

**Appendix A**

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**SCOP EIS Record of Decision**

**DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION  
LOWER COLORADO REGION**

**SYSTEMS CONVEYANCE AND OPERATIONS PROGRAM  
FINAL ENVIRONMENTAL IMPACT STATEMENT**

**RECORD OF DECISION**

**July, 2007**

**I. Introduction**

Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190) and the regulations promulgated by the Council of Environmental Quality (40 CFR Part 1500), the Department of the Interior, Bureau of Reclamation has prepared this Record of Decision for the Final Environmental Impact Statement (FEIS) concerning the Systems Conveyance and Operations Program (SCOP). The SCOP includes a combination of wastewater treatment plant optimization, increased treatment, and a pipeline to discharge highly treated effluent to an alternate location in the Lower Colorado River System via Lake Mead. The Clean Water Coalition (CWC), which is comprised of the three agencies currently responsible for wastewater treatment in the Las Vegas Valley: the City of Las Vegas (CLV), the City of Henderson (COH), and the Clark County Water Reclamation District (CCWRD), proposes to implement the SCOP. The SCOP would provide an alternate discharge point for the effluent, which is currently discharged to Lake Mead through the Las Vegas Wash. The SCOP includes activities and infrastructure that would be located on lands owned or managed by private entities, the CLV, the COH, Clark County, Reclamation, National Park Service (NPS), and the Bureau of Land Management, all within Clark County, Nevada.

The purpose of implementing one of the action alternatives is to maintain water-quality standards and NPS recreational and resource values by operating a system that would allow for flexible management of wastewater flow from the Las Vegas Valley (Valley) to Lake Mead. Clark County, Nevada is one of the fastest growing counties in the United States. It is projected that the population in the area will be approximately 3,130,000 by 2035 (UNLV 2004). The quantity of effluent treated and discharged in the Valley will increase as the population of the Valley increases. Forecasts indicate that average daily flow of approximately 400 million gallons per day of municipal wastewater will need to be treated and managed in the Valley by 2050 (Black & Veatch 2004a). The flows projected for the year 2050 were extrapolated from treatment plant projections. The wastewater facilities must accommodate the additional flows while continuing to meet current or future water quality standards for the Las Vegas Wash, Las Vegas Bay, and Lake Mead.

The CWC needs a system that:

- Provides maximum flexibility for management of increasing amounts of treated effluent flows between the current discharge location at the Las Vegas Wash, Las Vegas Bay, and other locations in Lake Mead;
- Provides flexibility 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;
- Enhances the Las Vegas Bay area of the Lake Mead National Recreation Area (LMNRA) by protecting and maintaining the recreational and resource values of the entire LMNRA and continuing to meet beneficial uses, while more than doubling the treated effluent flows discharged to Lake Mead;
- Accommodates Lake Mead's lowering water levels as the amount of mixing and dilution available in the inner Las Vegas Bay decreases with the lowering Lake levels;
- Provides flexibility to avoid possible impacts to source-water quality at the Southern Nevada Water System intake structures; and
- Avoids the ratcheting-down effects of Nevada's requirements to maintain existing higher quality anti-degradation system that happens in effluent dominated waterways such as the Las Vegas Wash, by removing the effluent to a natural, non-effluent dominated waterway in which the existing water quality is set by the natural flow conditions, not the effluent itself.

## **II. Decision**

After thorough analysis and public involvement, Reclamation has determined it will issue a right-of-way permit to construct and operate the Boulder Islands North Alternative on Reclamation land. The Boulder Islands North Alternative, the environmentally preferred alternative, includes the use of current, conventional treatment processes, plant optimization, increased treatment, and a pipeline that would convey highly treated effluent from the three treatment facilities to an alternate discharge location near the Boulder Islands in Lake Mead.

## **III. Background**

The Notice of Intent to prepare an environmental impact statement (EIS) for the SCOP was published in the Federal Register Vol. 67, No. 144 on July 26, 2002. Information and presentations regarding the proposed project were presented to the public at scoping meetings held in August of 2002. The scoping meeting locations included Henderson and Las Vegas, Nevada; Tempe and Phoenix, Arizona; and Palm Springs and San Diego, California.

### Public Meetings and Comment Opportunities

Following the October 2005 release of the "Clean Water Coalition Systems Conveyance and Operations Program Draft Environmental Impact Statement", there was a 60 day public review and comment period on the document. The Notice of Availability was published by the NPS and Reclamation in the Federal Register on October 5, 2005 (Vol. 70, No.192) and by the

Environmental Protection Agency (EPA) on October 7, 2005 (Vol. 70, No. 194) announcing the availability of the Draft EIS for public review and comment. Public meetings were held in Henderson and Las Vegas, Nevada; Tempe and Phoenix, Arizona; and Palm Springs and San Diego, California to solicit comments on the Draft EIS. Comment sheets were provided for people to submit written comments, and a stenographer was on hand to record verbal comments. The public was also encouraged to comment via email at [eis@cleanwatercoalition.com](mailto:eis@cleanwatercoalition.com).

### Interagency Consultations

On June 12, 2007, the NPS and Reclamation completed formal consultation with the U.S. Fish and Wildlife Service (Service). The avoidance and minimization measures that are specified in the Biological Opinion that will mitigate impacts on Reclamation administered lands are included in this Record of Decision.

The NPS and Reclamation have completed consultation with the Nevada State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation. A Programmatic Agreement has been initiated which ensures that the required mitigation measures are implemented to minimize or eliminate the potential impact to cultural resources.

### Coordination with Native Americans

Letters notifying tribal members of the proposed project and upcoming scoping meetings were mailed on August 9, 2002, to 31 individual members representing 19 Native American Tribes located near and downstream of the proposed project. Attached to the letter was a copy of the Federal Register Notice of Intent to prepare an EIS. No tribal members attended the scoping meetings that were held in August 2002.

A Native American Coordination Meeting was held on March 31, 2004. Invitations were sent to the same 31 tribal members. Three individuals representing the Ft. Mojave, Las Vegas Paiute Tribal Council, and Colorado River Indian Tribes attended the meeting. The tribal members were encouraged to provide comments.

### Public Notification

Notices of availability were published in the Federal Register by the NPS, Reclamation, and the EPA. Public meeting notices were published in the Las Vegas Review Journal, Henderson Home News, Arizona Republic, Desert Sun, Los Angeles Times, and San Diego Union-Tribune. Postcards were mailed to residents in southern Nevada, Arizona, and California notifying them of the public meetings.

More than 500 comments were received on the Draft EIS from approximately 70 commenters. The issues most often mentioned include: requests for analyses of a Process Improvements alternative that includes additional wastewater treatment; concerns about changes to water quality through Hoover Dam and the potential impacts to downstream users and aquatic species; concerns regarding the potential impacts to water quality; the potential impacts to humans and fish from exposure to endocrine disrupting chemicals and pharmaceuticals and personal care products; and requests for additional details regarding the Boulder Basin Adaptive Management Plan. All comments were duly considered and adjustments were made to the preferred alternative and FEIS.

#### **IV. Alternatives Considered in the Final SCOP EIS**

The SCOP FEIS evaluates the potential environmental impacts associated with three pipeline alternatives, a Process Improvements Alternative (no pipeline), and the No Action Alternative (no pipeline). The three pipeline alternatives include, the Boulder Islands North Alternative, the Boulder Islands South Alternative, and the Las Vegas Bay Alternative.

All of the alternatives analyzed in the FEIS include the use of conventional treatment processes and plant optimization to attempt to meet water quality standards. In addition to the use of conventional treatment processes and plant optimization, the three pipeline alternatives include additional treatment, as needed, and the construction and operation of a pipeline that would transport highly treated effluent from the three treatment facilities to a receiving area underwater within Lake Mead. The Process Improvements Alternative adds microfiltration/ultrafiltration (MF/UF) membranes to plant optimization processes.

The pipeline alternatives would allow for flexible management of the highly treated effluent. A controlled amount of effluent would continue to be discharged to the Las Vegas Wash at each facility. The discharge amount, velocity, and direction from the pipeline diffuser would also be flexibly operated depending on the conditions of Lake Mead.

##### No Action Alternative

A pipeline would not be constructed to transport effluent from the treatment facilities. Current conventional treatment processes along with plant optimization measures would be used to attempt to meet the requirements set by the Nevada Division of Environmental Protection (NDEP) through the National Pollutant Discharge Elimination System permitting program. Total phosphorus (TP) from the combined effluent of the treatment facilities is currently treated so not to exceed 0.2 milligrams per liter (mg/L). Each of the three treatment plants is unique in their design, processes, facility improvement schedules, and varying capabilities of phosphorus removal. Nonetheless, the three agencies responsible for municipal wastewater treatment would continue to coordinate treatment and discharges to achieve combined TP levels of 0.14 mg/L during plant optimization.

##### Boulder Islands North Alternative

A pipeline to convey highly treated effluent from the three treatment facilities to an alternate discharge location near the Boulder Islands in Lake Mead would be constructed. The first segment of the pipeline, Effluent Interceptor (EI)-Alignment A, extends from the CLV treatment facility to the EI Terminus site west of Lake Las Vegas. The effluent discharged from the CLV and CCWRD's treatment facilities would bypass the lower Las Vegas Wash via the EI. The treated effluent from the COH Water Reclamation Facility would be introduced to the EI via the COH Forcemain, which crosses beneath the Las Vegas Wash in the vicinity of the Pabco Road Erosion Control Structure (ECS). The three flows would be combined north of the Pabco Road ECS and transported to the vicinity of the Boulder Islands in Lake Mead via the Lake Conveyance System (LCS). The majority of the Boulder Islands North LCS would be installed in a tunnel through the River Mountains. A hydroelectric power generation facility would be located on NPS land to utilize the energy created from a drop of elevation in the LCS from the River Mountains to Lake Mead. The power would be utilized by the Southern Nevada Water Authority at their Alfred Merrit Smith Water Treatment Facility at Saddle Island in Lake Mead.

The Boulder Islands North Alternative is the environmentally preferred alternative as well as the agency preferred alternative identified in the SCOP FEIS.

### Boulder Islands South Alternative

A pipeline to convey highly treated effluent from the three treatment facilities to an alternate discharge location near the Boulder Islands in Lake Mead would be constructed. The first segment of the pipeline, EI-Alignment B, extends from the CLV treatment facility to the EI Terminus location west of Lake Las Vegas. The effluent discharged from the CLV and CCWRD's treatment facilities would bypass the upper Las Vegas Wash via the EI. The South Lateral Pipeline would convey the treated effluent from the COH Water Reclamation Facility. The three flows would be combined at the EI Terminus and be either returned to the Las Vegas Wash at a point upstream of Lake Las Vegas, or be transported to the vicinity of the Boulder Islands in Lake Mead via the LCS. The majority of the Boulder Islands LCS would be installed in a tunnel through the River Mountains.

### Las Vegas Bay Alternative

A pipeline to convey highly treated effluent from the three treatment facilities to an alternate discharge location in the Las Vegas Bay of Lake Mead would be constructed. The first segment of the pipeline, EI-Alignment B is the same as described for the Boulder Islands South Alternative. The three flows would be combined at the EI Terminus and be either returned to the Las Vegas Wash at a point upstream of Lake Las Vegas, or be transported to the Las Vegas Bay in Lake Mead via the LCS. The majority of the Las Vegas Bay LCS would be installed in a tunnel through the River Mountains.

### Process Improvements Alternative

Under the Process Improvements Alternative, a pipeline would not be constructed. Highly treated effluent would continue to be discharged to the Las Vegas Wash at the existing discharge locations, and effluent flows would continue to enter the Las Vegas Bay for mixing and diffusion in an uncontrolled fashion.

In addition to current, conventional treatment processes and plant optimization, best available technologies would be implemented to maintain an acceptable TP loading. An example of the type of technology that may be implemented to achieve the target TP level of 0.05 mg/L is MF/UF membranes.

## V. Basis for Decision

The environmentally preferred alternative is the alternative that would meet the requirements of section 101 of NEPA. This alternative would satisfy the following requirements:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Ensure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable or unintended consequences;
- Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources, and approach the maximum attainable recycling of depletable resources.

In summary, the environmentally preferred alternative is the alternative that causes the least damage to the biological and physical environment, and best protects, preserves, and enhances historic, cultural, and natural resources.

The No Action Alternative, while it eliminates the need for construction on federally managed lands, would result in water quality standard exceedances in the Las Vegas Bay. The water quality standard exceedances may result in increased algae production, which may have an adverse effect on recreation in the Las Vegas Bay area of Lake Mead. In addition, the No Action Alternative does not provide the flexibility needed to manage the increasing effluent flows in the Valley. For these reasons, the No Action Alternative is not preferred from an environmental perspective.

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

The impacts resulting from the Las Vegas Bay, Boulder Islands South, and Boulder Islands North alternatives are similar. The three pipeline alternatives would result in minor, temporary impacts to surface water, biological resources, recreation, noise, air quality, visual resources, and traffic during construction. The Las Vegas Bay Alternative is not preferred from an environmental perspective because, although, water quality standards would not be exceeded, modeling indicates that the effluent discharged in the Las Vegas Bay would be less diluted than if discharged in the vicinity of the Boulder Islands.

The Boulder Islands South Alternative would generate a larger quantity of spoils that would require disposal than the Boulder Island North Alternative. The increased spoil quantity results in an increased number of trucks needed to haul the spoils to designated disposal areas. In addition,

the Boulder Islands South Alternative has the potential to affect more archaeologically significant sites than the other alternatives. For these reasons, the Boulder Islands South Alternative is not preferred from an environmental perspective.

The Boulder Islands North Alternative is the environmentally preferable alternative because, overall, it would best meet the requirements of section 101 of NEPA. It would provide the flexibility needed to manage the increasing effluent flows in the Valley, without degradation of Reclamation and NPS resources. In addition, this alternative would use effluent flows through the pipeline to generate electrical power that would be used by the Alfred Merritt Smith Water Treatment Facility. Reclamation has reviewed the analysis of the construction and operation of the proposed power plant by the Clean Water Coalition on Federal Land, adjacent to Lake Mead and finds that it will not have any adverse impact on the management or disposition of lands withdrawn for Reclamation project purposes. The generation of hydroelectric power is considered an environmentally responsible action and a beneficial impact of the Boulder Islands North Alternative.

## **VI. Environmental Commitments**

Measures to avoid or minimize environmental impacts that could result from implementation of the selected alternative have been identified and incorporated into the selected action. These mitigation measures as presented in the SCOP FEIS are described by resource.

### Water Resources

**Surface water:** Open-trench excavation will be conducted with caution and attention to any major ephemeral washes that are crossed to ensure that the open trench does not cross two major ephemeral washes at any one time. In addition, the sequencing of excavation would minimize the amount of time the trench will remain open. This is especially critical during the monsoon season in the summer months when the risk of major rainfall runoff events is highest.

**Surface water quality:** The reduction in flows through the Las Vegas Wash would result in less dilution of non-effluent related parameters such as selenium. Selenium concentrations in the Las Vegas Wash will be monitored closely to evaluate current Las Vegas Wash concentrations and adjust effluent delivery to the Las Vegas Wash. The Core Management Team may advise the wastewater treatment agencies to increase effluent flows to dilute elevated selenium concentrations. Recommendations from the Lake Mead Water Quality Forum, the Las Vegas Wash Coordination Committee, and associated technical and advisory committees on effluent flow adjustments will be considered in the decision-making process.

**Groundwater:** Dewatering operations and discharges will be conducted in compliance with the applicable dewatering and discharge permits. The discharge of pollutants to the groundwater system from dewatering operations will be prevented or reduced by using sediment controls and by testing the groundwater for pollutants. High sediment content in dewatering discharges is common because of the nature of the operation. The use of a sediment trap or basin in conjunction with a filtration system to remove sediment from the trap or basin will minimize the chances of sediment entering the groundwater system.

Groundwater encountered during dewatering will be analyzed for suspected pollutants and be properly disposed of as directed in the discharge permit. The handling, discharge, and disposal of contaminated groundwater would be conducted in accordance with NDEP requirements and guidance.

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.

Impacts from disturbance to the shallow groundwater system may create pathways for groundwater flow. The nature of the impact depends on the backfill used to cover the South Lateral Pipeline. The permeability of the backfill material may influence the type and extent of impact to the groundwater system. Therefore, backfill of suitable permeability would be used to avoid the potential impact to the groundwater system. Additional mitigation measures as specified by NDEP may be implemented to reduce the potential for contaminant migration.

### Biological Resources

An approved restoration plan will be developed and implemented to restore the vegetation, soil conditions, and wildlife habitat to pre-construction conditions. Due to the regionally arid climate, vegetation recovers slowly over several years. Therefore, implementation, monitoring, and success criteria will be established to ensure the successful reclamation of the project area.

Erosion and sediment control devices will be used to prevent impacts to the riparian areas in the vicinity of the Las Vegas Wash.

To reduce the chances of spreading noxious weeds into the project area, the undercarriages of construction vehicles will be washed at designated wash stations located off the project site prior to working on the project. The disturbed areas will be restored according to the approved restoration plan, the area will be monitored for restoration success according to success criteria established by Reclamation, and the area will be monitored for noxious weeds and exotic plants to ensure that establishment of these species does not occur.

The reasonable and prudent measures recommended for this project are based the biological opinion rendered by the Service for the SCOP.

Desert tortoise: The implementation of the following reasonable and prudent measures will minimize mortality and injury of desert tortoise due to project activities, capture, and handling. All mitigation measures mentioned for minimizing injury to desert tortoise are only to be implemented within desert tortoise habitat.

- Prior to initiation of construction, an authorized biologist shall present an endangered species education program to all personnel who will be on site, including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, delivery personnel, and all visitors operating a vehicle in the right-of-way. This program will contain information concerning the biology and distribution of sensitive species, their legal status and occurrence in the project area; the definition of "take" and associated penalties; the measures designed to minimize the effects of project activities; the means by which employees can help facilitate this process; and reporting procedures to be implemented in case of desert tortoise encounters. A pamphlet that outlines basic critical information on dealing with tortoises encountered on the project will be provided to all personnel attending the program.
- Reclamation shall ensure that an authorized desert tortoise biologist is on-site during construction activities. In accordance with *Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise* (Service, 1992), an authorized desert tortoise

biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists shall comply with the Service-approved handling protocol (Desert Tortoise Council 1994, revised 1999). In addition, the biologist shall have the ability to recognize all forms of tortoise sign, shall have the ability to recognize and accurately record survey results, and must be familiar with the terms and conditions of this biological opinion. All tortoise biologists shall complete the Qualifications Form and submit it to the Service for review and final approval as appropriate. Allow 30 days for Service review and response.

- Each day prior to initiation of surface-disturbing activities within desert tortoise habitat areas not fenced to exclude tortoises, an authorized biologist(s) shall survey areas to be disturbed for desert tortoises using techniques providing 100-percent coverage. Transects will be no greater than 30 feet apart. The site boundaries will be flagged prior to the biological survey. All desert tortoise burrows will be examined to determine occupancy of each burrow by desert tortoises and handled in accordance with the Terms and Conditions in the Biological Opinion. All burrows that cannot be avoided will be excavated by hand. All desert tortoise handling and burrow excavations will be conducted by a qualified desert tortoise biologist in accordance with Service-approved protocol (Desert Tortoise Council 1994, revised 1999). Desert tortoises found within the project area shall be moved out of harm's way to adjacent areas of suitable habitat in accordance with Service approved guidelines (Desert Tortoise Council 1994, revised 1999).
- All potential desert tortoise burrows located within the project area proposed for disturbance shall be flagged and avoided during construction, if possible. Burrows that cannot be avoided, whether occupied or vacant, shall be excavated by hand by an authorized desert tortoise biologist and collapsed or blocked to prevent occupation by desert tortoises. All burrows will be excavated with hand tools to allow removal of desert tortoises and/or desert tortoise eggs which are typically located near the entrance to burrows. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by an authorized desert tortoise biologist in accordance with the Service-approved protocol (Desert Tortoise Council 1994, revised 1999). If the Desert Tortoise Council releases a revised protocol for handling of desert tortoises before initiation of project activities, the revised protocol shall be implemented for the project area.
- Tortoise fencing or ramps shall be installed at work sites, when determined necessary by Reclamation or other jurisdictional agency. All fencing and/or ramps shall meet requirements established by the Service and will be checked and repaired/replaced, as needed to ensure a tortoise barrier is maintained.
- All desert tortoises observed by project workers shall be reported immediately to the qualified biologist. Biologists and monitors have the authority to briefly halt construction to avoid harm to a desert tortoise. Project activities that may endanger a desert tortoise shall cease until the desert tortoise moves out of harm's way or is moved out of harm's way by an authorized desert tortoise biologist.
- An authorized biologist(s) shall be assigned to monitor heavy equipment during construction for the protection of desert tortoises and to monitor compliance. The level of effort involved in this monitoring will be dependent on desert tortoise activity and whether tortoise-proof fencing has been installed around the construction area, as specified.

- When construction activities occur within an area not enclosed by tortoise-proof fencing and during the period of least desert tortoise activity (e.g., November 1 through February 28/29), a biological monitor shall be assigned to each piece of ground-breaking equipment during initial clearing.
  - When construction activities occur within an area not enclosed by tortoise-proof fencing when desert tortoises are most active (e.g., March 1 through October 31), a biological monitor shall be assigned to each piece of ground-breaking equipment, the grader, and the pipe-laying crew; and to all backfilling, recontouring, and reclamation activities.
  - When construction activities occur within an area enclosed by tortoise-proof fencing, ground-breaking activities shall be prohibited beyond the boundaries of the tortoise-proof fence unless accompanied by an authorized biologist or monitor.
- Desert tortoises shall be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95°F (35°C). Ambient air temperature shall be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface. No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95°F (35°C) before handling and relocation can be completed. If the ambient air temperature exceeds 95°F (35°C) during handling or processing, desert tortoises shall be kept shaded in an environment that does not exceed 95°F (35°C), and the animals shall not be released until ambient air temperature declines to below 95°F (35°C).
- All fuel, transmission or brake fluid leaks, or other hazardous waste leaks, spills or releases shall be reported immediately to Reclamation. Spill material shall be removed and disposed of in an approved off-site landfill. Servicing of construction equipment will take place only at a designated area. All fuel or hazardous waste leaks, spills, or releases will be stopped or repaired immediately and cleaned up at the time of occurrence. Service/maintenance vehicles will carry a bucket and pads to absorb leaks or spills.
- Vehicles shall not exceed 20 miles per hour on access roads. Speed limit signs shall be installed. Caution signs indicating the presence of desert tortoises will be posted at the beginning of the access road and midway to the project. Authorized desert tortoise biologists will monitor speed limit compliance during construction.
- Project personnel shall exercise caution when commuting to the project area and obey speed limits to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the project site. Onsite personnel shall exercise caution and car pool to the greatest extent possible. All desert tortoise observations, including mortalities, shall be reported directly to an authorized desert tortoise biologist or the field contact representative.
- Any time a vehicle is parked, whether the engine is engaged or not, the ground around and underneath the vehicle shall be inspected for desert tortoises prior to moving the vehicle. If a desert tortoise is observed, an authorized biologist will be contacted. If possible, the tortoise will be left to move on its own. If the tortoise does not move within 15 minutes, the tortoise

will be removed and relocated by the authorized biologist in accordance with the Service-approved handling protocol and measures above. Although recommended, this procedure (checking under vehicles) is not required in areas that are fenced with tortoise-proof fencing and cleared of desert tortoises.

- Dogs and firearms shall be prohibited from the project site with the exception of security and law enforcement activities.
- Cross-country travel and travel outside designated areas shall be prohibited.
- If trenches or other excavations do not contain 2:1 or lesser slopes, escape ramps consisting of loose dirt shall be deposited in all holes or trenches deeper than 1 foot to facilitate escape of desert tortoises that may have become entrapped. These escape ramps will consist of a 2:1 slope and will be placed at least every ¼-mile along open trenches and at each end. Any animals discovered in a trench or other excavations will be carefully removed from the pit or trench and allowed to escape before backfilling resumes or will be carefully removed from the pit or trench by an authorized tortoise biologist, and then allowed to escape. Soil, including topsoil and soil taken from the trench, shall be stockpiled within the right-of-way or in a previously designated location.
- Any open trench or holes greater than 1-foot deep shall be inspected by a biological monitor. These areas will be checked once in the morning before construction begins for the day, periodically throughout the day, once at the end of the day, and immediately prior to backfilling.
- Any unburied pipe, either in the trench or out of the trench, shall be capped at the ends to prevent entry by wildlife. All pipes will be checked for the presence of tortoises prior to capping. All tunnel openings will be covered when work is not in progress to prevent the entry of wildlife. All tunnels will be checked for the presence of tortoises prior to covering. Tortoises will be removed by an authorized tortoise biologist according to Service-approved protocol and measures above.

The implementation of the following reasonable and prudent measure would minimize predation on desert tortoises by predators drawn to the project area.

- Implement a litter-control program to reduce the attractiveness of the area to opportunistic predators such as desert kit fox, coyotes (*Canis latrans*), and common ravens. Trash and food items will be disposed of properly in predator-proof containers with re-sealing lids. Trash containers will be emptied and project waste will be removed from the project area as needed and disposed of in an approved landfill.

The implementation of the following reasonable and prudent measures would minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of weeds as a result of construction and maintenance activities.

- The boundaries of all areas to be disturbed shall be flagged before beginning any activities, and all disturbances shall be confined to the flagged areas. All project vehicles and equipment will be confined to the flagged areas. Survey crew vehicles will remain on existing roads. Disturbance beyond the construction zone is prohibited except to complete a specific task within designated areas or emergency situations. An authorized biologist will survey for and clear the area of tortoises immediately prior to any cross-country travel. Cross-country travel will be the minimum necessary to complete a specific task. Authorized desert tortoise biologists and/or monitors will be assigned to ensure that construction activities occur in designated areas.

- Prior to construction, cacti and yucca to be impacted by project activities shall be excavated and transplanted as part of the restoration in accordance with Reclamation standards.
- Stockpile areas, vehicle turn-arounds, and vehicle service locations will be approved by Reclamation prior to initiation of construction activities. These areas will be surveyed for desert tortoises. Whenever possible, stockpile areas, vehicle turn-arounds, vehicle service locations, pipes, and equipment will be restricted to currently disturbed areas. If not in currently disturbed sites, these areas will be considered habitat disturbance for payment of fees.
- Topsoil will be removed to a depth of 6 to 12 inches in all areas of potential seed-bearing soil where ground breaking will take place. The determination of which soils are potentially seed-bearing will be the responsibility of the biologist. Removed topsoil will be stockpiled in a separate area and designated as “topsoil” to prevent contamination by or combination with other excavated soils. Stockpile areas for topsoil will be located in areas that are secure from construction traffic or flash floods. Reasonable measures will be taken to ensure the protection and preservation of the stockpiled topsoil to prevent loss of the seed bed from wind and rain or contamination by other soils or manmade contaminants.
- Where topsoil removal or project excavations are not required, any vegetation in the right-of-way will be “bladed off” at ground level or simply crushed to preserve the root systems of the plants.
- A weed-control plan and habitat restoration plan shall be prepared and approved by Reclamation and the Service for the project prior to initiation of surface-disturbing activities. After construction, the project area will be recontoured to match its original contours as much as possible. Heavy equipment shall be cleaned of soil with high-pressure air or water prior to arrival at the project area to minimize the potential introduction of alien plant seeds. All imported materials will be certified weed-free. Blading shall be kept to a minimum. Reclamation shall ensure successful implementation of the weed-control and habitat restoration plan.
- Herbicides shall not be used on the rights-of-way, access roads, pipeline corridors, or fence lines unless approved in writing by the Service.
- Reclamation shall ensure payment of remuneration fees prior to surface-disturbance associated with the project on Reclamation managed lands. The 2007 compensation rate for disturbance to desert tortoise habitat in the project area is \$723 per acre. These fees will be indexed for inflation and will be adjusted accordingly for the year the rights-of-way are approved and fees paid. Fees for disturbance of federal lands are paid into the Clark County Section 7 account. The Section 7 payments shall be accompanied by the Section 7 Fee Payment Form, and completed by the payee. The project proponent or applicant may receive credit for payment of such fees and deduct such costs from desert tortoise impact fees charged by local government entities. Payment shall be by certified check or money order payable to Clark County and delivered to: Clark County Desert Conservation Program, c/o Dept. of Air Quality and Environmental Management, Clark County Government Center, 500 S. Grand Central Parkway, first floor (front counter), Las Vegas, Nevada 89106, (702) 455-5821. The applicant will pay the appropriate remuneration fees for each acre of new disturbance within tortoise habitat.

Reclamation, as appropriate, shall ensure implementation of the measures to comply with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in the biological opinion for SCOP.

- Reclamation shall designate a field contact representative. The field representative will be responsible for overseeing compliance with protective stipulations for the desert tortoise and coordinating with the Service on Reclamation managed lands. The field contact representative shall have the authority to halt activities or construction equipment that may be in violation of the stipulations.
- The on-site biologist shall record each observation of desert tortoise handled. Information will include the following: Location, date and time of observation; whether tortoise was handled, general health and whether it voided its bladder; location tortoise was moved from and location moved to; and unique physical characteristics of each tortoise. A final report will be submitted to the Service's Southern Nevada Field Office in Las Vegas, Nevada, within 90 days of completion of the project.
- An authorized biologist will prepare a report to be distributed to Reclamation, Service, and Nevada Department of Wildlife no later than 90 days following the completion of construction activity. The report will document the numbers and location of desert tortoises encountered, their disposition, effectiveness of minimization measures, practicality of minimization measures, recommendations for future minimization measures that allow for better protection or more workable implementation, and an estimate of acreage disturbed.

#### Reporting Requirements

Upon locating a dead or injured endangered or threatened species in Nevada, initial notification must be made to the Service's Division of Law Enforcement in Las Vegas, Nevada, at (702) 388-6380. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the appropriate Law Enforcement Office with a copy to this office.

Care should be taken in handling sick or injured desert tortoises to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured desert tortoises or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by the Service's Division of Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. All deaths, injuries, and illnesses of desert tortoises, whether associated with project activities or not, will be summarized in the annual report.

The following actions should be taken for injured or dead tortoises if directed by the Service's Division of Law Enforcement:

Injured desert tortoises shall be delivered to any qualified veterinarian for appropriate treatment or disposal. Dead desert tortoises suitable for preparation as museum specimens shall be frozen immediately and provided to an institution holding appropriate federal and state permits per their instructions. Should no institutions want the desert tortoise specimens, or if it is determined that they are too damaged (crushed, spoiled, etc.) for preparation as a museum specimen, then they may be buried away from the project area or cremated, upon authorization by the Service's Division of Law Enforcement. The project proponent shall bear the cost of any required treatment of injured desert tortoises, euthanasia of sick desert tortoises, or cremation of dead desert tortoises. Should sick or injured desert tortoises be treated by a veterinarian and survive, they may be transferred as directed by the Service.

Southwestern toad: Pre-construction surveys for the southwestern toad will identify possible populations along the Las Vegas Wash and allow for the removal of species that may be affected by the construction activities associated with this project.

Southwestern willow flycatcher and Yuma clapper rail: The southwestern willow flycatcher and Yuma clapper rail have not been identified as permanent residents in the project area and there is no evidence that these species breed within the project area. Further, migration or movement of these birds through the action area will not be restricted by the project. The species could potentially be indirectly effected by the reduction in effluent flows, and subsequent changes in Selenium levels, in the Wash from the operation of SCOP. In order to minimize any potential effects, (1) construction will not occur within the riparian areas of the Las Vegas Wash during the breeding season of the flycatcher (May 1 through September 15) or clapper rail (February through early July), (2) on-going surveys for flycatchers will monitor use of Las Vegas Wash by this species and indicate if their abundance has been impacted or additional management actions are necessary, and (3) a Selenium Management Plan (SMP) and ongoing Wash Bioassessment study will monitor selenium impacts to bird species, allowing adaptive management, through the operation of the Boulder Basin Adaptive Management Plan, if contaminants of concern are identified.

### Cultural Resources

To lessen the effects of this project on sites 26CK1301 (a rock shelter), 26CK4046B (the Six Companies, Inc. Railroad [SCIRR]), 26CK7254 (the Six Companies, Inc. Service Road), and 26CK7285 (Aggregate Classification Plant), and to address the potential unidentified subsurface cultural resources along specific sections of the Effluent Interceptor (EI), the CWC will follow the following treatment plan during construction of the pipeline.

#### Treatment Plan

The EI will be placed within a tunnel located at depths ranging from 45 to 90 feet below the surface in the vicinity of the rock shelter (site 26CK1301). There is, however, a remote chance vibration from the tunneling operations could affect the structural integrity of 26CK1301. The CWC will hire an archaeological monitor meeting the Secretary of the Interior's Professional Qualification Standards to assess the condition of the site prior to and after construction.

The archaeological monitor will assess the condition of 26CK1301 prior to construction by taking the existing site form and map to the site and noting any changes that have occurred since the site was last documented. In addition photos will be taken to document the current condition of the site. After construction, the monitor will return to the site with the site form, map, photos, and any notes taken on the first visit and note any changes that have occurred. The monitor will notify Reclamation within 24 hours of the condition of the site. If the site's condition is altered by any aspect of the SCOP project, Reclamation will consult with the SHPO to determine the kind and level of treatment needed. The CWC will be responsible for the cost of implementing any necessary treatment.

Monitoring of Cut-and-Cover Trench: The CWC will hire an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards to monitor the cut-and-cover trenching along the following portions of the EI: Reach 1; Clark County Sanitation Division Advanced Water Treatment Connector; the northern 3,960 feet of Reach 2; and the portion of Reach 2 from

the point near the Pabco Road Erosion Control Structure where the alignment turns to run in an east-northeasterly direction, to its termination at the main line tunnel portal.

In addition, the archaeologist conducting the monitoring will have a background in geology or geomorphology, or a geologist or geomorphologist will be on-call to inspect any suspicious subsurface lenses or intrusions that might be found during the trenching.

The archaeological monitor will monitor the excavation of the EI cut-and-cover trenches. The archaeological monitor will draft a Daily Monitoring/Discovery Form for review and approval by Reclamation. This form will constitute the archaeological monitor's daily log on which will be reported any resource finds (including their types and locations), the progress or status of the monitoring program, and any mitigation measures adopted. The daily logs will also include the locations where monitoring is occurring and where monitoring was deemed unnecessary. The Daily Monitoring/Discovery Forms/daily logs will form the basis for a monthly summary report that will be submitted by the archaeological monitor to Reclamation. A final monitoring report will be prepared by the archaeological monitor and submitted to Reclamation within 30 calendar days following the cessation of the monitoring program. Reclamation will transmit the final monitoring report to SHPO as demonstration that the commitment to monitor the construction of specific segments of the EI cut-and-fill trench has been fulfilled.

Discoveries: In the event obvious or suspected cultural features or artifacts are encountered during the trenching, CWC's construction contractor shall immediately cease work in the area of the potential discovery. When it is safe for the archaeological monitor to enter the trench, the monitor will walk the trench and examine the trench floor and sidewalls to determine whether or not intact subsurface cultural features and/or artifacts are present. In the event the archeological monitor does not possess the necessary geological or geomorphological expertise to perform this evaluation, the on-call geologist or geomorphologist shall be called in to assist. The archaeological monitor will immediately notify the Reclamation archaeologist, and the CWC or its representative of the potential discovery and the status of the evaluation. All potential and confirmed discoveries of cultural resources will be documented on the Daily Monitoring/Discovery Form, and in a manner that meets the standards of the profession (i.e. completion of appropriate forms, scaled profiles, maps and drawings that provide for full description of the resource, the sediment matrix, samples taken, their provenience, etc). Electronic and hard copy of all documentation shall be delivered to Reclamation within 24 hours of the confirmation of the discovery.

Upon notification of a confirmed discovery of a cultural resource during monitoring, Reclamation shall immediately initiate consultation with the SHPO to determine the level of evaluation and documentation appropriate to the resource. Notification to the SHPO of the discovery may be by telephone, fax, or email, followed by electronic and/or hard copies of textual, photographic or other documentation needed to facilitate the consultation. If the SHPO determines it will be necessary for their representative to conduct a field inspection, such inspection shall be scheduled within three working days of that determination. In the event the confirmed discovery is Native American in origin, Reclamation will provide notification and available documentation to the appropriate tribes concurrent with notifying the SHPO.

If it is determined through consultation additional evaluation or treatment of the discovered resource is needed, Reclamation and SHPO will consult with CWC or its representative to devise a series of protocols and a schedule for the evaluation/treatment work, submission of reports and other documentation, and turnaround times for review. The CWC shall direct its archaeological consultant to prepare a plan for further evaluation and/or treatment of the discovered resource for

submission to Reclamation and SHPO. This plan shall be prepared in a manner that is in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48FR44716) and shall reflect the protocols for submitting reports and the schedule agreed to by Reclamation, SHPO, and CWC. After completion of the field work identified in the evaluation/treatment plan construction may resume in the area of the discovered resource.

**Curation:** All trenching operations associated with construction of the EI pipeline will occur on lands administered by Clark County. As a result, all artifacts recovered during the course of implementing the evaluation/treatment plan for any confirmed discovery would be the property of Clark County. The CWC shall direct its archaeological contractor upon completion of all artifact and sample analyses and reporting, to prepare the collection for curation in accordance with the cataloguing and accessioning procedures used by the Clark County Museum. The CWC's archaeological contractor shall deliver all artifacts, samples, field notes, reports and other documentation associated with the collection(s) to the Clark County Museum for permanent curation within 60 calendar days following the acceptance by Reclamation and SHPO of the final report(s) detailing the results of the work conducted in association with implementing the evaluation/treatment plan. The CWC's archaeological contractor shall provide Reclamation with copies of all documents related to the transfer and final disposition of the collections at the Clark County Heritage Museum. The CWC shall bear all costs for permanent curation of the collection(s).

**Discovery of an Indian Burial Site:** All cut-and-cover trenching associated with the construction of the EI pipeline will occur on Clark County lands. In the event cremated or buried human remains are discovered during the course of the construction the notification and disposition procedures found at Nevada Revised Statute (NRS) 383.150 will apply. All work in the area of the discovery shall cease immediately. The archaeological monitor will secure the location of the discovery and pursuant to NRS 383.150 will immediately notify the SHPO. After notifying the SHPO the archeological monitor will immediately notify Reclamation and CWC or its representative of the discovery. If the discovery occurs within the Clark County Wetlands Park, Reclamation will notify the Clark County Parks and Recreation law enforcement division and request their assistance in securing and monitoring the location of the discovery.

The SHPO is responsible for implementation of the notification and consultation procedures found at NRS 383.150. If requested to do so by the SHPO, Reclamation will assist the SHPO in carrying out its duties. All human remains and associated artifacts shall be treated and disposed of in the manner agreed to by the SHPO, interested tribes, and Clark County during the course of the application of the consultation procedures found at NRS 383.150.

Notification Information:

U. S. Bureau of Reclamation

Pat Hicks, Regional Archaeologist  
Bureau of Reclamation  
Lower Colorado Regional Office  
P. O. Box 61470  
Boulder City, NV 89006-1470

For Overnight Mail Delivery:

500 Fir Street  
Boulder City, NV 89005

Phone: 702-293-8130  
FAX: 702-293-8418  
E-mail: [phicks@lc.usbr.gov](mailto:phicks@lc.usbr.gov)

Nevada State Historic Preservation Office

Alice Baldrice, Deputy State Historic Preservation Officer  
Office of Historic Preservation  
Capitol Complex  
100 N. Stewart Street  
Carson City, NV 89701-4285

Phone: 775-684-3444  
FAX: 775-684-3442  
E-mail: [ambaldri@clan.lib.nv.us](mailto:ambaldri@clan.lib.nv.us)

Recreation

Land surfaces disturbed by construction activities would be rehabilitated and restored, as applicable, to lessen or eliminate potential adverse effects. Restoration of the project site would be completed in accordance with a project-specific Reclamation approved restoration plan. The restoration plan will address salvage of topsoil for reseeded purposes, recontouring the natural land surface, blending colors and textures, treating weeds, and revegetating the disturbed areas. Coordination with Clark County Parks and Community Services would occur, to the extent required by Reclamation, during restoration activities within the Clark County Wetlands Park. In addition, coordination with Clark County Parks and Community Services would occur to ensure that SCOP activities do not conflict with the Clark County Wetlands Park Master Plan.

During construction, the public would be routed around or away from construction areas. Barricades and temporary construction fencing would be used to temporarily exclude the public from the construction area for safety purposes.

## Hazardous Materials

Construction activities and maintenance of construction equipment could create the potential for hazardous material spills. The contractor would be required to clean up any leaks or spills immediately and responsibly dispose of any contaminated materials or soils at an approved recycling, incineration, or disposal facility.

Procedures during construction of the proposed alternatives would be outlined to minimize the chance of a fuel spill during servicing and refueling. Vehicles would be required to carry absorbent material to handle potential spills, inspected for fuel leaks regularly, and be equipped with fire-fighting equipment. Hazardous materials would be transported in NDEP approved containers and allowed only on approved access roads. Vehicles carrying hazardous materials would be equipped with appropriate equipment and materials to contain a small spill should one occur during transport. Vehicles and storage containers would be properly signed/marked and inspected for leakage and other potential safety problems prior to transportation.

Every effort would be made to minimize the production of hazardous waste during the project, such as using non-hazardous substances when available, minimizing the amount of hazardous materials used for the project, and recycling and filtering hazardous materials. Furthermore, refueling locations on flat terrain/ground decreases the chance of a spilled substance reaching a stream, wetland, or lake.

Construction activities may encounter perchlorate contaminated groundwater in various locations along the pipeline alignment. Groundwater suspected of containing perchlorate will be analyzed. If it is determined that the groundwater is contaminated it will be disposed of in accordance with NDEP guidelines.

## Air Quality

This project is subject to Clark County air quality regulations, which require a number of specific actions by construction contractors, to reduce emissions of criteria pollutants during construction. The EPA has established new air quality standards for diesel engines for the year 2007. The 2007 diesel engines will reduce particulate matter by 90 percent, and reduce sulfur to 15 parts per million which will reduce NOx by 50 percent (EPA 2004c).

## Traffic

To reduce the magnitude of potentially significant traffic impacts, construction traffic management plans would be developed as part of the project approval process as specific segments or phases of the project are submitted to the Reclamation. Implementation of the various plans allows construction of the proposed project to proceed efficiently and safely while maintaining acceptable traffic operations. The construction traffic management plan will address the following construction zone safety considerations:

Effective use of signage and barricades around the work sites,

- Use of flag people as necessary to slow or detour traffic,
- Development of detour plans around substantially restricted streets,
- Specifications for construction staging areas and material delivery routes, and
- Scheduling of oversized material deliveries to the work site.

### Paleontological Resources

Significant impacts to paleontological resources are not expected to result from the construction or operation of the preferred alternative. However, ground disturbance associated with construction activities has the potential to damage or destroy any fossils that may be present. Therefore, a field survey will be conducted on previously undisturbed lands that have a high potential to produce paleontological resources within the construction footprint.

### **VII. Comments Received on Final EIS**

The SCOP FEIS was distributed to 21 libraries in Nevada, California, Arizona, and Utah. The FEIS was also posted on the NPS Lake Mead National Recreation Area web page and the CWC's web page. The Notice of Availability for the SCOP FEIS was published in the Federal Register on February 23, 2007. During the 30 day period following the publication of the FEIS, there was one comment letter was received containing 23 comments. The comment letter was sent by the Sierra Club, Toiyabe Chapter from Reno, Nevada. The two primary concerns expressed in the letter are that: 1) the use of reverse osmosis (RO) was not given enough consideration in the FEIS, and 2) some of the comments received on the Draft EIS, predominantly pertaining to treatment processes and water quality issues, were not adequately addressed.

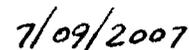
The FEIS clearly explains that the use of RO was eliminated from further consideration because it results in two significant impacts: 1) the creation of a brine or reject-water stream, and 2) the loss of approximately 15 to 20 percent of input water, in turn, reducing the return flow credits that southern Nevada can earn by and thereby affect the quantity of Colorado River water that it extract. Implementation of the Boulder Basin Adaptive Management Plan and the reasonable and prudent measures stipulated in the Biological Opinion issued by the Service further reduce the potential impacts to water quality.

### **VIII. Signatures**

Approved By:



Larry Walkoviak, Acting Regional Director  
Lower Colorado Regional Office



Date

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**Appendix B**

**Species Lists**

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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

March 13, 2008  
File No. 84320-2008-SL-0184  
1-5-05-SP-511

Ms. Holly Sanders, Environmental Scientist  
PBS&J  
2270 Corporate Circle, Suite 100  
Henderson, Nevada 89074

Dear Ms. Sanders:

Subject: Species List for the Systems Conveyance and Operations Program, Nevada

This responds to your letter dated January 30, 2008, requesting information regarding federally listed species for the Systems Conveyance and Operations Program (SCOP). This project is within the area that a species list was previously issued to PBS&J by the U.S. Fish and Wildlife Service (Service) on August 1, 2005 (Service File No. 1-5-05-SP-511). With the exception of the bald eagle (*Haliaeetus leucocephalus*) since it is no longer listed as threatened under the Endangered Species Act of 1973, as amended, we determined that the previous list is still current. Therefore, please refer to the August 1, 2005, list for information regarding federally listed species within the subject project area and consider effects to these species in your project analysis, and for any other projects occurring on Bureau of Reclamation and National Park Service lands near SCOP. We have enclosed a copy of the list for your convenience.

Please reference File No. 84320-2008-SL-0184 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact Leilani Takano in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230.

Sincerely,

  
For Robert D. Williams  
Field Supervisor

Enclosure





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Nevada Fish and Wildlife Office  
1340 Financial Boulevard, Suite 234  
Reno, Nevada 89502  
(775) 861-6300 ~ Fax: (775) 861-6301



August 1, 2005  
File No. 1-5-05-SP-511

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

Dear Ms. Stewart:

Subject: Species List Request for the Systems Conveyance and Operations  
Program, in Clark County, Nevada

In response to your letter received on July 5, 2005, the following federally-listed species may occur in the subject project area:

- Southwestern willow flycatcher (*Empidonax traillii extimus*), endangered
- Bonytail chub (*Gila elegans*), endangered
- Bonytail chub designated critical habitat
- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened
- Bald eagle (*Haliaeetus leucocephalus*), threatened
- Yuma clapper rail (*Rallus longirostris*), endangered
- Razorback sucker (*Xyrauchen texanus*), endangered
- Razorback sucker designated critical habitat
- Yellow-billed cuckoo (*Coccyzus americanus*) (Western U.S. DPS), candidate
- Relict leopard frog (*Rana onca*), candidate

This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on listed species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act), for projects that are authorized, funded, or carried out by a Federal agency. Critical habitat has been designated for the desert tortoise and proposed for the southwestern willow flycatcher in southern Nevada. However, the critical habitat areas for the desert tortoise and southwestern willow flycatcher do not occur in the proposed project area or would not be affected by the proposed action. The yellow-billed cuckoo and relict leopard frog are candidate species that receive no legal protection under the Act, but could be proposed for listing in the near future. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's sensitive species list and are partnering with them to provide distribution data and information on the conservation needs for the sensitive species to agencies and project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at [www.heritage.nv.gov](http://www.heritage.nv.gov). For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 901 S Stewart St., Ste 5002, Carson City, NV 89701, 775-684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 702-486-5127).

We are concerned that the project may impact the threecorner milkvetch (*Astragalus geyerii* var. *triquetrus*), Sticky buckwheat (*Eriogonum viscidulum*), and Las Vegas bearpoppy (*Arctomecon californica*) species listed as sensitive under the Heritage Program. These species are also listed as critically endangered by the State of Nevada under Nevada Revised Statutes (NRS) 527.260-.300. For these species, no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the State Forester (NRS 527.270). Requests for permits should be directed to the State Forester, Nevada Division of Forestry at 2525 South Carson Street, Carson City, Nevada 89701, (775) 684-2500. It should be noted that many of the plant species on the State's critically endangered list are not federally listed by the Service because of the protection afforded to them under the State law. Consideration of these species during project planning and early coordination with the State is important to assist with species conservation efforts and to prevent the need for Federal listing actions in the future.

We are also concerned that the project may impact the banded Gila monster (*Heloderma suspectum cinctum*), a species listed as sensitive under the Heritage Program and protected under Nevada State law. The banded Gila monster resides primarily in the Mojave desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. The Gila monster is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground

Ms. Carrie Stewart

File No. 1-5-05-SP-511

burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive species. Given that the Gila monster may occur within the project area, we encourage you to minimize project impacts to any existing populations and suitable habitat for this species.

Please reference File No. 1-5-05-SP-511 in future correspondence concerning this species list. This list supersedes the species list provided on February 12, 2003, Service file No. 1-5-03-SP-467. If you have any questions regarding this correspondence or require additional information, please contact Heather Adams in our Southern Nevada Field Office at (702) 515-5230.

Sincerely,



for Robert D. Williams  
Field Supervisor



JIM GIBBONS  
Governor

STATE OF NEVADA  
**DEPARTMENT OF WILDLIFE**

1100 Valley Road  
Reno, Nevada 89512  
(775) 688-1500 • Fax (775) 688-1595

KENNETH E. MAYER  
Director

DOUG HUNT  
Deputy Director

**SOUTHERN REGION**  
**4747 Vegas Drive**  
**Las Vegas, Nevada 89108**  
**(702) 486-5127 • Fax (702) 486-5133**

February 26, 2008

NDOW-SR# 08-230/231

Ms. Holly Sanders  
Environmental Scientist  
PBS&J  
2270 Corporate Circle, Suite 100  
Henderson Nevada 89074-6382

RE: New Environmental Assessments (EA) for the Systems Conveyance and Operations Program (SCOP) at Lake Mead, Specific SCOP Reaches on National Park Service and U.S. Bureau of Reclamation Lands

Dear Ms. Sanders:

The Nevada Department of Wildlife (Department) is pleased to respond to your request for assistance in gathering data pertinent to the re-alignment of certain reaches of the SCOP on both National Park Service and U.S. Bureau of Reclamation lands. The information would be considered as part of environmental assessments under development for the respective land managers. The major geographical features along the project area are the riparian zone within the Las Vegas Wash and the rocky outcrops, steep slopes, crevasses and canyons of the River Mountains.

Table 1 is a species list tailored for the project areas indicating wildlife of conservation priority. All species receive some measure of protection by the State of Nevada and have elevated management interest to the Department. The State's regulatory classification and a brief habitat description are included. Please be aware that birds protected under the Migratory Bird Treaty Act are also protected under State law but are too numerous to list herein. Hence, other protected wildlife not listed in the table and which utilize the project area would also be subject to any potential impacts resulting from the project. Further, Table 1 is not considered definitive as other wildlife of conservation priority, but which do not yet have elevated regulatory status, may also utilize the project area. Please consult the Nevada Wildlife Action Plan online at [www.ndow.org](http://www.ndow.org). On the home page scroll over to the "Wildlife and Habitat" tab, then select "Conservation Plans and Programs."

Avoiding potential conflicts with protected wildlife in the project area include adherence to the Department's Gila monster encounter protocols (enclosed) and the following considerations for potentially nesting birds. Project activities should be scheduled outside bird breeding and nesting seasons which roughly occur between March 15<sup>th</sup> and July 15<sup>th</sup>. If seasonal avoidance is not practicable, then survey for nests by a qualified biologist prior to commencement of construction activities is recommended. Survey methods should include ground nesting migratory species additional to those nesting in shrubs, trees or cliffs. In the event an active nest (containing eggs or young) is discovered or frequently attended by adult birds (e.g. in the case of Golden Eagle), a buffer area around the nest appropriate for the involved species must be identified and avoided until young birds fledge. This measure would be consistent with preventive actions advocated by the U.S Fish & Wildlife Service

concerning migratory species protected under the Migratory Bird Treaty Act. However, breeding and nesting by the Phainopepla initiates earlier than for most other migrants, and is usually underway by February. Consideration for Phainopepla habitat should be made and whenever possible, construction activities should avoid disturbance to mesquite and acacia woodland, especially those supporting mistletoe infestations. A brochure for avoiding conflicts with the Burrowing Owl is available from the U.S. Fish & Wildlife Service.

**Table 1. Species Afforded State Protection (per NAC 502.020 and Chapter 503 of Nevada Administrative Codes) that May be Found within the Vicinity of the SCOP Re-alignment Project Areas**

Species	Classification	Scientific Name	General Habitat Type
Desert Tortoise	Threatened	<i>Gopherus agassizii</i>	Creosote/bursage communities, washes, uses/digs burrows
Gila Monster	Protected	<i>Heloderma suspectum</i>	Back faces of washes, canyon bottoms, caves, burrows
Yuma Capper Rail	Endangered	<i>Rallus longirostris yumanensis</i>	Cattails, bulrushes, grassy or reedy marshland and similar conditions along riparian zones of rivers and streams
Loggerhead Shrike	Sensitive	<i>Lanius ludovicianus</i>	Desert salt scrub, playas
Burrowing Owl	Protected	<i>Athene cucularia</i>	Creosote/bursage communities, washes, uses/digs burrows
Prairie Falcon	Protected	<i>Falco mexicanus</i>	Cliff faces, escarpments, canyons
Peregrine Falcon	Endangered	<i>Falco peregrinus</i>	Cliff faces, canyons, rocky slopes, washes
Phainopepla	Protected	<i>Phainopepla nitens</i>	Mistletoe infested mesquite & acacia woodland
Southwestern Willow Flycatcher	Endangered	<i>Empidonax traillii</i>	Shrub and tree thickets along riparian of stream banks and over water
Allen's Lappet Eared Bat	Protected	<i>Idionycteris phyllotis</i>	Desert washes, Rocky slopes, Springs, other open waters
Brazilian Free Tailed Bat	Protected	<i>Tadarida brasiliensis</i>	"
California Leaf Nosed Bat	Sensitive	<i>Macrotus californicus</i>	"
Fringed Myotis	Protected	<i>Myotis thysanoides</i>	"
Pallid Bat	Protected	<i>Antrozous pallidus</i>	"
Spotted Bat	Threatened	<i>Euderma maculatum</i>	"
Townsend's Big Eared Bat	Sensitive	<i>Corynorhinus townsendii</i>	Springs, riparian, artificial water sources; roosts in caves
Western Mastiff Bat	Sensitive	<i>Eumops perotis</i>	"
Western Red Bat	Sensitive	<i>Lasiurus blossevillii</i>	"
Desert Bighorn Sheep	Big Game	<i>Ovis canadensis nelsoni</i>	High cliffs, rocky outcrops, canyons

Because the Department's authority is limited to wildlife, references to other sensitive species (e.g. plants) can be found online in the Nevada Natural Heritage database ([www.heritage.nv.gov](http://www.heritage.nv.gov)). State laws and authorities addressing plants are in Nevada Revised Statutes chapters 525 and 528 and corresponding Nevada Administrative Codes chapters 527 and 528. Mr. John Jones of the Nevada Division of Forestry can be contacted at (702) 486-5123.

Should there be opportunity for the Department to further assist in NEPA development or if there are questions or concerns about this letter, please contact Roddy Shepard, Habitat Biologist, at (702) 486-5127 x3613, or by e-mail at [rshepard@ndow.org](mailto:rshepard@ndow.org).

Sincerely,



D. Bradford Hardenbrook  
Supervising Habitat Biologist

RS/DBH

cc: Files, NDOW



# NEVADA DEPARTMENT OF WILDLIFE

## Southern Region

4747 W. Vegas Drive, Las Vegas, Nevada 89108  
Phone: 702-486-5127, Fax: 702-486-5133



1 November 2007

## GILA MONSTER STATUS, IDENTIFICATION AND REPORTING PROTOCOL FOR OBSERVATIONS

### Gila Monster Status

- Per Nevada Administrative Code 503.080, the Gila monster (*Heloderma suspectum*) is classified as a Protected reptile.
- Per Nevada Administrative Codes 503.090, and 503.093, no person shall capture, kill, or possess any part thereof of Protected wildlife without the prior written permission by the Nevada Department of Wildlife (NDOW).

This species is rarely observed relative to other species which is the primary reason for its Protected classification by the State of Nevada. The USDI Bureau of Land Management has recognized this lizard as a sensitive species since 1978. Most recently, the Gila monster was designated as an *Evaluation* species under Clark County's Multiple Species Habitat Conservation Plan (MSHCP). The evaluation designation was warranted because inadequate information exists to determine if mitigation facilitated by the MSHCP would demonstrably cover conservation actions necessary to insure the species' persistence without protective intervention as provided under the federal Endangered Species Act.

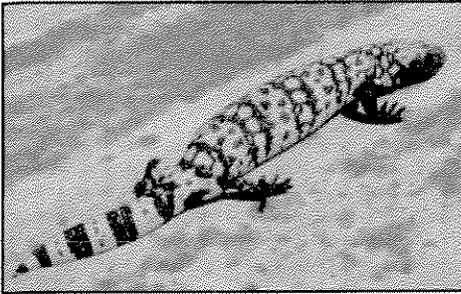
The banded Gila monster (*H.s. cinctum*) is the subspecies that occurs in Clark, Lincoln, and Nye counties of Nevada. Found mainly below 5,000 feet elevation, its geographic range approximates that of the desert tortoise (*Gopherus agassizii*) and is coincident to the Colorado River drainage. Gila monster habitat requirements center on desert wash, spring and riparian habitats that inter-digitate primarily with complex rocky landscapes of upland desert scrub. They will use and are occasionally encountered out in gentler terrain of alluvial fans (bajadas). Hence, Gila monster habitat bridges and overlaps that of both the desert tortoise and chuckwalla (*Sauromalus ater*). Gila monsters are secretive and difficult to locate, spending >95% of their lives underground.

The Gila monster is the only venomous lizard endemic to the United States. Its behavioral disposition is somewhat docile and avoids confrontation. But it will readily defend itself if threatened. Most bites are considered illegitimate and consequential to harassment or careless handling. These lizards are not dangerous unless molested or handled and should not be killed.

Scant information exists on detailed distribution and relative abundance in Nevada. The Nevada Department of Wildlife (NDOW) has ongoing management investigations addressing the Gila monster's status and distribution, hence additional distribution, habitat, and biological

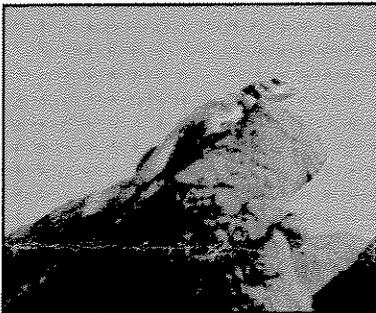
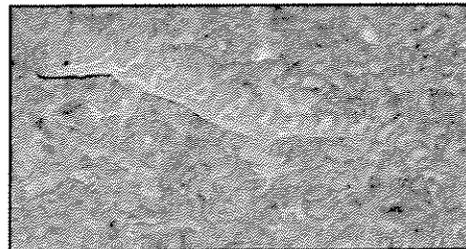
information is of utmost interest. In assistance to gathering additional information about Gila monsters in Nevada, NDOW will be notified whenever a Gila monster is encountered or observed, and under what circumstances (see Reporting Protocol below).

## Identification



The Gila monster is recognizable by its striking black and orange-pink coloration and bumpy, or beaded, skin. In keeping with its namesake, the banded Gila monster retains a black chain-link, banded appearance into adulthood. Other lizard species are often mistaken for the Gila monster. Of these, the non-venomous western banded gecko (*Coleonyx variegatus*) and non-venomous chuckwalla are most frequently confused with the Gila monster. All three species share the same habitats.

The western banded gecko is often mistakenly identified as a baby or juvenile Gila monster. Western banded geckos do have a finely granular skin and pattern that can be suggestive of the Gila monster to the untrained eye. However, western banded gecko heads are somewhat pointed at the snout and the relatively large eyes have vertical pupils. Snouts of Gila monsters are bluntly rounded and the smallish eyes have round pupils. Newly hatched Gila monsters are about 5-6 inches long with a vivid orange and black, banded pattern. Adult western banded geckos are at best cream to yellow and brown in pattern and do not exceed 5 inches.



Both juvenile and adult chuckwallas are commonly confused with the Gila monster. Juvenile chuckwallas have an orange and black, banded tail. Although banding of the tail fades as chuckwallas mature, their large adult size (up to 17 inches) rivals that of the Gila monster. Adult chuckwallas have a body shape somewhat suggestive of the Gila monster, but they lack the coarsely beaded skin and black and orange body pattern of the Gila monster.

## Reporting Protocol for Gila Monster Observations

Field workers and personnel in southern Nevada should at least know how to: (1) identify Gila monsters and be able to distinguish it from other lizards such as chuckwallas and western banded geckos (see Identification section above); (2) report any observations of Gila monsters to the Nevada Department of Wildlife (NDOW); (3) be alerted to the consequences of a Gila monster bite resulting from carelessness or unnecessary harassment; and (4) be aware of protective measures provided under state law.

- 1) Live Gila monsters found in harms way on the construction site will be captured and then

detained in a cool, shaded environment ( $\leq 85^{\circ}\text{F}$ ) by the project biologist or equivalent personnel until a NDOW biologist can arrive for documentation, marking and obtaining biological measurements and samples prior to releasing. Despite that a Gila monster is venomous and can deliver a serious bite, its relatively slow gait allows for it to be easily coaxed or lifted into an open bucket or box carefully using a long handled instrument such as a shovel or snake hook (*Note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW will clarify logistical points*). A clean 5-gallon plastic bucket w/ a secure, vented lid; an 18"x 18"x 4" plastic sweater box w/ a secure, vented lid; or, a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location, Global Positioning System (GPS) coordinates in Universal Transverse Mercator (UTM) using the North American Datum (NAD) 83 zone 11. Date, time, and circumstances (e.g. biological survey or construction) and habitat description (vegetation, slope, aspect, substrate) will also be provided to NDOW.

- 2) Injuries to Gila monsters may occur during excavation, blasting, road grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified of any injury to a Gila monster and which veterinarian is providing care for the animal. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, date, time, habitat, and mapped location (GPS coordinates in UTM using NAD 83 Z 11).
- 3) Should NDOW's assistance be delayed, biological or equivalent acting personnel on site should detain the Gila monster out of harms way until NDOW personnel can respond. **The Gila monster should be detained until NDOW biologists have responded.** Should NDOW not be immediately available to respond for photo-documentation, a digital (5 megapixel or higher) or 35mm camera will be used to take good quality images of the Gila monster in situ at the location of live encounter or dead salvage. The pictures will be provided to NDOW at the address above or the email address below along with specific location information including GPS coordinates in UTM using NAD 83 Z 11, date, time and habitat description. Pictures will show the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).

Please contact NDOW Biologist Polly Conrad at (702) 486-5127 x3718 or by e-mail at [pconrad@ndow.org](mailto:pconrad@ndow.org) for additional information regarding these protocols.



# Nevada Natural Heritage Program

## Nevada Department of Conservation and Natural Resources



Richard H. Bryan Building

901 South Stewart Street, suite 5002 • Carson City, Nevada 89701-5245, U.S.A.

tel: (775) 684-2900 • internet: <http://heritage.nv.gov>

07 February 2008

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

RE: Data request received: 05 February 2008

Dear Ms. Sanders:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at risk plant and animal taxa recorded within or near the Bureau of Reclamation EA for Systems Conveyance and Operations Program project area. We searched our database and maps for the following, a five kilometer radius around:

Township 21S Range 63E Sections 25 and 28-30

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for: the chuckwalla, *Sauromalus ater*, a Nevada Bureau of Land Management (BLM) Sensitive Species; the Brazilian free-tailed bat, *Tadarida brasiliensis*, a Nevada BLM Sensitive Species; the Littlefield milkvetch, *Astragalus preussii* var. *laxiflorus*, a taxon determined to be Critically Imperiled by the Nevada Natural Heritage Program (NNHP); the Sweet moustache moss, *Trichostomum sweetii*, a taxon determined to be Critically Imperiled by the NNHP; and the Mojave gypsum bee, *Andrena balsamorhizae*, a Nevada BLM Sensitive Species. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

In addition to the species locations provided with this data request, the taxon sticky ringstem, *Anulocaulis leiosolenus* var. *leiosolenus*, a taxon determined to be Imperiled by the Nevada Natural Heritage Program (NNHP) occurs within a half kilometer (Township 21S Range 63 E Section 20) of the boundary that was searched for your project. This data has not been completely mapped according to the NNHP's mapping protocols, it currently is in a backlogged form to be completely processed at a later date. If you have further questions concerning this occurrence please contact me at (775 684-2905) for more specific locational data.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow  
Biologist/Data Manager

# At Risk Taxa Recorded Near the Bureau Of Reclamation EA Systems Conveyance Project Area

Compiled by the Nevada Natural Heritage Program for PBS & J

07 February 2008

<u>Scientific name</u>	<u>Common name</u>	<u>Ustws</u>	<u>Blm</u>	<u>Usfs</u>	<u>State</u>	<u>Srank</u>	<u>Grank</u>	<u>Lat</u>	<u>Long</u>	<u>Prec</u>	<u>Last</u>
<b>Plants</b>											<b>observed</b>
<i>Arctomecon californica</i>	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360738N	1145942W	S	2005-12-20
<i>Arctomecon californica</i>	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360507N	1145635W	S	2005-05-17
<b>Amphibians</b>											
<i>Bufo microscaphus</i>	Arizona toad		N			S2	G3G4	360810N	1150441W	G	1923-03-23
<b>Reptiles</b>											
<i>Gopherus agassizii</i>	desert tortoise (Mojave Desert pop.)	LT, SAT	S	T	YES	S2S3	G4	360536N	1145219W	S	1991-09-05
<b>Mammals</b>											
<i>Euderma maculatum</i>	spotted bat	xC2	S	S	YES	S2	G4	360636N	1150510W	G	1983-08-29
<b>Birds</b>											
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	LE			YES	S1	G5T3	360544N	1145653W	S	2005-05-23

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

- LE Listed Endangered - in danger of extinction in all or a significant portion of its range
- LT Listed Threatened - likely to be classified as Endangered in the foreseeable future if present trends continue
- x C2 Former Category 2 Candidate, now species of concern
- \_ SA Similarity of appearance species

Bureau of Land Management (Blm) Species Classification:

- S Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law
- N Nevada Special Status Species - designated Sensitive by State Office

United States Forest Service (Usfs) Species Classification:

- S Region 4 (Humboldt-Toiyabe NF) sensitive species
- T Region 4 and/or Region 5 Threatened species

Nevada State Protected (State) Species Classification:

- Fauna:
  - YES Species protected under NRS 501.
- Flora:
  - CE Critically endangered - species whose survival requires assistance because of overexploitation, disease or other factors, or because their habitat is threatened with destruction, drastic modification or severe curtailment (NRS 527.260-.300)

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

- S Seconds: within a three-second radius
- M Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
- G General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (Grank) and State (Srank) Ranks for Threats and/or Vulnerability:

- G Global rank indicator, based on worldwide distribution at the species level
  - T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
  - S State rank indicator, based on distribution within Nevada at the lowest taxonomic level
- 1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
  - 2 Imperiled due to rarity or other demonstrable factors
  - 3 Vulnerable to decline because rare and local throughout its range, or with very restricted range
  - 4 Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
  - 5 Demonstrably secure, widespread, and abundant
- A Accidental within Nevada
  - B Breeding status within Nevada (excludes resident taxa)
  - H Historical; could be rediscovered
  - N Non-breeding status within Nevada (excludes resident taxa)
  - Q Taxonomic status uncertain
  - U Unrankable
  - Z Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
  - ? Assigned rank uncertain

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**Appendix C**

**Acronyms**

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**ACRONYMS**

ARPA	Archaeological Resources Protection Act
BLM	Bureau of Land Management
BMI	Basic Magnesium, Inc.
BMPs	best management practices
BO	Biological Opinion
CC	Clark County
CCRFCDD	Clark County Regional Flood Control District
CCWRD	Clark County Water Reclamation District
CEQ	Council on Environmental Quality
CERCLA Act	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLV	City of Las Vegas
CO	carbon monoxide
COH	City of Henderson
CNLV	City of North Las Vegas
CWC	Clean Water Coalition
dB	decibel
EA	Environmental Assessment
ECS	erosion control structure
EI	Effluent Interceptor
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EO	Executive Order
F/M	foreground/midground
ft	feet/foot
HAPs	hazardous air pollutants
Hz	hertz
KOPs	key observation points
kV	kilovolt
m	meters

msl	mean sea level
MSHCP	Clark County Multiple Species Habitat Conservation Plan
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Department of Environmental Protection
NDOT	Nevada Department of Transportation
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NO <sub>2</sub>	nitrogen dioxide
NPS	National Park Service
NRMT3	North River Mountains Tunnel 3
NRS	Nevada Revised Statutes
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
ppb	parts per billion
PSD	Prevention of Significant Deterioration
Reclamation	Bureau of Reclamation
ROD	Record of Decision
ROW	right-of-way
SARA	Superfund Amendments and Reauthorization Act
SCOP	Systems Conveyance and Operations Program
SIP	State Implementation Plan
SNWA	Southern Nevada Water Authority
SO <sub>2</sub>	sulfur dioxide
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
VOCs	volatile organic compounds
Wetlands Park	Clark County Wetlands Park
WRF	Water Reclamation Facility