquatic species occurring within the project area was excluded from collection and analysis. While these species are not sensitive, threatened or endangered species, they are classified status species under Nevada statues and represent an important public resource potentially affected by the proposed actions.

Thank you for the opportunity to comment on the DEIS document. If you have any questions relative to our comments please contact me at our Las Vegas office (702-486-5127 x3300).

Sincerely,
TERRY R. CRAWFORTH, DIRECTOR

Jon C. Sjöberg
Supervising Fisheries Biologist

c: 300, 600
3315, 3600, 3700
USBR
NPS - LAME
USFWS-ES Las Vegas Field Office

S4-32

See response to comment S4-16.

The description of the pipeline alternatives has been revised to indicate that under normal operating conditions, the TP discharged to Lake Mead would not exceed 334 lbs/day on an annual average basis. Therefore, there would be no impact to aquatic species below Hoover Dam. The revised alternatives are described in Chapter 2 of the SCOP Final EIS, and potential impacts are described throughout Chapter 4.

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

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Janet Napolitano
Governor

Stephen A. Owens
Director

December 28, 2005

SCOP EIS Project Manager
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Re: DEIS for Clean Water Coalition Systems Conveyance and Operations Program

SCOP EIS Project Manager:

The Arizona Department of Environmental Quality (ADEQ) has reviewed the U.S. Department of Interior's (DOI) *Clean Water Coalition Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement (DEIS)* which describes and analyzes the potential environmental impacts of four alternatives for the SCOP. As discussed below, ADEQ has a number of concerns about the potential impact of this project on water quality in Lake Mead and the Colorado River. There are significant outstanding issues that must be resolved before the impact of this project can be adequately addressed. DEQ appreciates the opportunity to comment and provides the following matters for consideration.

S5-1

Insufficient Time for Review

First, due to the complex nature of the project and the far-reaching impacts of the final selection on millions of downstream water users, ADEQ believes additional time is needed for a complete and thorough review of the DEIS and supporting documentation. Representatives of the Clean Water Coalition (CWC) met with ADEQ management on October 24, 2005 to present an overview of the project and at that time, at ADEQ's request, agreed to provide a copy of the Lake Mead modeling report for review. ADEQ did not receive a copy of the 500+ page Black & Veatch *Lake Mead Modeling Report* until November 28, 2005, however, and has not been able to adequately review the modeling set forth in this lengthy technical document in such a short time frame in order to meet the DEIS comment deadline. In addition, ADEQ has only recently become aware that modeling of impacts to Lake Mohave are documented in a separate report. We are in the process of requesting a copy of that modeling report from CWC as well.

Preferred Alternative

The DEIS characterizes the Boulder Islands South, North and Las Vegas Bay options as having similar environmental impacts but selects the Boulder Islands North Alternative as the environmentally preferable alternative. As noted above, Arizona has only recently received the Lake Mead modeling report, which details impacts of each of the final alternate discharge locations on the lake and has not yet received the report containing the modeling of impacts on Lake Mohave. Therefore, ADEQ has not taken a position on a preferred alternative at this time.

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Response S5 Arizona Department of Environmental Quality (State of Arizona)

S5-1

The Draft EIS was distributed for review between September 27 and September 30, 2005. The modeling reports were not distributed with the Draft EIS because of their size. The public comment period for the SCOP Draft EIS was informally extended 16 days and comments were accepted through January 30, 2006.

SCOP EIS Project Manager
DEIS for Clean Water Coalition Systems Conveyance and Operations Program
Page 2 of 4

However, our review of the DEIS raises some question as to whether certain alternatives, eliminated early on, have been sufficiently explored.

For example, several of the early, eliminated options included wetlands components. Each of these was eliminated from further consideration for various reasons, including the need to perform periodic and continuous maintenance and monitoring, the amount of surface area required for wetlands and the cost to provide additional treatment for the effluent. It is important that further discussion be provided as to why these options were eliminated, especially when the preferred alternative will require significant monitoring of discharge quality, significant maintenance of discharge pipes and diffusers, significant land disturbance for the pipeline and provides no additional treatment of the effluent quality – essentially using dilution as the sole post treatment plant processing. S5-2

Water Quality Impacts
ADEQ is very concerned about the potential impact of the preferred alternative on Colorado River water quality downstream of Hoover Dam. While ADEQ appreciates receiving a copy of the *Lake Mead Water Quality Modeling Report* prepared by Black & Veatch (August, 2005), as noted above, we have been able to perform only a preliminary review of the material in the short time since the document was provided to us. This modeling report primarily looks at the impacts of the various alternatives on the water quality in Lake Mead.

The DEIS also provides a summary of impacts to water quality in Lake Mohave based on an earlier study entitled *Lake Mohave Modeling Report* (Edinger, 2003). We have not had the opportunity to review the Lake Mohave modeling report, and we have a number of unanswered questions based on the summary of the report provided in the DEIS. For example, the summary indicates the data for the study was obtained from the USGS and STORET websites. Was data solicited from either Arizona or Nevada? The study appears to have utilized data sets from 1977-78 and 1981-82. Given the growth along the river, more recent data sets might provide a better representative picture of current river and lake conditions. In addition, it appears that meteorological and climatological data for this modeling effort was obtained from Las Vegas rather than from a community nearer to the area of impact. S5-3

ADEQ is in the process of adopting nutrient criteria for lakes and reservoirs in Arizona. In the proposed lakes classification system, Lakes Mead, Mohave and Havasu would each be classified as "deep, warm water" lakes with threshold ranges for chlorophyll *a*, total phosphorus, total nitrogen, total Kjehdahl nitrogen and Secchi depth. These ranges were developed based on Arizona's comprehensive database of lake and reservoir water quality data. ADEQ has reviewed the modeling report and the potential impacts to all three lakes, but particularly Lakes Mohave and Lake Havasu, with these parameter thresholds in mind.

ADEQ agrees with the Black & Veatch report conclusion that phosphorus is the limiting nutrient in Lake Mead. However, as the flows travel downstream, data from ADEQ's Clean Lakes Program finds that Lake Mohave, on occasion, and Lake Havasu, in particular, tend to be co-limited by both phosphorus and nitrogen. The modeling assumes no additional nutrient inputs to the river from Hoover Dam to Davis Dam and does not consider impacts below Davis Dam. S5-4

S5-2

The wetlands options that were eliminated included the continued discharge of highly treated effluent to the Las Vegas Wash. This does not meet the requirement for flexibility in management of effluents that is a primary component of the purpose and need for the proposed project. Text has been added to Section 2.7, where appropriate, to clarify that the option does not meet the purpose and need for the project. Although many of the reasons for elimination are similar to actions that will be needed for the alternatives carried forward, they are not the only reasons for elimination that were taken into consideration. The amount of surface area, land required, and land-use changed for the wetland options would be permanent, while the surface disturbance for the proposed alternatives would be predominantly temporary.

See General Response 3.

See General Response 8.

S5-3

The data available from all agencies with monitoring stations was assessed. The water quality reports completed by UNLV and Reclamation from 1977 through 1982 are considered the most complete analysis for Lake Mohave that is available. This was reviewed with the Modeling Committee and deemed to be an acceptable data source.

The climatological data presented in the Draft and Final EIS represents the Lake Mohave area as well as the Lake Mead area. Lake Mohave used the McCarran Airport weather data coupled with the data from Sentinel Island. The Lake Mohave model, since it is two dimensional is not as sensitive to the weather as the 3-dimensional model. The Lake Mohave Model was used to gage the assimilation capacity of Lake Mohave for TP and nitrogen. This analysis is not weather sensitive.

S5-4

See General Response 8.

As described in Section 4.1, water quality modeling indicates that the TP loading through Hoover Dam would increase by 1 ppb if the TP discharged from the diffuser

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(S5-4 continued)

does not exceed 334 lbs/day on an annual average basis. Despite this increase, phosphorus concentrations below Hoover Dam would remain well below historic concentrations (the past three decades), during which no negative consequences were identified in the Colorado River below Hoover Dam, including below Davis Dam.

SCOP EIS Project Manager
DEIS for Clean Water Coalition Systems Conveyance and Operations Program
Page 3 of 4

While there are currently no municipal or domestic wastewater inputs to this stretch of the river, the rapid growth that has been occurring along the river makes it highly likely that direct discharges of treated wastewater will occur from downstream communities in the future. ADEQ believes that the failure to take the likelihood of such future discharges into account is a serious omission in the DEIS.

S5-5 The conclusions in both the DEIS and the modeling report focus on phosphorus and chlorophyll concentrations and do not adequately address the impacts of increased nitrogen loads on either Lake Mead or Colorado River water quality downstream of Hoover Dam. Based on the various modeling scenarios, it appears that in-lake nutrient values in the Lake Mohave will nearly double from 2003 background levels. If the levels in Lake Mohave double, ADEQ believes the impact of this increase in nutrients, even with no additional inputs along the river, could result in: 1) chlorophyll *a* values at or above Arizona's proposed nutrient standards and 2) significant water quality degradation at Lake Havasu.

The Black & Veatch modeling appears to conclude that water quality standards will be maintained in Lake Mead if the discharge levels are kept at or below projections for 2030. However, it appears likely that at full implementation of the project in 2050, chlorophyll *a* and nutrients in Boulder Basin would exceed Nevada's own water quality targets. Additional disposal options for year 2030 and beyond should be addressed to ensure that water quality standards can be attained and maintained.

S5-6 For conservative elements such as total dissolved solids, (TDS), sulfate and chloride, the modeling shows a 10-15% increase in the concentration levels at full implementation. While the modeling shows an increase in salinity (as TDS) of less than 10 mg/L in 2030, this increase is fully one-tenth of the estimated improvements that have been achieved through the Colorado River Basin Salinity Control Program since its inception in the 1970s according to the *2005 Review: Water Quality Standards for Salinity, Colorado River System* (October, 2005). The project has the potential to undo some of the progress that has been made in reducing salinity in the River.

S5-7 Lastly, ADEQ has identified several contradictions in how numeric values are presented in the report which could lead to incorrect conclusions. For example, page 4-32 states "[P]hosphorus concentrations at Hoover Dam would increase from 0.005 to 0.007 mg/L (5 to 7 ppm) as shown in Figure 4.1-7." Concentration values of 0.005-0.007 mg/L are actually 5-7 "parts per billion" rather than "parts per million" as written in the text – or 1000 times lower. If the reader does not carefully examine the associated figure, there could be potential for misinterpretation. Similar errors are found on pages 4-39, and 4-41 of the report.

S5-8 In conclusion, ADEQ recognizes the substantial effort put forward by the CWC and its consultants to examine the alternatives for the SCOP project and present those findings to the public. However, due to the complexity of the issues and the potential downstream impacts, ADEQ requests that the public comment period to review the DEIS and supporting studies be extended for at least 60 additional days. In addition, while the modeling effort thus far is

S5-5

The discharge of wastewater from the Laughlin Wastewater Reclamation Facility to the lower Colorado River has been included in the cumulative impacts analysis presented in Chapter 5 of the Final EIS. However, we were unable to obtain information regarding future plans for additional wastewater discharges to the lower Colorado River from other sources. Reclamation's NEPA guidance (Reclamation 1990) states, "Future cumulative impacts should not normally be speculative, but based on known long-range plans and other plans developed by agencies, organizations, or individuals." Therefore, speculation regarding future wastewater discharges to the lower Colorado River is inappropriate.

The Draft EIS provides model results of the nitrogen concentrations in Lake Mead. The annual average concentrations for Total Nitrogen, TIN, Nitrate, and Total Ammonia Nitrogen are presented in numerous tables in Chapter 4 and Appendix D of the Draft EIS. While the nitrogen concentrations increase with additional effluent loading there is not an impact on algal growth in the Lake, since the Lake is phosphorus limited, which means that growth of algae is controlled by the phosphorus concentration. In terms of meeting water quality standards, the No Action Alternative would have exceedances in the Las Vegas Bay, of the RMHQ water quality standard for TIN (95 percent of samples $\leq$ 4.5 mg/L [Table 3.1-2 of the Draft EIS]), due to the lack of sufficient dilution of the increased effluent flows entering via the Las Vegas Wash. Conversely, the modeling indicates that the Las Vegas Bay and Boulder Islands alternatives *would* meet the RMHQ TIN water quality standards. These issues are discussed in Section 4.1.5.3 of the Draft EIS and Section 6.4.2 of the Lake Mead Modeling Report, which is available upon request.

By limiting the loading through the diffuser to 334 lbs/day the nutrient values in Lake Mohave would not increase. The treatment processes would be enhanced as necessary to avoid exceeding Nevada's Water Quality Standards.

See General Response 10.

S5-6

The ELCOM/CAEDYM modeling indicates no significant differences in the TDS (and hence salinity) concentrations passing through Hoover Dam between the baseline case and any of the alternatives. This is a result of the fact that salinity is a

SCOP EIS Project Manager
DEIS for Clean Water Coalition Systems Conveyance and Operations Program
Page 4 of 4

S5-9 informative, ADEQ suggests that additional modeling be performed to account for impacts due to potential discharges from growing communities downstream of Hoover Dam and to model the fate and transport of nitrogen in Lake Mead and in Lakes Mohave and Havasu downstream. The modeling of these two scenarios – additional wastewater discharges and the fate of nitrogen in the system – are important factors that may affect water quality in the Colorado River downstream of Lake Mead and for citizens throughout the Lower Basin.

As you know, Arizona counts on the Colorado River for fishing, recreation and drinking water for millions of its citizens. Water is a precious and limited resource, and it is ADEQ's responsibility to the people of Arizona to ensure that water quality in the Colorado River is protected and that issues affecting the River are adequately addressed.

Sincerely,

Stephen A. Owens
Director

(S5-6 continued)

conserved (non-decaying) substance and the amount of salinity in the system are relatively independent of the discharge point.

S5-7

The numbers and units have been corrected throughout the Final EIS.

S5-8

See response to comment S5-1.

S5-9

See response to comment S5-3.

STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Kenny C. Guinn, Governor
Allen Biaggi, Director
Leo M. Drozdoff, P.E., Administrator

December 9, 2007

SCOP EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV 89704

RE: Clean Water Coalition Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement (DESI), September 2005.

Dear Project Manager:

The Nevada Division of Environmental Protection (NDEP) appreciates the opportunity to review the above referenced document. The following general and specific comments address issues and concerns from the NDEP Bureaus of Corrective Actions, Safe Drinking Water, Water Pollution Control and Water Quality Planning.

General Comment:

S6-1 The SCOP DEIS presents a no action and three alternative actions. The final selected alternative must meet all water quality standards (WQS) for the Las Vegas Wash, Lake Mead and the Colorado River, and must not impact downstream WQS. The existing total maximum daily loads (TMDLs) must be met at Northshore Road.

Specific Comments:

1. Page ES-2 – Section ES. 2

S6-2 In the first full paragraph, the No Action Alternative is described as using conventional treatment processes to meet water quality standards. However, in subsequent sections (examples: Section ES.3.1.1, Section 2.1) the No Action Alternative is described as not meeting the water quality standards in 2050. These statements are contradictory. Also, it seems that the No Action Alternative is only a valid alternative if it also complies with the TMDL. Again, numerous sections of the DEIS state that TMDL compliance will not be achieved under the No Action Alternative.

2. Page ES-6 – Sections ES.3.1.2-ES.3.1.3
Page ES-12 – Section ES.3.5.2
Page 4-23 – Section 4.1.2.2.1
Page 4-44 – Section 4.1.5.2
Page 4-77 – Section 4.5.2.1
Page 4-79 – Section 4.5.3.1

Two pipeline alignment alternatives are evaluated. EI-Alignment A and EI-Alignment B both include pipeline segments through areas of known groundwater contamination. EI-Alignment A and EI-Alignment B both include a tunnel through the River Mountains as part of the LCS (North River Mountains Tunnel No. 3 and South River Mountains Tunnel No. 3, respectively). Both Tunnels are projected to pass beneath portions of the Three Kids Mine Site.

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Comment S-06

Response S-6 Nevada Division of Environmental Protection (State of Nevada)

S6-1

The discharges from the three treatment plants would continue to meet water quality standards for the Las Vegas Wash, Lake Mead, Colorado River. The TMDL will continue to be met at Northshore Road.

S6-2

The Executive Summary has been revised.

SCOP EIS Project Manager
Page 2 of 5

S6-3 NDEP is concerned with how soil and groundwater will be characterized and managed under either of the proposed pipeline alignments.

S6-4 Shallow groundwater in the areas of concern is impacted by elevated concentrations of naturally occurring compounds and by elevated concentrations of contaminants from anthropogenic causes. A number of contaminants, including but not limited to perchlorate, sulfate, chloride, nitrate, radionuclides, and total dissolved solids have been identified in soil and groundwater in the vicinity of the COH Forcemain, South Lateral Pipeline, and EI Terminus locations. A large amount of information related to soil and groundwater quality is available for review in the NDEP Las Vegas and Carson City offices. Specific files include: (1) the BMI Common Areas; (2) Kerr-McGee perchlorate; (3) Triga/Weston Hills (166-Acre Site); (4) Tuscany (Rhodes Ranch); and (5) COH Former Landfill. Data contained in the BMI Common Areas provides an overview of the contaminant concentrations in soil and groundwater in this area.

Review of this information would help in project design and construction as the applicant should be prepared to manage contaminated soils and groundwater effectively both during construction and long-term. Additionally, the NDEP should be contacted very early in the project schedule to evaluate permit criteria, permit requirements, and groundwater management and treatment options for water generated through construction dewatering. Extensive water quality analyses likely will be needed to secure and maintain a permit. Treatment of water generated through construction dewatering likely will be needed for several contaminants prior to discharge. As characterization and treatment likely will add to the project cost, evaluating permit requirements and treatment options early will allow the applicant to build these into the project schedule and cost.

3. Page ES-6 – Sections ES.3.1.2-ES.3.1.3
   Page 3-67 – Section 3.5.3
   Page 4-23 – Section 4.1.2.2.1
   Page 4-35 – Section 4.1.3.2.1
   Page 4-44 – Section 4.1.5.2
   Page 4-79 – Section 4.5.3.1

S6-5 Consideration should be given to the pipeline design and construction to minimize the potential for the pipeline and backfill to act as a preferential pathway. Design and construction methods should adequately address the potential for groundwater flow and contaminant migration along the pipeline. The design and construction methods should not allow for: (1) increased mass flux of contaminants to the Las Vegas Wash; or (2) the migration and spread of contaminants to areas currently unaffected by these contaminants at elevated concentrations, including deeper strata. The permeability of backfill material should be carefully selected to reduce the possibility that the pipeline would act as either a preferential pathway or groundwater barrier. Other mitigative measures may be needed to reduce the potential that the pipeline exacerbates contaminant migration and distribution throughout the project area. Care should be taken during the design and construction to not alter the groundwater flow conditions significantly in this area. Review of information on file in the NDEP offices likely would facilitate a design and construction focused at not altering existing groundwater flow conditions.

4. Page ES-9 – Section ES.3.2.2
   Page 4-27 – Section 4.1.2.3.2
   Page 4-54 – Section 4.2.2.1.3
   Page 4-62 – Section 4.2.5

S6-6 A potential impact of the removal of flows to the Wash is the increase in concentrations of TDS, selenium, and perchlorate over time. This concern is not adequately addressed. The DEIS states "A group of agencies are monitoring the concentrations of substances

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Comment S-06

S6-3

All required permits for handling potential groundwater and soil contamination will be acquired before construction. In addition, all required mitigation measures will be implemented in accordance with NDEP and EPA guidelines. Text has been added to the specified sections of the Final EIS.

The Executive Summary has been revised.

S6-4

See response to comment S6-3.

The CWC member agencies and/or their designated contractor will contact NDEP early in the project schedule to identify permit requirements.

S6-5

As described in Section 4.1.5.2, backfill of suitable permeability would be used to avoid the potential impact to the groundwater system. Text has been added to Section 4.1.6.2 stating that additional mitigation measures may be implemented as specified by NDEP to reduce the potential for contaminant migration.

The CWC member agencies and/or their designated design and construction contractors will contact NDEP early in the project schedule to review information and identify permit requirements.

S6-6

See General Response 11.

See response to comment F1-10.

SCOP EIS Project Manager
Page 3 of 5

S6-6 associated with groundwater and urban runoff in the Las Vegas Wash, and will address the issue as needed." While this is a true statement, remedial activities to address potential increases of these constituents should be discussed in the final EIS.

5. Page ES-12 – Section ES.3.5.2
   Page 2-18 – Section 2.2.2.1
   Page 2-26 – Section 2.2.2.5
   Page 2-42 – Section 2.3.2.1.1
   Page 3-67 – Section 3.5.3
   Page 4-79 – Section 4.5.3.1

S6-7 NDEP is concerned with how tunneling spoils from portions of both alternative pipeline alignments will be characterized and managed. A number of contaminants are known to occur and have been identified in soils, rock, and wastes (tailings) at the Three Kids Mine & Mill Site. These contaminants include, but are not limited to, the contaminants listed in the draft EIS (manganese, lead, and arsenic). These contaminants result from both mineral enrichment of the local geology as well as from mining and milling practices. Spoils generated from tunneling beneath the Three Kids Mine & Mill Site area may contain elevated concentrations of heavy metals. Sampling and analyses for total and soluble concentrations of various heavy metals prior to tunneling activities would help to provide an understanding of the likely spoils disposal options necessary to manage these spoils early on in the design process. Sampling and analyses of generated spoils for heavy metals concentrations will be needed during the construction phase to properly characterize and manage the spoils. Reuse of these spoils for uses including public projects (dust control, roadways, flood control facilities, or other projects) may not be advisable dependant upon the concentrations of metals. NDEP should be contacted to help evaluate viable disposal options.

6. Page 1-10 – Section 1.4.2.1

S6-8 The statement "The TMDLs are not required for non-point source pollution." is incorrect. TMDLs are required for both point and nonpoint source pollution.

7. Page 1-13 – Section 1.5

S6-9 A stated purpose and need for the action is "Adapting to potential changes in the beneficial uses and water quality standards for the Las Vegas Wash…" NDEP is not currently considering a change in the beneficial uses of the Wash. There has been no discussion about a Use Attainability Assessment for the Wash. Is this an appropriate purpose and need?

8. Page 2-22 – Section 2.2.2.2.3
   Page 2-27 – Section 2.2.2.6
   Page 2-45 – Section 2.3.2.2.3

S6-10 The diffuser design presented in the DEIS indicates it will be oriented horizontally or with a slight downward discharge. Does this design allow the water to rise sufficiently in the water column so that the deeper water of Boulder Basin, where the drinking water supply is withdrawn, is not impacted by wastewater treatment plant effluent? The modeling report indicates that at the time the model runs were conducted the final diffuser design was not known. Will additional model runs be conducted once the final diffuser design has been chosen to ensure that wastewater does not concentrate in the zone where the drinking water will be withdrawn in the future?

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Comment S-06

S6-7

Text has been added to Section 4.5.2.2 stating that sampling and analysis would be conducted as directed by NDEP in accordance with NDEP requirements and guidance. No change to the text is necessary for sections 4.5.3.2 and 4.5.4.2.

The Executive Summary has been updated as necessary.

S6-8

The incorrect statement has been deleted.

S6-9

The words "beneficial uses and water quality standards" have been deleted from the sentence.

S6-10

The following text has been added to Section 2.2.2.2.3 of the Final EIS. "The final configuration of the diffuser would be determined as part of final design. Current modeling indicates that the effluent discharged from the diffuser would have significant thermal buoyancy. This buoyancy would cause the effluent to rise above the elevation of the drinking water intakes. Preliminary and final design would include modeling of the diffuser operations. The modeling would consider changing Lake conditions."

SCOP EIS Project Manager
Page 4 of 5

9. Page 2-30 – Section 2.2.2.6

S6-11 During the first few years of operation, an annual review of the SCOP AMP may not be adequate to assess the potential for algae blooms to impact beneficial uses and downstream users. We suggest a more frequent analysis during the first five years with transition to an annual review for subsequent years if determined appropriate.

10. Page 2-33 – Section 2.3.1.1.2
Page 3-87 – Figure 3.9-1
Page 3-89 – Figure 3.9-2

S6-12 What depth separation would exist between the SNWA Pipelines and Alignment B of the Effluent Interceptor? What measures will be taken to ensure the tunneling will not impact these major drinking water supply pipelines?

11. Page 2-77 – Section 2.8

S6-13 Would the South Lateral Pipeline and the COH Forcemain have the same environmental consequences? The South Lateral Pipeline has the potential to intercept perchlorate contaminated groundwater along the entire reach from the COH to the EI.

12. Page 3-13 – Sections 3.1.3; 3.1.3.4.1

S6-14 2002 was selected as the baseline year in part because it was considered "typical" for Lake Mead water quality. In 2002, the lake completely destratified. However there are years when the lake only partially or incompletely destratifies. The final EIS should contain a detailed discussion of the particular factors and dynamics that affect stratification of Lake Mead, including recent events such as the early 2005 flooding in the Muddy River basin. Consider providing an estimate of the number of years the lake does not destratify and rerunning the model to evaluate impacts of this scenario.

13. Page 3-15 - Section 3.1.3.1

S6-15 The statement "The NDEP is reconsidering the role of RMHQs in the standards process." is confusing and should be removed.

The NDEP Bureau of Water Quality Planning's Long Range Plan defines priority activities from 2005 through 2010. A review of the Las Vegas Wash, Lake Mead and Colorado River water quality standards (beneficial uses, beneficial use criteria and RMHQs) is not scheduled during that period. The Colorado River Basin is tentatively targeted for 2011.

14. Page 3-15 - Section 3.1.3.1

S6-16 It is stated that NDEP has proposed revisions to the water quality standards. The revisions have been approved by the State Environmental Commission and the U.S. Environmental Protection Agency (EPA), and are in effect. Attachment A provides details on the changes.

15. Page 3-17 – Section 3.1.3.2

S6-17 NDEP has recently completed the Nevada 2004 303(d) List with some changes adopted by EPA. The Las Vegas Wash between Telephone Line Road and Lake Mead is now listed for total iron and total selenium. Total suspended solids levels are no longer exceeding water quality standards.

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Comment S-06

S6-11

See General Response 10.

S6-12

Text stating that the CWC would coordinate with the SNWA and other utility organizations to ensure that the Effluent Interceptor (EI) does not impact any SNWA waterlines or other utilities has been added to Chapter 2.

S6-13

The environmental consequences for the South Lateral Pipeline will have a greater impact than the COH Forcemain because of the alignment length through a known contaminated area. The COH Forcemain is a direct line to the EI and the section is shorter in length than the South Lateral Pipeline.

S6-14

See General Response 7.

S6-15

The sentence has been deleted as requested.

Comment noted.

S6-16

The text in Section 3.1.3.1 has been revised as requested.

S6-17

The text in Section 3.1.3.2 has been revised based on the Nevada 2004 303(d) List. Chapter 9 has also been revised to include the Nevada 2004 303(d) List (NDEP 2004b).

SCOP EIS Project Manager
Page 5 of 5

16. Page 4-12 – Section 4.1.1.3.1

S6-18 In the last two sentences of paragraph three, reference is made to "water quality objectives" and "regulatory limits." It is unclear how these terms are being used. Is it intended to differentiate between water quality standards and wasteload allocations? Please clarify.

17. Page 4-23 – Section 4.1.2.1.2
Page 4-27 – Section 4.1.2.3.1
Page 4-44 – Section 4.1.5.2

S6-19 SNWA should be included in discussions regarding design of the turbidity curtain for the construction of the Boulder Islands North Lake Conveyance System if this is the alternative selected. Any large increase in turbidity can negatively impact the treatment capacity of the Southern Nevada Water System (SNWS). SNWS is a direct filtration plant and is unable to process water containing high turbidity.

18. Page 4-32
Page 4-39

S6-20 An incorrect relationship between "mg/l" and "ppm" is used in several places. For example, "0.050 mg/l" is said to equal "50 ppm." This should be stated as 50 parts per billion (ppb) instead of ppm.

Thank you for your consideration of these comments in preparation of the Final SCOP EIS.

Please contact me at (775) 687-9301 or Tom Porta at (775) 687-9416 if you have any questions or need additional information.

Sincerely,

Leo M. Drozdoff, P.E.
Administrator

CC: Tom Porta, NDEP Deputy Administrator, w/o Attachment
Jim Najima, NDEP Corrective Actions, w/o Attachment
Todd Croft, NDEP Corrective Actions, w/o Attachment
Doug Zimmerman, NDEP Safe Drinking Water, w/o Attachment
Jon Palm, NDEP Water Pollution Control, w/o Attachment
Alan Tinney, NDEP Water Pollution Control, w/o Attachment
Kathy Sertic, NDEP Water Quality Planning, w/o Attachment
Randy Pahl, NDEP Water Quality Planning, w/o Attachment

Comment S-06

S6-18

The text has been revised.

S6-19

The following sentence has been inserted into sections 4.1.2.1.2, 4.1.2.3.1, and 4.1.6.1 of the Final EIS. "Coordination with SNWA would be implemented regarding the appropriate design and type of turbidity curtain to be used."

S6-20

The numbers and units have been corrected throughout the Final EIS.

CITY OF BULLHEAD CITY
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December 7, 2005

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dkarafa@cleanwatercoalition.com

RE: City of Bullhead City's Comments on "Clean Water Coalition Systems Conveyance and Operations Program Environmental Impact Statement" LAME 3031 (LAME-RM)

Dear Project Manager and Mr. Karafa:

The Bullhead City Council at its meeting of December 6, 2005 voted to comment on the September 2005 draft of the Clean Water Coalition Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement (DEIS). The City of Bullhead City had staff members and council members review the Clean Water Coalition's SCOP-DEIS as well as attend public presentations and meetings before the Mohave County Board of Supervisors. Included in the council packet on December 6, 2005 was a summary review prepared by the city's Community Development Director/City Engineer, Pawan, Agrawal, as well as the November 30, 2005 comment letter submitted to you from William J. Ekstrom, Jr., Civil Deputy County Attorney for Mohave County. The City of Bullhead, however, wishes to express its comments on the Draft Environmental Impact Statement as follows:

1. The City Council for Bullhead City has held public meetings, heard presentations and conferred with staff concerning the proposed Systems Conveyance and Operations Program (SCOP) Draft Environmental Impact Statement (DEIS).

2. The Colorado River is consistently recognized as one of this country's most endangered rivers.

3. The Colorado River is the lifeblood of Mohave County, Arizona's tourist industry, recreational opportunities and sole water source for the City of Bullhead City for all purposes, including drinking water.

E1-1 E1-2 E1-3 4. The city believes that the SCOP-DEIS has failed to fully study public health effects on downstream users, possible effects on endangered species, and the issue of pharmaceuticals in the effluent.

Response E1 Mayor (City of Bullhead City, AZ)

E1-1

The impacts to downstream users are presented in Chapter 4 of the Final EIS.

E1-2

See General Response 9.

Additional analyses have been conducted, and additional information regarding endangered species has been included in sections 3.2 and 4.2 of the Final EIS.

E1-3

See General Response 6.

The text in Section 1.4 has been revised based on the results of the literature review presented in Appendix K.

Doug Karafa
Project Manager
December 7, 2005
Page (2)

E1-4 5. The SCOP-DEIS has failed to suggest and review a plan for total reuse of all the Coalition's effluent.

E1-5 6. The SCOP-DEIS has failed to properly address the potential for membrane treatment and other technologies or modifications to its wastewater treatment plant to insure clean effluent.

E1-6 7. The SCOP-DEIS has not presented a contingency plan for potential for failure of proper operations at its wastewater treatment plan and for flood conditions, either one of which could cause bypass of treatment facilities without full and proper treatment.

E1-7 8. The SCOP-DEIS has failed to include plans for independent, unbiased, and systematic monitoring of effluent from its plant and the Lake Mead discharge pipe, which should include some form of bio-monitoring.

E1-8 9. The SCOP-DEIS has failed to propose substantial civil and criminal sanctions for water quality violations.

E1-9 10. The amount of time afforded for stakeholders to review and comment on the proposed SCOP-DEIS is insufficient.

The City of Bullhead City requests that further review and study consistent with the comments above be required; that the City of Bullhead City be included in the list of stakeholders to be allowed to participate in meetings and discussions involving decisions relating to this proposal; and that an additional draft of the proposed Environmental Impact Statement be published for public comment for at least ninety (90) days.

Sincerely,

Diane Rae Vick

Diane Rae Vick, Mayor
DRV:jeg
Cc: Hon. John McCain
Hon. Jon Kyle
Hon. Trent Franks
Hon. Ron Gould
Hon. Nancy McLain
Hon. Trish Groe
Hon. Jon Porter
Mohave County Board of Supervisors

E1-4

See General Response 2.

E1-5

See General Response 1.

E1-6

The SCOP facilities would be designed to allow 100 percent of the effluent flows from each plant to be discharged to the Las Vegas Wash. During emergency or maintenance, each facility may discharge to the Las Vegas Wash. However, scheduling of routine maintenance would be conducted to ensure that all three plants do not discharge 100 percent of their flows to the Las Vegas Wash at the same time. A sentence has been added to sections 2.2 and 2.2.1.6 of the Final EIS. In addition, each treatment facility is required, as part of their NPDES Discharge Permit, to have an emergency response plan. In the unlikely event that the SCOP pipeline fails, flows would be diverted directly to the Las Vegas Wash while repairs are completed. During this discharge, the effluent would be regulated by the applicable NPDES permits and WLAs, and would be required to meet all water quality requirements.

E1-7

See General Response 10.

E1-8

The CWA and Nevada Revised Statutes (NRS) provide substantial civil and criminal penalties for discharging without a permit, or discharging in violation of a permit. The purpose of a draft EIS is not to establish penalties, but to consider environmental consequences of alternatives.

E1-9

Comment noted.

LAKE HAVASU CITY

December 6, 2005

SCOPE EIS Project Manager
PBS&J
2270 Corporate Circle, Suite 100
Henderson, NV 89074-6382

SUBJECT: LAKE HAVASU CITY POSITION REGARDING LAS VEGAS EFFLEUNT DISPOSAL

Dear SCOPE EIS Project Manager:

E2-1 This letter is intended to inform the Clean Water Coalition that the City of Lake Havasu City, Arizona prefers the 'no action' alternative presented in the Draft Environmental Impact Statement concerning Las Vegas' plan to directly discharge treated effluent to Lake Mead via pipeline. This decision was not reached lightly, because for many years, our community has been highly committed to the advanced treatment of our wastewater and is always looking for more beneficial uses for the reclaimed water it provides.

E2-2 While we strongly support expanding the list of beneficial uses for our treated effluent, we do have some serious concerns regarding the Las Vegas plan. At the forefront of those concerns is the possibility -*no matter how remote*- that the source of Lake Havasu City's drinking water supply could be potentially contaminated by upstream discharges by other communities.

E2-3 We acknowledge the effectiveness of conventional wastewater treatment technologies at removing organics and suspended solids. However, we are presently unconvinced that even state-of-the-art wastewater treatment technologies are capable of removing dissolved contaminants, such as pharmaceuticals and endocrine-disrupting compounds that could potentially cause adverse health effects for our citizens.

E2-4 Furthermore, downstream water users have not been involved in the Clean Water Coalition's planning process. Since the direct discharge of effluent in this case crosses state lines, state, county, and local governments in Arizona should have been consulted. It is these specific concerns that prompt this letter preferring the no action alternative to the Las Vegas proposal.

2330 McCulloch Boulevard N. Lake Havasu City, Arizona 86403-5950 (928) 855-2116 TDD (928) 855-3945
www.ci.lake-havasu-city.az.us

Response E2 Mayor (Lake Havasu City, AZ)

E2-1

Treated wastewater from the Valley has been treated and discharged to Lake Mead via the Las Vegas Wash since 1956. Treated wastewater flows will continue to be discharged to Lake Mead, even under the No Action Alternative.

E2-2

The wastewater treatment facilities in the Valley are some of the best in the nation--the quality of treatment is in the top 7 percent of wastewater treatment facilities in the nation.

See General Response 8.

See response to comment S5-4.

E2-3

See General Response 6.

Wastewater treatment technologies vary in their ability to remove PPCPs and EDCs. Some of these chemicals are more resistant than others to treatment in general. While even advanced treatment processes are expected to be unable to completely remove all PPCPs and EDCs, there currently is little evidence to support the hypothesis that these chemicals, at the concentrations occurring in wastewater, have had any adverse effects on human health. See Appendix K of the Final EIS.

E2-4

Scoping meetings were held in Nevada, Arizona, and California during August 2003. Public meetings regarding the Draft EIS were held in Nevada, Arizona, and California in October 2005. Display ads for the meetings were published in the Kingman *Miner*, Arizona *Republic* (Phoenix), *Desert Sun* (Palm Springs), San Diego *Union Tribune*, and Los Angeles *Times*. Attendance at the meetings was minimal: four people attended in Phoenix, two people attended in Tempe, two people attended in Kingman, two people attended in San Diego, and no one from the public attended in Palm Springs.

December 6, 2005
SCOPE EIS Project Manager
Page 2 of 2

Thank you for allowing us to comment on this important issue. If you have any questions, please contact Doyle Wilson, Water Resources Coordinator, at 928-453-6660.

Sincerely,

Harvey Jackson
Mayor

cc: Mr. Doug Karafa
Clean Water Coalition
1001 Whitney Ranch Drive, Suite 100
Henderson, NV 89014

(E2-4 continued)

Section 7.4.1 of the Draft EIS described the 2002 public scoping activities, with transcripts from these meetings provided in Appendix B. Sections 1.6.3 and 7.4.3 of the Final EIS describe the 2005 public meetings. Transcripts are included in Appendix L for meetings at which oral comments were submitted.

In addition, as stated in Section 1.2 of the Draft and Final EIS, numerous federal, state, and local agencies were invited to participate in the preparation of the SOCP EIS as cooperating agencies. The Arizona Department of Environmental Quality and Arizona Department of Water Resources were two of the agencies invited to participate.

Response E3 Mojave County (District III), Arizona

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ENVIRONMENTAL IMPACT STATEMENT MEETING

Public Comments

Wednesday, October 19, 2005

6:30 p.m.

West Flamingo Senior Center

6255 West Flamingo Road

-oOo-

CERTIFIED COPY

REPORTED BY: CINDY CALDWELL, CCR NO. 650

ALL-AMERICAN COURT REPORTERS (702)240-4393

2

PUBLIC STATEMENTS

MR. ERIC HAWKINS: We will turn some time over to Mr. Buster Johnson from Mohave County to make his comments.

MR. BUSTER D. JOHNSON: Since you gave me all night to do this. First I want to thank you for the opportunity to address this proposal.

I am Buster Johnson, District III Supervisor, from Mohave County, Arizona. I am here tonight representing my district, not the Mohave County Board of Supervisors, as the full board has not yet taken a position on this project.

I am opposed to this project. The dumping of hundreds of millions of gallons of effluent into Lake Mead on a daily basis is, in my opinion, a reckless disregard for the millions of down river users. Our country has strived to clean up our rivers and lakes from the pollution caused by septic tanks and run offs.

Billions of dollars are being spent around the country to correct the past mistakes of discharges into rivers and lakes. Down river in Lake Havasu, the citizens are spending $500 million to install a sewer system to clean up their water and protect the Colorado River.

The City of Bullhead, along with other river

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communities, has taken steps to clean up the river. Neither of these communities, which are adjacent to the Colorado River, dumps their effluent into the river.

A growing concern is the drugs that are being found in our water supplies. Our nation takes a pill for everything. If we have a headache, back pain, depressed, poor sex life, want to lose weight, gain weight -- you name it and you got a pill to correct it. Our bodies only use a portion of these pills, and they pass through our system and end up in our sewer systems.

These chemicals have not been on our radar for detection or removal in our sewer plants. We are now detecting heart medicines, birth control pills, anti-cholesterol pills, and others in our rivers, lakes, and water supplies.

Different studies are showing that there is a negative effect on fish from these drugs in our water. Animals are always the first to pay for our human errors.

A study by the Department of Biochemistry and Molecular Biology and Center for Biotechnology, University of Florida, Gainesville, in May of 2003, stated: "Endocrine-disrupting compounds, EDCs, that mimic estrogens come from a variety of sources, including by-products from manufacturing, effluent from

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4

1 waste water treatment plants, and pesticides." Exposure
2 to these estrogenic EDCs may lead to a variety of
3 psychologic (sic) problems in humans, including vaginal
4 cancers, reproductive tract abnormalities,
5 cryptorchidism, semen abnormalities, and hypospadias.
6 There have been no studies, that I'm aware of,
7 that test for the different drugs that pass through our
8 systems and are discharged by our effluent systems. So
9 there are no long-term studies on the effect these pass
10 through drugs have on the people who drink this
11 chemical-laced water that our government serves us for a
12 fee.
13 My concerns are for the unknown factors that
14 could affect millions of people 10, 20 years from now
15 who depend on the Colorado River for their drinking
16 water. The hundreds of millions of gallons of effluent
17 proposed daily to be dumped directly into Lake Mead, and
18 that figure will grow with time, is too significant of a
19 number to take a wait-and-see attitude.
20 Another concern that I have is for nitrates in
21 our water. A main reason for sewering is high nitrate
22 counts detected in drinking water. The sewer treatment
E3-1 23 plants reduce the level of nitrates, but what affect
24 does the concentrated dumping of these nitrates into the
25 lake have on down river users? With evaporation and low

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E3-1

The impacts to downstream users are presented in Chapter 4 of the Final EIS.

5

E3-1

rain fall, the nitrates could become a problem again for those millions of users down river.

E3-2

I do not want to be one of the folks that is against everything and offers no alternatives. The City of Los Angeles is treating 20 million gallons a day of drinking water quality and plans to increase that to 60 million gallons a day in the future. They have created, as others have, wetlands and water attractions to reuse their effluent and percolate the effluent. Many other cities are doing the same.

E3-3

Another area could be found to percolate this effluent using nature's own filtration system until studies can be done on the long-term effects of dumping straight into our water supply

I understand that this proposed dumping into Lake Mead will allow Las Vegas area to pull more water out of the Colorado River so that growth can continue at a record pace, but I feel that not enough is known about the possible long-term negative affects on those of us down river.

Now is the time for Las Vegas, a world wide icon, to set the bar for other areas by reusing their effluent, whether it is for wetlands or highly treated drinking water and not take the easy way out of dumping their problems on others.

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E3-2

Treated wastewater from the Valley has been treated and discharged to Lake Mead via the Las Vegas Wash since 1956. Treated wastewater flows will continue to be discharged to Lake Mead, even under the No Action Alternative.

As indicated in the tables presented in Section 4.1, nitrate levels through Hoover Dam would increase slightly under the pipeline alternatives. However, all values are well below the Water Quality Standard of 10 mg/L.

E3-3

See General Response 2.

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1 I thank you for your time.
2 MR. ERIC HAWKINS: Thank you.
3 Anyone that wishes to comment?
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REPORTER'S CERTIFICATE

STATE OF NEVADA)
) SS
COUNTY OF CLARK)

I, CINDY CALDWELL, CERTIFIED COURT REPORTER, HEREBY CERTIFY THAT I TOOK DOWN IN STENOTYPE ALL OF THE PROCEEDINGS HAD IN THE BEFORE-ENTITLED MATTER AT THE TIME AND PLACE INDICATED, AND THAT THEREAFTER SAID STENOTYPE NOTES WERE TRANSCRIBED INTO TYPEWRITING AT AND UNDER MY SUPERVISION.

THAT THE FOREGOING TRANSCRIPT CONSTITUTES A FULL, TRUE AND ACCURATE RECORD OF THE PROCEEDINGS HAD.

IN WITNESS WHEREOF, I HEREUNTO SUBSCRIBE MY NAME AT LAS VEGAS, NEVADA.

Cindy Caldwell
CINDY CALDWELL, CCR NO. 650

ALL-AMERICAN COURT REPORTERS (702)240-4393

MOHAVE COUNTY ATTORNEY

Main Office:
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315 N. 4th Street
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Lake Havasu City - (928) 453-4144

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Kingman, AZ 86402-7000
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Fax (928) 753-4290

William J. Ekstrom, Jr.: (928) 753-0770, x-4277
Email: Bill.Ekstrom@co.mohave.az.us

November 30, 2005

Clean Water Coalition
Attn: Doug Karafa
1001 Whitney Ranch Drive, Suite 100
Henderson, NV 89014

Dear Doug:

At their November 21, 2005 Board of Supervisors meeting, the Mohave County Board of Supervisors directed the County Attorney's Office and the Public Health Department to respond to the Clean Water Coalition's proposal to dump Las Vegas sewer plant effluent into the center of Lake Mead, upstream of its intakes and closer to downstream users. The comments of the Board of Supervisors to the Environmental Impact Statement are as follows:

1. The Mohave County Board of Supervisors has held a public meeting, heard a presentation of the "Clean Water Coalition," and conferred with public health staff, technical staff and legal counsel.

E4-1 2. The Colorado River is consistently recognized as one of this country's most endangered rivers

E4-2 3. The Colorado River is the lifeblood of Mohave County, Arizona's tourist industry, recreation opportunities, and drinking water.

E4-3 4. The "Coalition" has failed to study public health effects on downstream users, possible effect on endangered species, and the issue of pharmaceuticals in the effluent.

E4-4 5. The "Coalition" has failed to suggest a plan for reuse of all Las Vegas's effluent by Las Vegas.

E4-5 6. The "Coalition" has failed to propose membrane treatment and other technologies for its plants to insure clean effluent.

Response E4 Mojave County Board of Supervisors

E4-1

Comment noted.

E4-2

Comment noted.

E4-3

See General Response 6.

See General Response 9.

The text in Section 1.4 has been revised based on the results of the literature review presented in Appendix K.

E4-4

See General Response 2.

E4-5

See General Response 1.

Doug Karafa
November 30, 2005
Page Two

E4-6 7. The "Coalition" has failed to present contingency plans for plant breakdowns and flood conditions which could cause by-pass of treatment facilities.

E4-7 8. The "Coalition" has failed to include plans for independent, unbiased, and systematic monitoring of effluent from its plants and the Lake Mead discharge pipe.

E4-8 9. The "Coalition" has failed to propose substantial civil and criminal sanctions for water quality violations.

E4-9 10. The amount of time afforded for stakeholders to review and comment on the EIS is insufficient.

In view of the foregoing, the Mohave County Board of Supervisors requests that:

E4-10 A. Las Vegas not discharge its effluent, treated or untreated, into Las Vega Wash, Lake Mead, Lake Mohave or the Colorado River.

E4-11 B. The Colorado River counties and communities be included as stakeholders in all future meetings and decisions regarding the Colorado River.

E4-12 C. Downstream users be protected from all upstream sources which tend to degrade the water quality of Lake Mohave and the Colorado River.

Sincerely,

William J. Ekstrom, Jr.
Civil Deputy County Attorney

WJEjr:jcl
cc: P.B.S. & J.
Attn: SCOPE EIS Project Manager
2270 Corporate Circle, Suite 100
Henderson, NV 89074

Copies also sent via email to: dkarafa @cleanwatercoalition.com
eis@cleanwatercoalition.com

E4-6

See response to comment E1-6.

E4-7

See General Response 10.

E4-8

The CWA and NRS provide substantial civil and criminal penalties for discharging without a permit, or discharging in violation of a permit. The purpose of a draft EIS is not to establish penalties, but to consider environmental consequences of alternatives.

E4-9

Comment noted.

E4-10

See response to comment E2-1.

E4-11

The Colorado River counties and communities will be included as stakeholders and be kept informed of SCOP progress and meetings to the extent possible given the available contact information. However, it is beyond the scope of this EIS to ensure that the Mohave County Board of Supervisors is included in "all future meetings and decisions regarding the Colorado River."

E4-12

The wastewater treatment facilities in the Valley are some of the best in the nation--the quality of treatment is in the top 7 percent of wastewater treatment facilities in the nation.

The Draft EIS presents results of modeling Boulder Basin (sections 4.1.1.3.2, 4.1.2.3.3, 4.1.3.3, 4.1.4.3.3 and 4.1.5.3) and the Colorado River downstream of

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(E4-12 continued)

Hoover Dam, including Lake Mohave (Section 4.1). These modeling results indicate that the Boulder Islands alternatives would result in the maintenance of good downstream water quality, suitable for both municipal water supply and recreational purposes.