

FINDING OF NO SIGNIFICANT IMPACT

LAKE MEAD INTAKE NO. 3 PROJECT

Lake Mead National Recreation Area Clark County, Nevada

PURPOSE AND NEED

The federal action being evaluated is the granting by the National Park Service (NPS) of the expansion of existing rights-of-way (ROW) and the approval for new water supply facility construction and operation in the Lake Mead National Recreation Area (LMNRA). The project proponent, the Southern Nevada Water Authority (SNWA), has proposed a project that would construct an additional deep water intake in Lake Mead serving the Alfred Merritt Smith Water Treatment Facility (AMSWTF) and the Southern Nevada Water System (SNWS), both currently located and operating in the LMNRA. Expansion of SNWA's existing ROW is needed to encompass the area surrounding the new intake structure, the corridor above the new intake tunnel, the new intake pumping station, the new access road to the pumping station, the new excavated material placement areas and viewshed berms, and the new connecting pipeline to the AMSWTF.

For most of the last 50 years, Lake Mead has generally operated within a 40-foot elevation fluctuation range, between approximately 1,220 and 1,180 feet above mean sea level (AMSL). As of August 2006, the water surface elevation of Lake Mead was 1,127 feet AMSL. In July 2006, the Bureau of Reclamation's two-year projected reservoir operation levels for Lake Mead indicated that the lake would drop to elevation 1,127 feet AMSL by the end of 2006, and would continue drop to elevation 1,105 feet AMSL by the middle of 2008.

The existing SNWA water system intakes (Intakes No. 1 and No. 2) draw water from a zone extending vertically 20 to 30 feet above the intake openings. As the lake surface elevation drops, the existing intake pumping facilities expend more energy lifting the water a greater distance, with a corresponding decrease in flow. The gradual decrease in system pumping capacity as a result of lowering lake levels is serious, but can be mitigated to some extent by adding pumping units. However, if the lake levels fall far enough, the intake systems become totally inoperable. Elevation 1,050 feet AMSL is the approximate lake surface level at which the existing Intake No. 1 would cease to be operable. Elevation 1,000 feet AMSL is the approximate lake level at which the existing Intake No. 2 would cease to be operable.

Construction of the new Intake No. 3 will ensure that SNWA could maintain full system capacity at lake levels as low as 1,000 feet AMSL. Although the pumping station for the proposed intake is intended to be capable of operation only down to lake elevations of 1,000 feet AMSL, the selection of the location and depth of the intake opening also considered opportunities for enhancing access to better water quality. In Lake Mead, the best water quality is generally found below the thermocline that separates the epilimnion from the hypolimnion. A target intake opening at elevation 860 feet AMSL was established so that water would be drawn from well below the thermocline, even at low lake levels. This will benefit the community water supply by providing more reliable access to better water quality and minimizing the need for application of additional treatment processes, as long as lake levels remain at 1,000 feet AMSL or higher.

The purpose and need for the proposed Intake No. 3 project is consistent with the goals of the original SNWA program to develop a reliable and demand-responsive municipal water system that will supplement the existing Southern Nevada Water System during periods of curtailed production or system failures, and provide the State of Nevada full access to its Colorado River water entitlement. The Intake No. 3 project will continue to meet the goals of this purpose and need:

- by providing additional protection to the SNWS from loss of system intake capacity resulting from declines in Lake Mead water levels in the event of severe drought conditions or long-term changes in average river flow conditions, in combination with water use patterns in the Colorado River Basin;
- by increasing system reliability by providing back-up capability to deliver water from Lake Mead to the Las Vegas Valley during periods of outage, repair, inspections, or upgrade to the infrastructure facilities currently designated as Intake No. 1 and Intake No. 2; and,
- by offering increased operational flexibility for accessing water at various depths and locations in Lake Mead to provide the best available water quality for the public water supply under various seasonal lake conditions and lake water levels.

ALTERNATIVES

Selected Action

The selected action is the environmentally preferred alternative identified in the environmental assessment. The selected action is the granting by the NPS of the expansion of existing ROW and the approval for new water supply facility construction and operation in the LMNRA - the construction and operation of this facility is the proposed project, as described in the environmental assessment. The project will include a new intake structure and intake tunnel beneath the lake and beneath Saddle Island, a new intake pumping station (IPS) No. 3 (IPS-3) on Saddle Island, the caverns or forebays beneath Saddle Island and shafts around IPS-3 for construction and connections, a conveyance pipeline from IPS-3 connecting with AMSWTF, and a tunnel interconnecting the Intake No. 3 tunnel with the existing Intake No. 2 tunnel beneath Saddle Island.

The intake structure will be a single level intake with the inlet configuration oriented horizontally, and the centerline of the intake opening at about 860 feet AMSL. The location of the intake is in Boulder Basin, northeast of Saddle Island and southeast of Black Island. The intake tunnel will have an inside diameter of approximately 20 feet, be approximately 18,000 feet long, depending on the final tunnel alignment, and will likely be lined with precast concrete segments. The tunnel likely will be constructed using a tunnel boring machine (TBM). The proposed intake pumping station will be located on the northern portion of Saddle Island, approximately 3,000 feet north of the existing Intake Pumping Station No. 1. The proposed IPS-3 will deliver raw water to the AMSWTF. A pipeline with an approximate 12-foot diameter from IPS-3 to AMSWTF will be constructed beneath the ground surface, crossing from Saddle Island to AMSWTF across the currently-dry lake inlet adjacent to Saddle Cove, within or beneath the planned excavated material placement area. The Intake No. 3 tunnel will be interconnected to the Intake No. 2 tunnel in order to provide reliability and flexibility in system operations. The connection will likely be made by mining an interconnecting tunnel. This connecting tunnel is estimated to be approximately 3,000 feet long and will likely be constructed as a 16-foot diameter horseshoe-shaped structure using drill and blast methods.

The primary access to the proposed pumping station site and staging area by construction personnel, vehicles and equipment will be via Lakeshore Road to the main entrance of the

AMSWTF, to the existing causeway access road, and north from the causeway on a new access road on Saddle Island to the pumping station site. Temporary access may also be via the Saddle Cove access road and across the dry bed of Saddle Cove. Temporary construction staging areas will be required for the storage of equipment, materials and fuel. In addition, the staging areas will be needed for equipment maintenance, temporary stockpiling, handling of excavated material, and other related construction activities during construction of the proposed pumping station. Temporary security fencing may enclose the staging areas to secure the equipment and materials. The marine activities will require a separate staging area. The intake construction barge will be trucked to this temporary staging area and launch site within the LMNRA at Saddle Cove. The staging area and barge launch location will be located northwest of Saddle Island and is the same site that was used during the construction of the Intake No. 1 Modification in early 2004.

The initial construction access shafts will likely be constructed using drill and blast methods, drill-down methods, or a combination of both. In order to construct the shafts, blasting will be required. Subsequent access shafts, well shafts and pump discharge shafts will likely be constructed using drill-down and/or raised bore methods. To bore the intake tunnel from Saddle Island to the intake structure, a TBM will likely be used. The intake shaft could be constructed either prior to the arrival of the TBM, or after it mines to the designated intake shaft site. The material from the intake riser shaft excavation will likely be removed by a combination of downhole drilling and excavation by a clamshell dredge mounted on a barge.

Excavated material will come from the pumping station site preparation as well as excavation of the intake tunnel, intake shafts/forebay, and system interconnections. Some of the excavated material will be used to construct viewshed berms to screen the new pumping station and AMSWTF from recreation users in Saddle Cove, north of the Saddle Island causeway, when lake water levels in that area rise to again allow public recreation access. The remainder of the excavated material will be placed in fills located immediately north and south of the existing Saddle Island causeway. Some of the additives used during the tunneling process may render some of the excavated material unsuitable for permanent placement in the park, particularly in areas that may be inundated by future rising lake levels. This excavated material may need to be transported to an off-site disposal facility. The affected areas are presented in the categories of newly disturbed areas, re-disturbed areas and currently disturbed areas. During project construction, the temporarily affected areas are expected to be: Newly disturbed (sensitive habitat) areas - 22.5 acres; Re-disturbed or Currently disturbed areas – 61 acres; Total disturbance - 83.5 acres. Permanent land disturbance after completion of construction and restoration of non-permanent facility areas is expected to be: Newly disturbed (sensitive habitat) areas - 14 acres; Re-disturbed or Currently disturbed areas – 56.5 acres; Total disturbance – 70.5 acres.

Other Alternatives Considered

The other alternative considered in the environmental assessment was the no-action alternative. Under this alternative, NPS would not grant the expansion of the existing ROW or approve new water supply facility construction and operation. SNWA would not construct and operate a new water supply intake to provide additional protection to the SNWS from loss of system intake capacity resulting from declines in Lake Mead water levels. The existing SNWS would continue to operate under its existing configuration (including the existing Intake No. 1 and Intake No. 2), foregoing the potential increased system reliability and flexibility that would be possible with the additional intake. Under this alternative, the SNWS would have less flexibility to respond to lowered water levels in Lake Mead resulting from greater demand on Colorado River resources and reduced inflows due to drought in the Colorado River watershed. The capacity of the SNWS to deliver water to the Las Vegas Valley could be significantly reduced, and flexibility for accessing water at various

depths and locations in Lake Mead to provide the best available water quality for the public water supply would not be achieved.

Other intake locations were considered for the siting of Intake No. 3. Sites in Boulder Canyon and Black Canyon were evaluated for their ability to achieve the target intake depth, to be able to draw lake water from below the thermocline at lower lake levels, for potential synergy in water system operations between existing and new facilities, for environmental impact factors, for their relative difficulty in acquiring needed permits, and for construction difficulty and cost at each site. The Boulder Canyon and Black Canyon sites were judged less favorable due to higher operations and maintenance requirements, less favorable permitting potential, greater environmental impacts, equivalent or greater construction difficulty, and higher overall project costs, compared to the Black Island site. Many of those impacts and costs were associated with long pipeline runs to connect those intake locations with existing SNWA water supply facilities and infrastructure. Those locations were not evaluated in the environmental assessment.

Environmentally-Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the Council on Environmental Quality. The Council on Environmental Quality provides direction that “[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in Section 101 of NEPA,” which considers the environmentally preferred alternative will (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; (4) 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; (5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities; and, (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative is the selected action. In the selected action, a new water supply intake system will be constructed for operation at lower lake levels and in conjunction with the two existing intakes to maximize water supply system operability and flexibility. Because the selected action will enhance the long-term quality of the water supply delivered to SNWA’s customers, and attain a wider range of beneficial uses of the resource by preserving the water supply system’s purpose and goals, this alternative best realizes criteria 2, 3, 4, and 5 above. (The two alternatives considered differ little with respect to achieving criteria 1 and 6). The selected action ensures a safe and healthful environment, and attains beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences, maintains an environment that supports diversity and variety of individual choice, and achieves a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities.

The no-action alternative represents a continuation of the existing condition - no new intake would be constructed, and the two existing water supply intakes in Lake Mead would continue to operate under declining long-term lake level conditions. Declining lake levels could result in decreased water supply system capacity and reliability, and SNWA would have less flexibility to select water supply withdrawal levels based on source water quality. In relation to the water delivery system reliability and water quality protection aspects of the proposed intake project, the no-action alternative does not fully realize criteria 2, 3, 4, and 5 listed above.

MITIGATION

Conservation measures have been incorporated into the selected project to reduce impacts. Conservation measures were identified in response to determinations that project-related activities will result in effects to the resources that are addressed in the evaluation. Conservation measures were identified to avoid, minimize, reduce, rectify, or compensate for the identified effects of project implementation. Both preventative design and implementation measures, as well as compensatory measures, for the selected action are presented. These measures are identified based on the description of the selected action, the environmental resources present in the project area, the expected effects of the implementation of the selected action. Two types of mitigation actions are identified in this summary:

- 1) Features that are incorporated into the design of the selected action, in some cases specifically to reduce potential environmental effects, are identified as Project Design Features (PDFs). These types of project features are designed with the additional intent to avoid, minimize, or reduce potential effects.
- 2) Features that are specified to compensate for the effects of project implementation on environmental resources are identified as Mitigation Measures (MMs). These types of measures will rectify or compensate for the identified effects of project implementation.

Conservation measures include minimizing the visual effects of construction activities and restoring areas around the construction site; minimizing emissions and dust from construction activities; minimizing the area disturbed by construction activities and fully implementing the special status species conservation measures identified in the project Biological Opinion; minimizing the potential for effects to water quality from construction activities and discharges; minimizing the potential of construction noise to affect park visitors; minimizing the effect of construction traffic on park roads and visitors; and maintaining access to park trails and facilities during construction.

Conservation measures for the implementation of the Lake Mead Intake No. 3 Project are presented in Table 1. The primary responsibility for implementation of the conservation measures during construction of the project will be with SNWA and its contractors. These activities will be approved by and coordinated with LMNRA on an ongoing basis during the construction period, and LMNRA will provide oversight and quality control regarding the implementation of these measures.

Table 1 - Conservation Measures for the Lake Mead Intake No. 3 Project

Resource Area	Conservation Measures	Responsible Party
Aesthetics	<ul style="list-style-type: none">• Design the coloration and shape of intake pumping station building to blend with the natural surroundings through the use of materials that blend with the existing environment, use of coloring techniques such as surface painting and concrete varnishing and/or coloring, and shaping of building walls, corners and angles to minimize intrusion in the visual landscape. (PDF)	SNWA, contractor
	<ul style="list-style-type: none">• Design the intake pumping station to minimize the total area of disturbance. (PDF)	SNWA, contractor
	<ul style="list-style-type: none">• Implement a topsoil management plan to encourage re-growth of native plant species on the viewshed berm(s). (PDF)	SNWA, contractor

Resource Area	Conservation Measures	Responsible Party
Aesthetics (continued)	<ul style="list-style-type: none"> Restore disturbed areas surrounding the intake pumping station site back to the original contours of the area where possible. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Construct viewshed berms adjacent to the intake pumping station and Alfred Merritt Smith Water Treatment Facility to screen the view of these facilities from recreation area users in Saddle Cove. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Design the excavated material placement areas adjacent to the causeway such that the fill is lower than the 1221-foot elevation to minimize the visual effect. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Follow the Clark County Department of Air Quality and Environmental Management Air Quality Regulations to control dust. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Limit lighting to necessary safety and security requirements during both construction and operation, and use downshielded lighting to minimize intrusion to distant recreation users when possible. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Limit construction to the shortest practical duration. (PDF) 	SNWA, contractor
Air Quality	<ul style="list-style-type: none"> Obtain and comply with a Clark County Dust Control Permit and follow the Clark County Department of Air Quality and Environmental Management's Air Quality Regulations. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Maintain soil in a sufficiently damp condition to avoid blowing dust. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Obtain and comply with a Clark County Various Location Operating Permit. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Limit idling of equipment. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Employ Best Available Control Measures in all phases of construction. (PDF) 	SNWA, contractor
Biotic Communities	<ul style="list-style-type: none"> Minimize the area of disturbance to the smallest practical extent. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Conduct pre-construction clearance surveys to relocate any tortoises out of the affected area. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Install approved tortoise fencing around the work areas. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> If a tortoise is found in the work area, temporarily halt ground-disturbing activity that could endanger the tortoise until the tortoise is relocated. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Obtain and comply with a Nevada Division of Environmental Protection (NDEP) permit to minimize potential effects to lake water quality. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Choose excavation and placement methods to minimize dispersion of fine materials through the water column. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> A qualified biologist will conduct pre-construction surveys within 30 days prior to construction activities to identify potential bald eagle night roosts within a 0.5-mile radius of the construction site. (PDF) 	SNWA
	<ul style="list-style-type: none"> No nighttime surface construction or surface blasting will occur within 0.5 miles of active night roosts during the bald eagle wintering season (November through April). Nighttime surface construction and blasting will be prohibited from one hour before sunset until 9:00 am local time. (PDF) 	SNWA
Cultural Resources	<ul style="list-style-type: none"> Conduct cultural resource surveys and State Historic Preservation Officer consultation in areas not previously surveyed prior to construction. (PDF) 	SNWA

Resource Area	Conservation Measures	Responsible Party
Cultural Resources (continued)	<ul style="list-style-type: none"> If resources are encountered, temporarily halt all ground disturbing activities in the area of a find, contact the National Park Service, and complete any required mitigation activities before allowing construction in the area to proceed. (MM) 	SNWA
Geology and Soils	<ul style="list-style-type: none"> Design and construct the intake pumping station site, access road, and excavated material placement area to accommodate existing drainage patterns and maintain historic runoff patterns and rates. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Develop and implement an approved Topsoil Management Plan. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Respread saved topsoil on viewshed berms to encourage regrowth of native vegetation. (MM) 	SNWA, contractor
Hydrology and Water Quality	<ul style="list-style-type: none"> Obtain a NDEP General Stormwater Discharge permit and follow a stormwater pollution prevention plan. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Implement Best Management Practices to control stormwater runoff sediments from entering Lake Mead from the land-based portion of the construction area. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Soil conditions will be determined in detail by a pre-construction geotechnical survey and soil sampling program, with the resulting requirements and approaches incorporated into the detailed project design and construction plans. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Obtain and comply with all required NDEP permits, including a NDEP Groundwater Discharge permit. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Implement appropriate Best Management Practices. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Utilize settling tanks or other approved technology to remove sediment and meet NDEP water quality requirements prior to discharge. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Obtain permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 from the U.S. Army Corps of Engineers. Implement the requirements of these permits during construction. (PDF) 	SNWA, contractor
Noise and Vibration	<ul style="list-style-type: none"> Schedule surface blasting activities to non-peak visitor hours. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Obtain and comply with a Clark County blasting permit. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Keep surface blasting activities to a minimum. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Implement appropriate Best Management Practices and abide by the requirements of applicable Clark County noise ordinances. (PDF) 	SNWA, contractor
	<ul style="list-style-type: none"> Locate all major noise-producing equipment associated with the pumping station inside the building structure; design the pumping station building and all on-site noise-producing equipment to meet applicable noise ordinance requirements. (PDF) 	SNWA
Transportation and Traffic	<ul style="list-style-type: none"> Restrict contractor's personal and work vehicles to an approved roadway route. (MM) 	SNWA, contractor
	<ul style="list-style-type: none"> Encourage employee carpooling to the work site. (MM) 	SNWA, contractor
Visitor Use and Experience	<ul style="list-style-type: none"> Design and operate the excavated material placement and staging areas so that use of the River Mountains Loop Trail is maintained, by use of temporary detours of the trail, or, if use cannot be continuously maintained, to minimize disruptions to use. (PDF) 	SNWA, contractor

Source: SNWA Project Staff, 2006

MM Mitigation Measure
NDEP Nevada Division of Environmental Protection
PDF Project Design Feature
SNWA Southern Nevada Water Authority

WHY THE SELECTED ACTION WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined by Section 1508.27 of Chapter 40 of the Code of Federal Regulations (40 CFR 1508.27), significance is determined by examining the following criteria:

1. Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an environmental impact statement: No significant adverse impacts were identified that will require analysis in an environmental impact statement.

As described in the environmental assessment, the selected action will have no or negligible impacts to agriculture resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, and utilities and service systems.

As described in the environmental assessment, the selected action will contribute minor temporary and permanent adverse effects to aesthetics; and minor temporary adverse effects to air quality in the Saddle Island area. Minor, temporary, and adverse effects to biotic communities will occur only during construction activities. The selected action is anticipated to result in a negligible level of effects on cultural resources. Effects to geology and soils will be minor, temporary, and adverse. The selected action is anticipated to result in a negligible to minor level of temporary adverse effects on water quality during construction. Major, permanent, and beneficial effects to water system capacity and water quality will be realized as a result of implementation of the selected action. The selected action is anticipated to have a minor level of temporary and permanent adverse effects on noise levels. The selected action is anticipated to result in a negligible to minor level of temporary adverse effects on transportation and traffic. Effects to visitor use and experience will be negligible, temporary, and adverse.

The NPS completed formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the desert tortoise. The USFWS issued a Biological Opinion (BO) on February 1, 2007 (File 1-5-07-F-445) for the intake project. The conclusion of the USFWS (BO, p. 40) was that "... the project, as proposed and analyzed, is not likely to jeopardize the continued existence of the threatened desert tortoise (Mojave population)."

The NPS completed informal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the razorback sucker and the bald eagle. The USFWS concurred with NPS' determination of effect on the razorback sucker and its critical habitat as "*may affect, not likely to adversely affect.*" The USFWS also concurred with NPS' determination of effect on bald eagle as "*may affect, not likely to adversely affect.*"

2. The degree to which public health and safety are affected: Safety of workers and the public using the LMNRA during facility construction will be a concern during the construction period, but will be mitigated with public safety education and worker safety training and monitoring on safe operating practices. The selected action will have a major, permanent, and beneficial effect to water system capacity and water quality and benefit overall public health by improving long-term water supply system water quality and reliability.

3. Any unique characteristics of the area such as proximity to historic or cultural resources, wild and scenic rivers, ecologically critical areas, wetlands or floodplains: As described in the environmental assessment, ecologically critical areas, floodplains, prime and unique farmland, wild

and scenic rivers, and wetlands will not be affected by the selected action. The selected action is anticipated to result in a “negligible” level of effect on cultural resources. The effects will be barely perceptible and will not alter resource conditions or site preservation.

4. The degree to which impacts are likely to be highly controversial: There were no highly controversial effects identified during either preparation of the environmental assessment or the public review period.

5. The degree to which the potential impacts are highly uncertain or involve unique or unknown risks: There are no highly uncertain, unique, or unknown risks to the human environment identified during either preparation of the environmental assessment or the public review period.

6. Whether the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration: No significant adverse impacts were identified during preparation of the environmental assessment. Implementation of the selected action neither establishes a National Park Service precedent for future actions with significant effects, nor represents a decision in principle about a future consideration.

7. Whether the action is related to other actions that may have individual insignificant impacts but cumulatively significant effects: The environmental assessment analyzed impacts to aesthetics; air quality, biotic communities, cultural resources, geology and soils, hydrology and water quality, noise and vibration, transportation and traffic, and visitor use and experience. As described in the environmental assessment, cumulative impacts were determined by combining the impacts of the selected action with identified impacts from other past, present, and reasonably foreseeable future projects and actions. Past, current, and future projects that could contribute cumulative effects included:

- The Clean Water Coalition Systems Conveyance and Operations Program (SCOP) Final EIS, October 2006; and
- LMNRA’s recent environmental assessment and associated actions to amend the Lake General Management Plan to address low water level conditions.

The selected action, along with past, present, and reasonably foreseeable future actions, will have minor, temporary and adverse cumulative effects to aesthetics; and minor, temporary and adverse effects to air quality. Cumulative effects to biotic communities are expected to be minor, temporary, and adverse; cumulative activities of the selected action and other regional impacts to terrestrial and aquatic biota and habitats will contribute negligibly to the cumulative effects on the desert tortoise, razorback sucker and bald eagle. There will be no cumulative effects on cultural resources; cumulative effects to geology and soils are not expected. Cumulative effects to hydrology and water quality will be negligible to minor and adverse, but would not result in significant downstream water quality impacts. The cumulative effects of past, present, and reasonably foreseeable future actions under the selected action will have no cumulative effects on noise and vibration levels. The selected action, when considered in combination with the effects of the SCOP project, will result in minor, temporary and adverse cumulative effects to traffic and transportation. Cumulative effects to visitor use and experience are not expected.

No cumulatively significant impacts of the selected action, in combination with the other past, present, and reasonably foreseeable projects and actions evaluated, were identified.

8. The degree to which the action may adversely affect historic properties in or eligible for listing in the National Register of Historic Places, or other significant scientific, archeological, or cultural resources: As described in the environmental assessment, no historic properties or properties eligible for listing in the NRHP will be affected by project implementation. The selected action is anticipated to result in a “negligible” level of effect on cultural resources.

9. The degree to which an action may adversely affect an endangered or threatened species or its habitat: Based on the correspondence with the USFWS regarding appropriate special-status species of concern for the selected action, the biological assessment evaluated potential effects to desert tortoise, razorback sucker, and bald eagle. The biological assessment was completed and submitted to USFWS for their review. The USFWS issued a biological opinion (File 1-5-07-F-445) on February 1, 2007.

The NPS completed formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the desert tortoise. The Biological Assessment prepared for the selected action indicated that the intake project was not expected to result in direct, indirect, short-term, or long-term adverse impacts to desert tortoise because of the general low quality of the habitat in the area and the extensive conservation measures that were included in the project. However, the project will result in the permanent loss of 16 acres of upland habitat. The USFWS determined that no designated critical habitat for the desert tortoise will be impacted by the selected action. The conclusion of the USFWS was that “... the project, as proposed and analyzed, is not likely to jeopardize the continued existence of the threatened desert tortoise (Mojave population).” An incidental take statement for desert tortoise for the intake project was included in the BO.

The NPS completed informal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the razorback sucker and the bald eagle. These determinations were included in the transmittal of the BO for the desert tortoise, described above. Although Lake Mead is designated as critical habitat for the razorback sucker, project activities will not occur in areas that are known to be used for spawning, and measures will be employed during construction to preserve water quality. The potential for adverse impacts to critical habitat for razorback sucker is considered negligible. The USFWS concurred with NPS’ determination of effect on the razorback sucker and its critical habitat as “*may affect, not likely to adversely affect.*”

Although bald eagles are not expected to be present in the immediate vicinity of the project area, conservation measures are included in the project to ensure their protection. There is a minor potential for disturbing roosting or foraging eagles during construction. No designated critical habitat for the bald eagle will be impacted by the selected action. The USFWS concurred with NPS’ determination of effect on bald eagle as “*may affect, not likely to adversely affect.*”

10. Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment: The selected action violates no federal, state, or local environmental protection laws.

The environmental assessment for the Lake Mead Intake No. 3 Project was prepared using the guidelines detailed in *NPS Management Policies 2001*. A new version of the management policies was adopted on August 31, 2006. The analyses detailed in the environmental assessment are consistent with both sets of Management Policies, and the selected action meets all NPS requirements.

IMPAIRMENT OF PARK RESOURCES OR VALUES

The implementation of the selected action will not constitute an impairment of LMNRA resources or values. Impacts documented in the environmental assessment and summarized above will not affect resources or values key to the natural and cultural integrity of the LMNRA, or alter opportunities for the enjoyment of the LMNRA. The selected action will not impair LMNRA resources and will not violate the National Park Service Organic Act. This conclusion is based on a thorough analysis of the impacts described in the environmental assessment, the lack of agency and public comments received, and the professional judgment of the decision maker, in accordance with *NPS Management Policies 2006*. As described in the environmental assessment, implementation of the selected action will not result in major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of LMNRA, (2) key to the natural or cultural integrity of LMNRA, or (3) identified as a goal in LMNRA's *General Management Plan* or other relevant National Park Service planning documents.

PUBLIC INVOLVEMENT AND AGENCY CONSULTATION

Staff of LMNRA and resource professionals at SNWA initiated internal scoping for the intake project in early 2005. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the selected project to other planning efforts in the park and the region.

A press release initiating scoping and describing the selected action was issued on June 1, 2005. Comments were solicited during a public scoping period that ended June 30, 2005. The press release was posted on the park's Web site. The press release resulted in the publication of an article in the *Las Vegas Sun* on June 2, 2005, describing the proposed intake project and identifying the Park Service's request for public comment. An article in *High Country News* on June 13, 2005, also discussed the intake project. No public comments were received during the scoping period.

The environmental assessment was made available for public and agency review and comment during a 6-week period from December 1, 2006 through January 9, 2007. LMNRA provided copies of the document to approximately 43 agencies, organizations, and interested parties on the LMNRA mailing list. A total of 107 other agencies, organizations, and individuals received a notice by mail of the availability of the environmental assessment. In addition, the document was available for review on the park Web site, at 17 local libraries, and interested parties could contact the park by telephone, mail, or submit comments via the NPS website. A press release was issued in the *Las Vegas Review-Journal* on December 6, 2006, notifying the public of the availability of the environmental assessment.

Comment letters supporting the proposed intake project were received from SHPO and from the City of Henderson (Nevada) Department of Utility Services.

A comment letter was received from the Metropolitan Water District of Southern California (Metropolitan). Comments included concerns regarding the effects of project implementation on downstream water quality for Metropolitan and other water users. Comments addressed the construction of the Intake No. 3 project and the cumulative impacts of the intake project in conjunction with other projects, such as the Clean Water Coalition's System Conveyance and Operations Program (SCOP).

The environmental assessment considered the potential effects of project implementation on lake water quality in Section V., Environmental Consequences, F. Hydrology and Water Quality (p. 82). Excavated material placed in viewshed berms will be mostly located above the mean high water mark (MHWM), and well above current lake levels. The proposed causeway fills are located below the MHWM but well above current lake level. Grading, slopes, and placement support structures will be designed to minimize the potential for erosion. The placement of the excavated material will require a permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 from the United States Army Corps of Engineers (Section 404 permit). The Section 404 permit will include a discussion of potential effects on sensitive species and their habitat in the project area, and will prescribe the necessary conservation measures in additional detail. With the water quality mitigation measures identified in the environmental assessment and implemented through the Section 404 permit, the selected action is anticipated to reduce to a negligible to minor level any temporary adverse effects on water quality during construction, and cumulative effects are not anticipated. Effects to water quality would be detectable, but would be well below water quality standards or criteria and within historical water quality conditions. The selected action would not impair any beneficial uses of the lake waters. Specific mitigation measures to protect water quality and lake biota, consistent with the requirements and content of the Section 404 permit process and outcome, are presented above in Table 1 in the Biotic Communities category and the Hydrology and Water Quality category.

The drilling fluids and solids for intake facility construction will be handled in accordance with National Park Service and Nevada State requirements. Implementation of best management practices will minimize increases in turbidity and suspended solids during drilling of the intake shaft. Construction within Lake Mead will be conducted using appropriate methods to control the dispersion of suspended solids and turbidity in the water column generated by construction activities.

Measures related to minimizing erosion and restoring site grades and vegetation, as well as the requirement to treat all excavation water prior to discharge, will also work to minimize the potential for erosion from the project site and potential effects to lake water quality. Because of the minimal potential for effects to water quality within the immediate area of the construction work, there is also only a minimal potential for effects to water quality downstream of Hoover Dam as a result of project implementation.

The discussion of potential downstream effects to water quality from implementation of the SCOP program was discussed in the Final EIS for that project (*Clean Water Coalition, October 2006. Systems Conveyance and Operations Program – Final EIS*). Potential downstream effects to water quality from the preferred configuration of the SCOP program indicate only a small calculated increase in the total phosphorus concentration below Hoover Dam, but at a level well within the historical range of natural concentrations in the Colorado River, and well below the water quality standard for water uses.

Based on the anticipated effect of the SCOP program and the minimal effect in Boulder Basin of implementing the Intake No. 3 project, and with implementation of the recommended mitigation measures, effects to hydrology and water quality would be reduced, and cumulative effects would be negligible to minor and adverse. Impacts to water quality would be detectable, but well below water quality standards or criteria, and within historical water quality conditions. Therefore, construction and operation of the intake project will not result in significant impacts to Metropolitan and other downstream users.

None of the comments received introduced substantive new information nor raised issues not considered in the environmental assessment. No modifications to the selected action were made as a result of comments.

The National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*), NEPA, National Park Service Organic Act, NPS Management Policies (2006), Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making (2001), and Director's Order #28: Cultural Resource Management (1998) require consideration of impacts on cultural resources, either listed in or eligible to be listed in the NRHP.

Compliance with section 106 of the National Historic Preservation Act was completed through consultation with the Nevada State Historic Preservation Officer (SHPO). On August 8, 2006, the Nevada SHPO concurred with a finding of no adverse effect.

Compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, was completed through formal and informal consultation with the USFWS and development of a biological assessment for the potential effects of the project on razorback sucker, bald eagle, and desert tortoise. The USFWS issued a Biological Opinion on February 1, 2007 (File No. 1-5-07-F-445), concurring with NPS' determination that the project to construct and operate a new water supply intake system in Lake Mead is not likely to adversely affect the razorback sucker and bald eagle, and is not likely to adversely affect critical habitat for razorback sucker. NPS concluded that the project may affect, and is likely to adversely affect, the desert tortoise. Conservation measures are included in the project design and implementation, and the USFWS concluded that the project, as proposed and analyzed, is not likely to jeopardize the continued existence of the threatened desert tortoise.

SNWA, as the project proponent under LMNRA guidance, will identify and obtain permits required pursuant to the Clean Water Act prior to construction. A preliminary determination of the permits required was included in the environmental assessment.

CONCLUSION

The selected action does not constitute an action that normally requires preparation of an environmental impact statement. The selected action will not have a major impact on the human environment. Negative environmental impacts that could occur are considered short-term and negligible to minor in intensity, and long-term, negligible to minor in intensity. Conservation measures will be incorporated into the design and implementation of the selected action to reduce or eliminate impacts. There are no unacceptable or adverse indirect effects foreseen, nor would implementing the selected action result in impairment of LMNRA resources or values. There are no foreseen significant adverse impacts on public health, public safety, threatened and endangered species, historic properties, either listed or eligible for listing in the NRHP, or other unique characteristics of the region; the SHPO and USFWS concur in these determinations. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects or connected actions, or elements of precedence were identified. Implementation of the selected action will not violate any federal, state, or local environmental protection laws.

Based on the foregoing, it has been determined that an environmental impact statement is not required for this project and the expanded right-of-way will be granted as soon as practicable.

Recommended:

William K. Dickinson, Superintendent
Lake Mead National Recreation Area

Date

Approved:

Jonathan B. Jarvis, Regional Director
National Park Service, Pacific West Region

Date