Response to comments received regarding the *Environmental Assessment for the Wastewater Conveyance and Treatment Project for the Mexicali II Service Area,* dated August 2003. The specific comments are reproduced below in *italics* with responses to the comments directly below each comment. A brief background has also been provided. [Comments are available upon request.]

BACKGROUND:

The sanitation program for the City of Mexicali has been designed to operate as two independent sewer collection and treatment systems: Mexicali I and Mexicali II. The Mexicali I area, which is fully developed, covers a service area of approximately 499,200 users, and the Mexicali II population is currently at 239,000 and expected to grow to 436,770 by the year 2025. Most of the Mexicali I projects have been completed, and nearly all wastewater generated in the Mexicali I area is now collected by the sewer network and conveyed to the Zaragoza Wastewater Treatment Plant. Effluent from this treatment plant is discharged both directly to the New River, as well as to the InterGen Power Plant for use as cooling water.

Mexico originally intended to build a new wastewater treatment plant to service the Mexicali II area in an area known as El Choropo. The U.S. purchased the pipe for the force main for this project. The pipe was delivered to Mexicali, and a pump station was built, but the treatment plant was never constructed because Mexico decided that the odors generated by the plant would be too great of a nuisance for nearby residents and businesses. Consequently, approximately 15,400 acre-feet per year (af/y) (13.7 million gallons per day, 600 liters per second) of untreated wastewater continue to enter the New River. This river originates 20 river miles south of the border, and travels 65 river miles through Calexico and the Imperial Valley, before emptying into the Salton Sea. The untreated wastewater, which makes up about 10% of the New River at the Boundary, therefore poses serious public health and environmental threats both in Mexico and in the U.S.

Mexico has recently proposed building a new wastewater treatment plant, force main, and pumping station which will be sized to treat flows up to 2014 (22,000 af/y) in an uninhabited area 26 km south of Mexicali (17 km south of "El Choropo) known as "Las Arenitas." This project would also utilize the existing pump station and pipe purchased for the abandoned El Choropo project. However, instead of flowing into the New River and into the United States, the treated wastewater from Mexicali II would enter a series of agricultural canals, and travel 46 km southward before reaching the Río Hardy, which is a tributary to the Colorado River Delta in Baja California, Mexico. The elimination of this untreated wastewater would greatly improve water quality in the New River as it flows into and through the Imperial Valley.

In compliance with National Environmental Policy Act (NEPA), EPA prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI), which were made available for public review on August 11, 2003. In the EA, EPA identified the following benefits to water quality in the United States:

- 10% reduction in phosphates into the Salton Sea. (The Salton Sea is listed as "impaired" under Section 303(d) of Clean Water Act for nutrients, namely phosphorous);
- 43% reduction of Biological Oxygen Demand (BOD) in the New River at the International Border. (BOD is a measure of organic pollution. A reduction of BOD will also help decrease odors and increase oxygen in the New River);
- 65% reduction of Total Suspended Solids (TSS) in New River at the International Border. (TSS reduction will improve clarity of water);

- majority of pathogens in New River removed (New River is listed as "impaired" under Clean Water Act for pathogens).

EPA also identified the following impacts:

- 1% reduction of current flows into the Salton Sea
- 2,600 additional acres exposed by year 2008
- 0.5 foot drop in Salton Sea level by year 2008
- slight increase in salinization of Salton Sea over projected rate

The public comment period for this EA and FONSI closed on September 9, 2003. In response to the EA, the State Water Resources Control Board submitted a letter of support for the project. EPA also received a letter of support from the Regional Water Quality Control Board after the comment period had closed. Environmental Defense wrote that the increase of flows into the Río Hardy could yield significant benefit to the Colorado River delta ecosystem in Mexico provided the wastewater is of sufficient quality. The Salton Sea Authority applauded efforts to reduce nutrients in the Sea, but felt an Environmental Impact Statement (EIS) should be prepared to better address air and biological impacts. They also requested that EPA pay $22 million in mitigation for the Salton Sea. U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) noted that the EA failed to address potential impacts to endangered desert pupfish and migratory shorebirds.

In October 2003, subsequent to EPA's issuance of the EA, the Imperial Irrigation District (IID), Metropolitan Water District (MWD), Coachella Valley Water District (CVWD) and San Diego County Water Agency (SDCWA) signed the Quantification Settlement Agreement (QSA) and related agreements. These agreements cover multiple projects related to use of Colorado River water in California. A primary component of implementation of the QSA is the IID Water Conservation and Transfer Project under which IID will conserve up to 300 thousand acre-feet of water and transfer that water to SDCWA and CVWD. This project, along with other projects that have been or will be implemented, will reduce inflows to the Salton Sea. The environmental effects of the IID Water Conservation and Transfer Project on the Salton Sea were evaluated in the Final Environmental Impact Report/Environmental Impact Statement (IID and United States Bureau of Reclamation 2002) and a recently completed Addendum (IID 2003). Considering the comments EPA received regarding what is the appropriate baseline for project impact evaluation and with the approval of the IID Water Conservation and Transfer Project and finalization of the environmental documentation, EPA has done further analysis with the implementation of the IID Water Conservation and Transfer Project constituting the baseline/no action condition for further evaluating the impacts of the Mexicali II project on biological resources at the Salton Sea.

Many comments were also received during the EA comment period from U.S. citizens who vacation along the Río Hardy in Mexico. They expressed concerns that the discharge of wastewater could impact the Río Hardy, in particular, fishing and water-skiing activities. Most of these individuals oppose the construction of this treatment plant. The EA addressed impacts in the U.S. Impacts in Mexico are discussed in the Mexican Environmental Assessment, the Manifestación de Impacto Ambiental "MIA" del Proyecto de Saneamiento y Análisis Financiero del Sistema de Agua Potable y Drenaje de Mexicali, Baja California (MIA). EPA has nevertheless included all responsive information regarding impacts in Mexico in the specific comments below.

Comments received from United States Fish and Wildlife Service

USFWS 1: The document does not consider the impacts to shorebirds that could occur as a result of the loss of shallow water habitat. The Salton Sea is considered to be of international importance in regards to the habitat it provides to migratory shorebird species. The University of Redlands has information in their database that could be used to support such an analysis.

The Salton Sea represents a major center for avian biodiversity in the southwest U.S., with occurrence records for more than 400 species and an annual average abundance of 1.5 million to 2 million waterbirds (SSA and Reclamation 2000; Shuford et al. 1999). The Salton Sea is an integral part of the Pacific Flyway, providing a migratory stopover for fall and spring shorebirds and supporting large populations of wintering waterfowl. More than 100,000 shorebirds use the Salton Sea during migrations between wintering grounds in Central or South America to breeding grounds in North America. Up to 30,000 shorebirds remain at the Salton Sea over winter. Similarly, fish-eating birds, such as white pelicans, use the Salton Sea as a migratory stopover and wintering area. The Salton Sea also supports thousands of wintering ducks and geese, including northern shovelers, northern pintail, green-winged teal, American wigeon, ruddy ducks, Snow geese, and Ross's geese.

In addition to providing habitat for migratory and wintering birds, the Salton Sea supports nesting by several species of colonial-nesting birds, including double-crested cormorant, black skimmer, gull-billed tern, and California gull. Most nesting sites are in three primary locations: along the north shore, along the south shore, and near the mouth of Salt Creek on the eastern shore. Some natural islands are available for nesting at the Salton Sea; however, a number of sites consist of old levees now inundated in sections and separated from the mainland and other manmade islands. Except for Mullet Island at the south end of the Sea, most sites are less than 11,000 square feet in area. Fluctuations in the Sea elevations affect the amount of habitat available to island nesting birds.

Mullet Island, located near the Alamo River mouth, is the largest nesting island and has a relatively high relief. It has historically supported nesting black skimmers, cormorants, gull-billed terns, and Caspian terns; since 1992, gulls have also nested there (Molina 1996). Other nesting sites in the south portion of the Salton Sea include low-lying islets in Morton Bay, near Rock Hill, adjacent to Obsidian Butte, and at Elmore Ranch. On the north end of the Salton Sea, remnants of earthen levees near the mouth of the Whitewater River have been isolated from the shore by rising water levels and have attracted ground-nesting birds.

The U.S. Bureau of Reclamation (Reclamation) modeled the effects of implementing the IID Water Conservation and Transfer Project on the Salton Sea using its Salton Sea Accounting Model. This modeling projected changes in the water surface elevation of the Salton Sea based on inflow levels expected with implementation of the IID Water Conservation and Transfer Project, the Quantification Settlement Agreement and several other projects, including the 1988 IID/MWD Transfer Project. Figure 1 shows the surface elevation changes projected with implementation of the IID Water Conservation and Transfer Project. Because of the certainty of the IID Water Conservation and Transfer Project, this projection now represents the No Action condition against which the impacts of the Mexicali II project are evaluated. Thus, environmental effects of the Mexicali II project were determined by adding the incremental effect of the Mexicali II project on the water surface elevation to the No Action projections. The hydrologic modeling for the IID Water Conservation and Transfer Project included the effects of projects that were reasonably foreseeable at the time of preparation of the EIR/EIS and did not include the reduction of inflows from Mexico due to the Mexicali II project. These effects are represented in Figure 1.

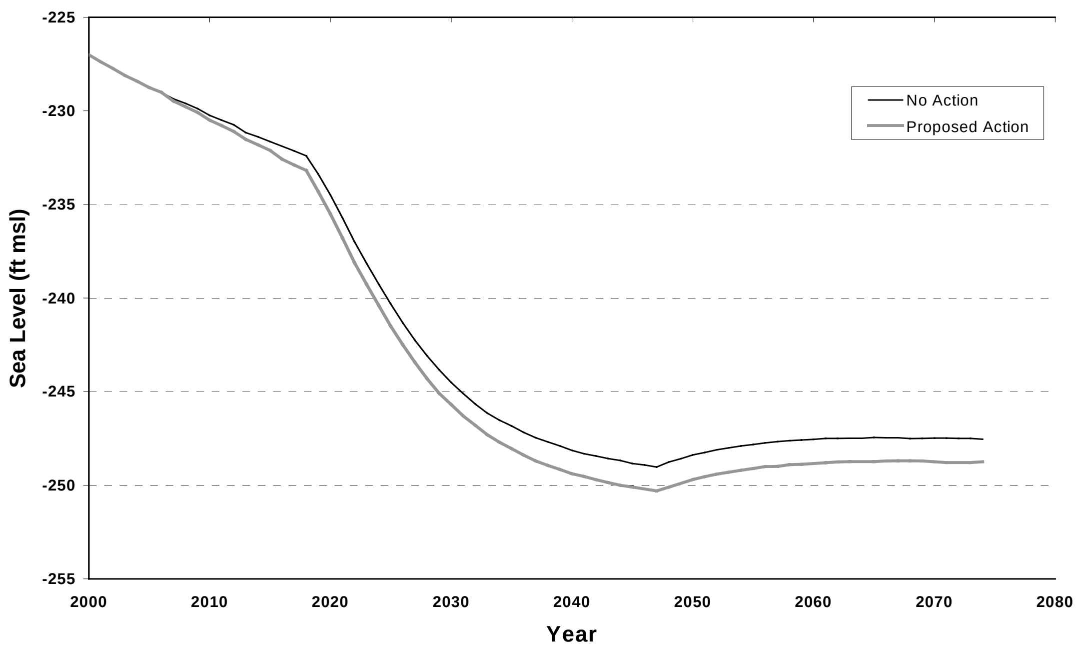


FIGURE 1. Projected water surface elevation of the Salton Sea with implementation of the IID Water Conservation and Transfer Project.

Over the next 75 years, the surface elevation of the Salton Sea is projected to decline as a result of several projects in California that have already been implemented (e.g., IID / MWD 1988 water transfer) or that will be implemented (e.g., IID Water Conservation and Transfer Project). The surface elevation of the Salton Sea is projected to decline and equilibrate at about –248 feet msl in about 2055. With implementation of the Mexicali II project, the surface elevation of the Sea would be nearly identical to the No Action condition until about 2015 with differences of less than 0.5 foot. After about 2015, the surface elevation reduction attributable to the Mexicali II project would increase to about 1 foot relative to the No Action. In approximately 2055, the surface elevation of the Sea with implementation of the Mexicali II project would be about –249 ft msl.

Migratory shorebirds forage in shallow water areas (less than one foot deep) at the Salton Sea. Two measures are used to evaluate potential effects of the proposed Mexicali II project on the amount of habitat available to migratory shorebirds:

- Perimeter of the Sea
- Acreage of water less than 1 foot deep.

Some shorebirds forage at the water's edge and adjacent moist areas while others wade in shallow water. The perimeter of the sea provides an index of the former, and the acreage of water less than 1 foot deep provides an index of the latter. These measures were used to evaluate changes to foraging habitat for shorebirds, thus impacts to shorebirds, in the IID Water Conservation and Transfer Project EIR / EIS.

As discussed above, the water surface elevation of the Salton Sea is projected to decline over several decades from its current elevation of about –228 feet msl to a stable elevation of about

–248 feet msl. Based on bathymetric data from the University of Redlands, at the current elevation of about –228 feet msl, the perimeter of the Salton Sea is about 99 miles and the acreage of shallow water habitat is about 1,126 acres. The decline in water surface elevation to about –248 feet msl under the No Action condition would reduce the perimeter of the Sea to 80.5 miles, but increase the acreage of shallow water habitat to 3,034 acres (Table 1).

TABLE 1
Perimeter of the Salton Sea and acreage of shallow water habitat (< 1 foot deep) under current conditions, No Action condition and with Implementation of the Mexicali II Project.

Habitat Index	**Current**	**No Action** 2077	**Mexicali II Project** 2077	**Difference**[a]
Perimeter (miles)	99	80.5	79.5	-1.0
Shallow water habitat (acres < 1 foot deep)	1,126	3,034	2,938	-96

Source: University of Redlands (1999) bathymetric data and surface elevation projections based on Salton Sea Accounting Model.

[a] Difference between the Mexicali II Project and the No Action

Implementation of the Mexicali II project is expected to decrease the surface elevation of the Sea at equilibrium by about 1 foot from –248 feet msl expected under the No Action to –249 feet msl. At an elevation of –249 feet msl, the perimeter of the Sea would be about 79.5 miles and the acreage of shallow water habitat would be about 2,938 acres. Thus, relative to the No Action condition, the Mexicali II project would decrease the perimeter of the Sea by 1.0 mile and the availability of shallow water habitat by about 96 acres. These differences are very small, constituting about a 1 percent reduction in the perimeter and about a 3 percent reduction in the acreage of shallow water habitat relative to the No Action condition. Notably, the acreage of shallow water habitat under the Mexicali II project would be about 2.5 times greater than currently is supported at the Sea. Considering the very small changes in potential habitat relative to the No Action condition, and the possible increase in shallow water habitat above current conditions, no significant adverse effects to shorebirds are anticipated as a result of the Mexicali II project.

USFWS 2: The discussion indicates that the vertical elevation change associated with the reduction in inflows is expected to be on the order of 0.5 feet. While this is not a large change, significant habitats are currently supported by very shallow depths of water around the periphery of the Salton Sea. In particular, the shoreline pools are used by the endangered desert pupfish (Cyprinidon macularius). Pupfish have been documented to use shoreline pools at the Salton Sea and some of these areas could be isolated from the main body of the Salton Sea as a result of an elevation drop of as little as 0.5 feet. This elevation drop may result in changes to the outlets of some of the drains that flow directly into the Salton Sea. Desert pupfish are known to occur in many of these drains, and they are believed to move from drain to drain. The document does not analyze if a vertical drop of 0.5 feet could result in changes in the drain outlets such that it is no longer possible for pupfish to move in and out of individual drains. If pupfish become isolated in individual drains and are not free to move to other areas, they may be at a greater risk to losses resulting from low dissolved oxygen events, pesticide spills, fertilizer spills, or other events that could impact the populations in these drains.

Fish species inhabiting the Salton Sea can tolerate high-salinity waters. Most of the fish are non-native species that have been introduced from the Gulf of California by the CDFG. Fish in the

Salton Sea include the sport fish sargo (*Anisotremus davidsoni*), orangemouth corvina (*Cynoscion xanthulus*), Gulf croaker (*Bairdiella icistia*), and tilapia (*Tilapia mossambica*). Gulf croaker, sargo, and corvina are marine species, while the remaining species are estuarine or freshwater fish with extreme salinity tolerances. Tilapia has been the most abundant fish in the Salton Sea. Tilapia productivity in 1998 was estimated at 3,600 kilograms per hectare per year (kg/ha/yr), far exceeding productivity of tilapia in tropical lakes (Costa-Pierce and Riedel 2000a).

Salinity is the controlling factor for the persistence of fish in the Salton Sea. The current salinity of the Sea is about 46 grams per liter (g/L). Many fish and invertebrates are at risk from this high level of salinity. *Bairdiella* and sargo larvae die at salinity levels starting at 40 g/L; adult orangemouth corvina and sargo die at 62.5 g/L. Reproductive failure of *Bairdiella*, sargo, and tilapia at 40 g/L is moderately probable, along with declining productivity of pileworms, which reduces food available for *Bairdiella* and young corvina. Tilapia, however, has a high salinity tolerance. Tilapia has been collected at a salinity level of 120 g/L, but reproduction has not been reported at this salinity level (Whitfield and Blaber 1979). Costa-Pierce and Riedel (2000a) suggested that tilapia in the Salton Sea could successfully acclimate to and reproduce at a salinity level of 60 g/L.

The fish community of the Salton Sea experiences periodic large-scale die-offs. Fish kills can be massive, averaging between 10,000 and 100,000 fish, but sometimes reaching upwards of several million fish. A fish die-off estimated at 7.6 million fish was reported in August 1999. The causes are not always clear, but many die-offs are caused by rapid declines in dissolved oxygen levels resulting from seasonal algal blooms. Potential pathogens also have been identified.

Desert pupfish (*Cyprinodon macularius*) is the only native species in the Salton Sea and is listed as endangered under the federal and state Endangered Species Acts. Desert pupfish populations inhabit agricultural drains that discharge directly into the Salton Sea, shoreline pools of the Salton Sea, and desert washes at San Felipe Wash and Salt Creek. Pupfish movement between the Salton Sea and nearby drains has been observed (Sutton 1999). Pupfish prefer shallow, slow-moving waters with some vegetation for feeding and spawning habitat; the shallow Salton Sea pools that typically have little vegetation do not provide optimal habitat (UCLA 1983).

Sediment deposition from the drains occurs at a range of elevations reflecting intra-annual and inter-annual fluctuations in the water surface elevation of the Salton Sea. Intra-annual fluctuations are on the order of about 1 foot and reflect seasonal irrigation and weather patterns. Inter-annual variations reflect longer-term changes in water use in the Imperial, Coachella and Mexicali valleys. In recent years, the surface elevation of the Salton Sea has been declining (Figure 2). As a result of the intra-annual and inter-annual variation in the elevation of the Sea, sediment deposition at the mouths of the drains has occurred between about –226.5 and –228.5 feet msl level.

Construction of the Mexicali II treatment plant would not be completed until 2006. Therefore, any effects to pupfish from reduced surface elevation prior to 2006 would not be attributable to the Mexicali II project. Rather, these effects would reflect the No Action condition consisting of elevational changes from implementation of the IID Water Conservation and Transfer Project and other projects including the 1988 MWD transfer. Under the No Action, the surface elevation of the Sea is projected to continue to decline. By 2006, the surface elevation of the Salton Sea is projected to be about –229 feet msl. This elevation is about 0.5 foot below the lowest recent elevation and therefore below the elevation at which sediment deposition could have occurred in recent years (Figure 2). The projections indicate that the Mexicali II project would have minor effects on elevation for several years following completion of construction. Surface elevation reductions would be less than 0.5 foot until about 2015. Under the No Action condition, the surface elevation expected in 2015 would be about –232.1 feet msl, about 3.5 feet below the lowest recent sediment deposition zone. As a result, if sediment deposition has accumulated to the point where physical barriers are created as the elevation falls, the movement barriers would occur prior to the manifestation of effects of the Mexicali II project at the Salton Sea. The Mexicali II project, therefore, would not result in significant impacts relative to the No Action condition.

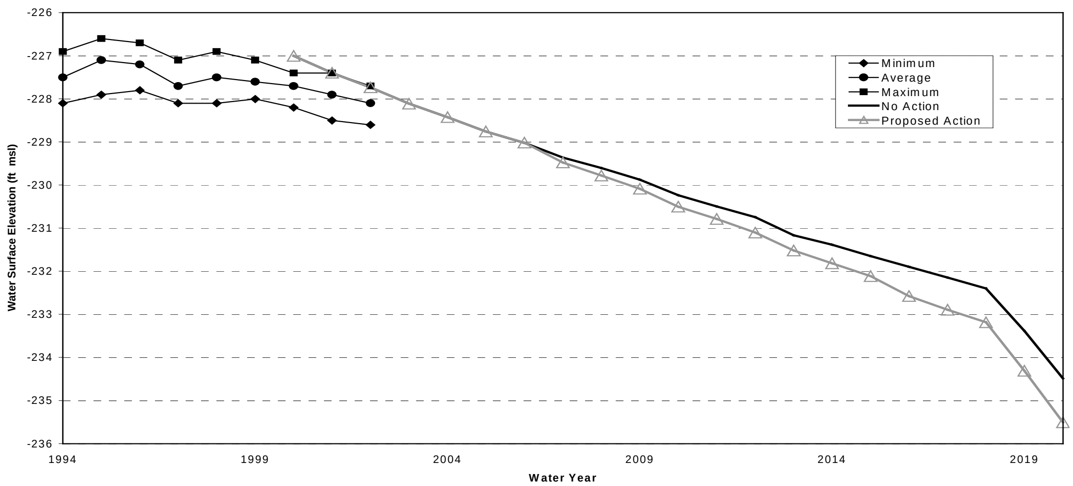


FIGURE 2. Average and range of water surface elevation at the Salton Sea (1994 to 2002) and average annual projected water surface elevation under the No Action. Minimum, average and maximum values are measured values from the Salton Sea (United States Geological Survey California Hydrologic Data Reports)

It also important to note that Total Maximum Daily Loads (TMDL) for sediment in the New and Alamo Rivers have been adopted and a TMDL for irrigation drains in the Imperial Valley is expected to be approved in the near future. About 90 percent of the farmers in the Imperial Valley currently are participating in a Farm Bureau program to reduce sediment movement from farm fields. Implementation of the TMDLs for sediment is expected to reduce sediment input to the Salton Sea and would reduce the potential for creation of physical barriers to pupfish movement from sediment deposition.

The No Action condition assumes implementation of the IID Water Conservation and Transfer Project and the 1988 MWD water transfer. Reclamation consulted with the USFWS on potential effects of implementation of biological conservation measures and the interrelated and interdependent activities associated with the IID Water Conservation and Transfer Project. The desert pupfish is covered in the consultation. The pupfish conservation measures in the Biological Opinion include the following:

> *In cooperation with its conservation agreement partners, Reclamation will ensure that an appropriate level of connectivity is maintained between pupfish populations in individual drains (at the north and south ends of the sea) connected to the Salton Sea either directly or indirectly and that drain habitat below the first check will be maintained in the event that conditions in the Salton Sea become unsuitable for pupfish. Reclamation and its conservation agreement partners will undertake planning and studies so that before the salinity of the Salton Sea reaches 90 parts per thousand (or lower as determined by the Service and California Department of Fish and Game) or physical barriers impede pupfish movement, the*

parties can implement a detailed plan for ensuring genetic interchange among the pupfish in the drains.

In light of this requirement, if physical barriers to movement of pupfish occur in the future, a plan ensuring genetic interchange, a primary concern if pupfish become isolated, will be developed and implemented. This mitigation would address USFWS concerns about connectivity among pupfish drains at reduced water surface elevations. However, as described above and illustrated in Figure 2, the Mexicali II project would not result in significant impacts relative to the No Action condition.

USFWS 3: This vertical drop could also result in small islands around the Salton Sea being connected to land. Several islands are used by nesting gull-billed terns (Sterna nilotica vanrossemi) and black skimmers (Rynchops niger.) These species are considered to be sensitive by the Service and the California Department of Fish and Game. Once re-connected to land, these islands would be accessed by terrestrial predators and would no longer be usable as nesting sites for these species. The Service would consider the loss of this habitat significant.

Nest and roost sites are available at the Salton Sea for several species of ground-nesting birds. Mullet Island, the largest of the sites, historically has supported the largest population of ground-nesting birds. Other nest sites include several small islets at the north and south ends of the Sea. These sites are suitable as nesting and roosting sites because they are surrounded by water deep enough to prevent terrestrial predators from accessing the sites. A decline in the water surface elevation could result in these islands becoming connected to the mainland at which point their suitability could decline with their accessibility to terrestrial predators. Mullet Island would become connected to the mainland at a surface elevation of about –231 feet msl, i.e. about 3 feet below the current elevation of –228 feet msl. The islets are separated by shallower water, up to about 2 feet deep.

Under the No Action condition, the surface elevation of the Sea is projected to decline to about –229.5 feet msl by 2008 when the effects of the Mexicali II project would be fully manifested at the Sea. Thus, islets separated by water less than 1.5 feet would be connected to the mainland prior to implementation of the Mexicali II project and any adverse effects would not be attributable to the Mexicali II project. After 2008, the Mexicali II project could accelerate the time at which Mullet Island and other islets would become connected to the mainland. Under the No Action condition, Mullet Island would become connected to the mainland in about 2013. The surface elevation projections indicate that, with implementation of the Mexicali II project, Mullet Island would become connected to the mainland in the same year (see Figure 1). Thus, the Mexicali II project would not accelerate the loss of nesting islands relative to the No Action condition, and no significant impacts to ground-nesting birds would occur under the Mexicali II project.

USFWS 4: The document states that because all the fish in the Salton Sea are non-native species, the impacts of the project are not significant. The desert pupfish is native to the Salton Sea, and it is federally listed as endangered. The potential losses of habitat discussed above should be addressed in the EA.

In EPA's (2003) Environmental Assessment, EPA erroneously noted that there were no native species in the Salton Sea. As a result of comments from the USFWS and others, EPA was made aware that the desert pupfish is a native species listed under the Federal and State Endangered Species Acts and that it could be impacted by implementation of the Mexicali II Project. An analysis of the potential effects of the Mexicali II project on desert pupfish is provided above in the response to USFWS 2. However, based upon that analysis, EPA maintains that these impacts are not significant.

USFWS 5: Table 3-1 should be updated to indicate that the California least tern (Sterna antillarum browni) and the Peirson's milk-vetch (Astragalus magdalenae var. *peirsonii) are federally listed (not proposed).*

EPA has updated Table 3-1 to show that the California least tern and Peirson's milk-vetch are federally listed. (Note: the original Table number from the EA [Table 3-1] was retained for reference to the original. This table number is not in sequence with other table numbers in this Response to Comments.)

TABLE 3-1
Endangered and Other Special Status Animal Species in the Lower Colorado River area of the United States and Mexico

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS [a]	STATE STATUS [a]	MEXICAN STATUS [a]	HABITAT [b]
California least tern	*Sterna antillarum browni*	FE	SE	-	A,W
PLANTS					
Peirson's milk-vetch	*Astralagus magdalenae* var. *peirsonii*	FT	SE	-	D

California Department of Fish and Game

CDFG 1: The preferred alternative for this project in the EA would cause a reduction in the inflows to the Salton Sea from the New River of 600-800 lps (15,342 – 22,501 AF/y). This represents a reduction of 1.17% to 1.71% of the total inflow to the Salton Sea. Using the low end of these estimates, the Salton Sea would drop approximately 0.5 feet below current levels, and expose approximately 2,654 acres of surface area. This project has the potential to impact the Federally and State Endangered desert pupfish (Cyprinodon macularius). The impact would be significant as significance is defined by the EA.

See response to USFWS 2.

CDFG 2: The EA states that "Impacts to Biological resources may be considered significant if the proposed action: Interferes substantially with movement of any resident or migratory fish and wildlife species." The desert pupfish uses the shallow water habitats of the Salton Sea as movement corridors, parts of which would be reduced or eliminated under the preferred alternative.

See response to USFWS 2.

CDFG 3: The Department disagrees with the statement "… only effects to candidates, sensitive or special status species or certain effects to native fish (i.e., nursery habitat, migratory routes) constitute significant biological impacts. Because all fish species are introduced, non-native species, the impacts are less than significant." This statement is incorrect. The desert pupfish is native to the Salton Sea ecosystem, has both Federal and State special status and uses the types of habitat impacted by this project for breeding, foraging and migration. The Department does not agree with the assessment stated: "No impacts to sensitive species or habitats would be expected under this alternative." The anticipated *reduction of Salton Sea habitat, which is of known importance to desert pupfish, would create a significant impact.*

See responses to USFWS 2 and USFWS 4.

Comments received from the Salton Sea Authority

SSA 1 The conclusion presented in paragraph five on page 4-11 of the EA is inconsistent with the significance thresholds presented in Section 4.2 at pages 4-11 and 4-12. As stated in paragraph five on page 4-11, "only effects to candidate, sensitive or special status species or certain effects to native fish (i.e., nursery habitat, migratory routes) constitute significant biological impacts. Because all fish species are introduced, nonnative species, the impacts are less than significant." However, significance criteria listed on pages 4-11 and 4-12 state that impacts are considered potentially significant if the proposed action:

- *Interferes substantially with the movement of any resident or migratory fish and wildlife species*
- *Substantially diminishes habitat for fish, wildlife, or plants.*

As discussed under Water Resources and Quality above, the Proposed Action will interfere with the movement of resident fish and wildlife, including birds at the Sea as a result of a loss of the 22,501 AF/y inflow and elevation drop of 1.9 feet. This is especially true for the federally endangered desert pupfish (Cyprinodon macularius) that is known to inhabit drains that discharge directly to the Sea. Any reduction in inflows could impact potential connections between these drains, thereby potentially affect pupfish.

See responses to USFWS 1, USFWS 2 and USFWS 4.

SSA 2: By reducing the area of the Sea by 4,000 acres the Proposed Action also has the potential to substantially diminish habitat for fish, wildlife and plants.

See response to USFWS 1.

SSA 3: In addition, impacts to fish, whether special status or not, will have a direct impact on federally protected bird species that feed on those fish due to the loss of feeding opportunities of fish and invertebrates.)

As noted in the SSA's comments on the Water Quality and Resources section of the EA, implementation of the Mexicali II Project would slightly accelerate the salinization of the Salton Sea. Under the Mexicali II project, the salinity of the Sea would exceed 60 parts per thousand (ppt), one year earlier than under the No Action condition. At salinity levels greater than 60 ppt, reproduction of tilapia is expected to decline substantially leading to reduced prey availability for fish-eating birds. EPA maintains that the small acceleration to the time when 60 ppt would be exceeded would not be a significant impact.

SSA 4: The EA states that reclaimed wastewater generated by the Proposed Project will be used within Mexico, thus reducing flows in the New River. However, an independent analysis conducted by our consultant Tetra Tech suggests that the consequences to the Sea would be substantially greater than those stated in the EA.

The Project would reduce flows into the New River and thus to the Salton Sea beginning in 2006. Because inflow to the Salton Sea affects the Sea's hydrologic balance, it follows that the surface elevation, salinity, and area of the Salton Sea would also be affected. However, in the context of baseline Salton Sea conditions, the magnitude of Project effects likely is not significant.

Changes to the Salton Sea that would result from the Project are summarized in Table 2.

The following results are projected to occur from Project implementation, according to the Project Model:

- The Salton Sea would reach the 60,000 mg/L salinity threshold a year earlier than without the Project, in 2018 as compared to 2019.
- At 2019, the Salton Sea would be 3 percent more saline, 0.93 feet lower in elevation, 1.08 percent smaller in aerial extent, and would expose 1,920 acres of Sea playa as compared to the No Action condition.

By 2074 (the limit of analysis, approximating equilibrium), the Salton Sea would be 6 percent more saline, 1.21 feet lower in elevation, 2.54 percent smaller in aerial extent, and would expose 3,983 more acres of Sea playa compared to the No Action condition.

The approach, assumptions, and results of our analysis of this Project's effect on the Salton Sea water and salt balances are described in the following sections.

Approach

Based on comments received and the recent agreements leading to certainty of the 300,000 af/yr water transfer, project baseline conditions are assumed to be the projected conditions with implementation of the Transfer, based on Salton Sea Accounting Model (SSAM) output characterizing conditions under the water transfer, and SSAM documentation (Weghorst, 2001). From these resources, a Project Model was developed, incorporating all of the significant SSAM and Transfer hydrologic and operational assumptions. For each year considered, the Project Model subtracts flow that would no longer arrive at the Salton Sea as a result of the Project, and accordingly adjusted Sea volume, area, level, evaporation losses, salt mass and concentration, and area of exposed Sea playa. An iterative solution tool was used to determine the Sea volume in each year that results in hydrologic and salt balance.

The Project would reduce flows into the Salton Sea from 2006 onward. Since inflow to the Salton Sea affects the Sea's hydrologic balance, it follows that the surface elevation, salinity, and area of the Salton Sea would also be affected. However, these effects would be relatively small.

A Project Model has been developed based on the SSAM documentation (Weghorst, 2001), and SSAM output characterizing conditions under the water transfer. The Project Model incorporates all of the significant SSAM and Transfer hydrologic and operational assumptions.

It was not necessary to reproduce the stochastic elements of the SSAM because all assumptions and stochastic elements from the reference model run were incorporated in the SSAM output. This yields adjusted output based on the baseline run with incremental changes in assumptions. The resulting balance, then, alters the baseline to account for the incremental effect of the Project.

For each year considered, the Project Model subtracts flow that will be diverted from the New River and thus not enter the Salton Sea as a result of the Project, and accordingly adjusts Sea volume, area, level, evaporation losses, salt mass and concentration, and exposed Sea playa area. An iterative solution tool was used to determine the sea volume in each year that results in balance, as follows:

Dv = Dq + De, where

Dv = alteration of the change in volume from base year, due to the Project. In other words, how much *greater* is the reduction in Sea volume between 2005 (before the Project is brought on-line) and the year in question? This can be thought of as water *no longer flowing to* the Salton Sea as a result of the Project.

Dq = the cumulative reduction in flow to the Sea. In other words, how much *less* water flows to the Salton Sea between 2005 (before the Project is brought on-line) and the year in question? This can be thought of as water *less water in* the Salton Sea as a result of the Project.

De = the cumulative reduction in evaporative loss from the Sea. In other words, how much *less* water evaporates from the Salton Sea between 2005 (before the Project is brought on-line) and the year in question? This can be thought of as water *less evaporation from a somewhat smaller* Salton Sea area as a result of the Project.

The Sea volume that achieves this balance determines Sea conditions for any given year after 2005. Up through 2005, the Salton Sea is not affected by the Project.

Salt balance also is calculated and checked, and Sea salinity is calculated by the Project Model. The salt balance is as follows:

Dm = D(load), where

Dm = the cumulative decrease in Sea salt mass. In other words, how much *less* salt accumulates in the Salton Sea between 2005 (before the Project is brought on-line) and the year in question? This can be thought of as salt mass *no longer flowing to* the Salton Sea as a result of the Project.

D(load) = the cumulative decrease in salt flowing to the Salton Sea. In other words, how much *less* salt flows to the Salton Sea (is diverted with diverted wastewater) between 2005 (before the Project is brought on-line) and the year in question? This can be thought of as *less salt mass in* the Salton Sea as a result of the Project.

Assumptions

Project Baseline conditions are taken to be the expected conditions with implementation of the Water Transfer. Model output that is the basis for this analysis included the effect of these assumptions.

Reduction in the Sea volume results in a reduction in area. Since evaporation from a body of water like the Salton Sea is a function of the water surface area, evaporation losses from a smaller Sea are lower. However, more saline water evaporates more slowly, so each acre of Sea area loses less water as it becomes more saline. All of these effects are accounted for in the Project Model in a manner consistent with the Sea Model.

The Project is assumed to result in a 15,000 af/y reduction in inflow in 2006, with this reduction linearly increasing to 22,507 af/y by 2014. The wastewater that is being diverted is assumed to have a salinity of 966.5 mg/L TDS. These assumptions are based on the Project description and other data presented in the EA.

Results

Changes to the Salton Sea resulting from the Project are summarized in Table 2, and presented in more detail in figures referenced throughout this section.

TABLE 2
Summary of Project Effects on Salton Sea

Parameter	Units	Project Baseline[b]	Project	Effect of Project
Year in which 60,000 mg/L TDS is reached[a]	year	2019	2018	-1
Year 2019 conditions:				
Average salinity	mg/L TDS	60,874	62,914	3%
Sea level	feet msl	-233.38	-234.31	-0.93
Sea area	acres	221,952	219,558	-1.08%
Exposed Sea playa area	acres	13,232	15,142	1,920
Equilibrium conditions (year 2074):				
Average salinity	mg/L TDS	142,077	150,741	6%
Sea level	feet msl	-247.54	-248.75	-1.21
Sea area	acres	175,423	170,972	-2.54%
Exposed Sea playa area	acres	59,575	63,727	3,983

mg/L milligrams per liter
TDS total dissolved solids, a measure of salinity
[a] 60,000 mg/L was established as the approximate limit of viable Sea fishery productivity.
[b] Project Baseline used is the effect of implementation of the IID Water Conservation and Transfer Project as documented in the EIR/EIS and Addendum (October 2003) for Transfer.

Effects on Sea level, salinity, surface area, and on exposed playa area are discussed in the following sections.

Sea Level. The Project Model shows that the Project would result in a 0.93-foot reduction in Sea level in 2019, and about a 1.21-foot reduction by 2074 (Table 2 and Figures 1 and 3; with the exception of Figures 1, 2, and 4, all figures are attached at the end of this Response to Comments). The end of the analysis period is the year 2074, when conditions would approximate equilibrium.

When the area-capacity-level relationship in Weghorst (2001) was applied, Sea area and level outputs from the Baseline run produced by the Sea Model did not correspond exactly. Rather, there was a discrepancy on the order of 0.27 feet in elevation (too low) for any given year in the Sea Model output. This suggests that the Sea Model may have been run with a slightly different area-capacity-level relationship than was included in Weghorst (2001). A modified area-capacity-level relationship is not available in original or updated Sea Model documentation, so an adjustment was made to Project Model output so that it would be comparable to Sea Model output. Thus the Project Model output serves the purpose of evaluating Project impacts. The adjustment entailed reducing Sea level results (derived in the Project Model from the published area-capacity-level relationship) by 0.27 feet. This has the effect of increasing the estimated impact of the Project on Sea level, but is more appropriate than comparison of unadjusted Project Model output with an apparent lack of correspondence to Sea Model output.

Sea Salinity. The Project would result in the Salton Sea reaching the 60,000 mg/L salinity threshold a year earlier than without the Project, in 2018 as opposed to 2019 (Table 2, Figures 4 and 5; Figure 4 is shown at the bottom of this page). The Salton Sea would be 3 percent more saline in 2019, and 6 percent more saline in 2074 than under the Project Baseline.

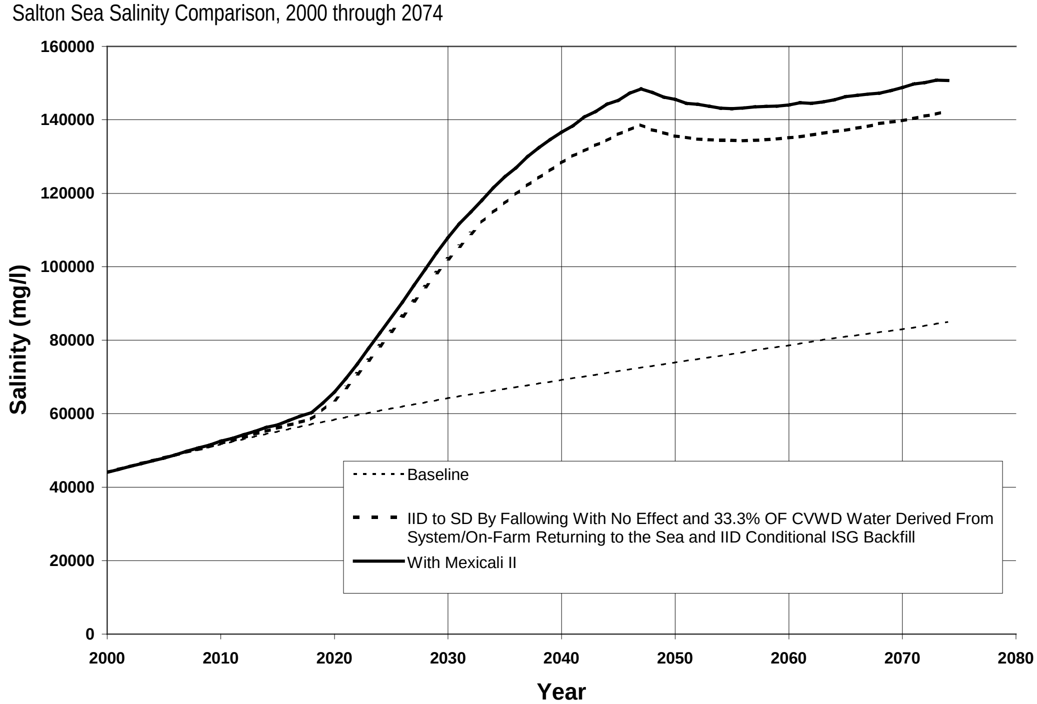
Exposed Sea Playa. In 2019, the Salton Sea would be 1.08 percent smaller in aerial extent, and would cover 1,920 acres less Sea playa than it would have without the Project (Table 2, Figures 6, 7 and 8.)

In 2074, the Salton Sea would be 2.54 percent smaller in aerial extent, and would cover 3,983 acres less Sea playa than it would have without the Project, under the Project Baseline.

Exposed playa previously reported to result from the Project was 2,654 acres. This was based on a lower assumed Project flow reduction to the New River (15,342 af/y), and did not account for changes in evaporation rate due to increases in Sea salinity. Also, calculations were made for the Sea at equilibrium.

The Project Model shows that by 2019, the Sea will not yet be at equilibrium, so that playa exposure at that time is less than will occur later.

FIGURE 4.
Salton Sea Salinity Comparison, 2000 through 2074



At equilibrium, reduction in evaporation due to reduced Salton Sea surface area must be in balance with reduced inflow. Without taking account of salinity effects on evaporation, and assuming 15,342 af/y reduction in New River flow, this quantity is as follows:

(area exposed in acres)

=(annual inflow reduction in af/y)/(annual evaporation rate in f/y)

=(15,342 af/y)/(5.78 f/y)=2,654 acres

If 22,507af/y inflow reduction is assumed at equilibrium, the additional area exposure increases to 3,894 acres. Adjustment of evaporation rates downward for salinity increases the result to

3,983 acres. This latter change is a result of the way evaporation affects the *difference* between Baseline and Project water balances. Water that would have evaporated from the larger, Baseline Sea surface area exceeds evaporation from the smaller Sea under the Project. Therefore, the differential evaporation constitutes a *loss that does not occur with the Project*. Reducing this "non-loss" for increased salinity therefore reduces the offsetting effect of change in evaporation on project flow reduction effects. The result is a *slightly smaller Sea* and slightly more exposed playa (3,983 instead of 3,894 acres at equilibrium) with the Project.

SSA 5: The EA commingles the discussion of effects of the Sea with predicted future baseline flows as identified in the IID Water Conservation and Transfer/Draft HCP and Draft Environmental Impact Report/Environmental Impact Statement (Transfer EIR/EIS). Significant issues have been raised concerning the technical justification for that baseline as presented in the Transfer EIR/EIS. The Authority presented its comments at hearings conducted by the State Water Resources Control Board in April 2002. A more appropriate approach would be to compare the project to inflow conditions as part of a cumulative assessment.

In the EA, EPA provided a discussion on the complexity of determining the baseline for purposes of the analysis. Based on comments received and the certainty of the Transfer, project baseline conditions are assumed to be the projected conditions with implementation of the Transfer, based on Salton Sea Accounting Model (SSAM) output characterizing conditions under the water transfer, and SSAM documentation (Weghorst, 2001). Please refer to baseline discussion in "Background."

SSA 6: The air quality analysis presented at Section 4.9 of the EA is a qualitative discussion of the differences and similarities of soils, meteorological conditions, and recession rates at other dry lakebeds such as Owens and Mono lakes. However, the basis for this conclusion cannot be evaluated because the EA does not provide data on the subject, nor does it provide references to published work that would support this conclusion. The EA also provides a comparison of the rate of recession of the shorelines at the Salton Sea and Owens Lake. However, that analysis is not supported in the EA, nor are any supporting studies referenced or data provided to justify the associated conclusions. A more defensible approach would be to analyze emissions of dust from the exposure of 4,000 acres at the Salton Sea relative to established air quality standards. If uncertainty exists with regard to the analysis, this should be so stated and a range of plausible emissions that could be expected presented.

The Mexicali II Project impact assessment is based on evaluation of two factors influencing total PM_{10} emissions: the area of exposed Sea playa attributable to Project implementation, and potential emissions rates from that exposed playa.

The EA, and comments on the EA, compared potential Salton Sea air quality issues to air quality issues attributed to Owens Lake. Potential emissions rates were also compared to those attributed to farmland near the Salton Sea. This analysis therefore further examines these comparisons. A weight-of-evidence approach is used to assess the effects of the Project on Air Quality because of uncertainty associated with available data for any single line of investigation. Findings of the investigation include the following:

- Historic emissions:
  - There is no correlation between historic Salton Sea playa exposure and available air quality (PM_{10}) data. The range of Sea levels is fairly narrow, so this finding, by itself, cannot be extrapolated to a conclusion. However, the range of exposure considered in the evaluation includes a maximum exposed area of about 2,500 acres, which is more than would be exposed by 2019 as a result of the Project.

- Exposed playa stability:
  - Salt crusts known to provide surface protection on other dry playas are expected to be relatively stable at the Salton Sea, thus cementing and protecting the surface during much of the erosive wind season.
  - Summertime playa crusts are relatively stable. This is also the case at Owens Lake, and the conditions favoring stability during this period also exist at the Salton Sea.
  - Wintertime crusts at the Salton Sea should be more stable than those at Owens Lake, because of less frequent occurrence of crust-softening conditions (combined low temperature and high humidity). Conditions at the Salton Sea favor maintenance of a harder, more stable surface. Owens Lake climatic conditions are correlated to PM_{10} emissions events to identify patterns that "set up" dust storms. The frequency of "set up" climatic conditions at the Salton Sea is then assessed. The result shows a Salton Sea playa surface that better resists wind erosion, compared to the conditions at Owens Lake.
- Mobile sand and soil texture:
  - Free sand sources such as dunes and sandy soils, which can blow and abrade exposed playa surfaces, are quite distant from areas of the shoreline where the greatest amount of Sea playa will be exposed. Sandy soils and dunes are located in western and eastern shore areas, far from the majority of exposed Sea playa in the north- and south-shore areas). Playa soils to be exposed are mostly fine textured, as shown by core survey data. The result is a weaker driving force for dust storms.
- Other climate factors:
  - Wind frequency and intensity at the Salton Sea, while high, are lower than at Owens Lake.
- Groundwater:
  - Artesian groundwater conditions that exist at Owens Lake, and that may be associated with elevated PM_{10} emissions rates, do not exist around the southern end of the Salton Sea, where much of the exposed playa will occur. Thus air quality issues similar to those at Owens Lake (resulting from groundwater conditions that disturb the crust) are much less likely to occur comparably at the Salton Sea.
- Land and water management:
  - Tillage, which is one of the major agents promoting erosion from farmland, will not occur on the exposed Sea playa. With other factors being equal, emissions from the Sea playa would be expected to be much lower than from surrounding farmland.
  - Even at maximum farmland emissions rates estimated by the California Air Resources Board, emissions from playa exposed as a result of the Project does not compromise conformity.
  - A large mitigation program is planned in association with the water transfer. Water Transfer Mitigation measures will address potential PM_{10} emissions that may result from Sea decline and Sea playa exposure resulting from implementation of that project. The Mexicali II Project does not significantly alter the nature of that program.
  - Vehicular traffic will be excluded from exposed playa areas under the Water Transfer Mitigation Program, so that stable crusts will be left intact.

In summary, evidence suggests that emissions from the marginally larger area exposed by the Project should not be significantly different from those related to exposure of Sea playa resulting from the water transfer project. The weight-of-evidence approach and the results for each line of evidence are presented in the following sections.

Approach

Several points of investigation are used to assess the potential for marginal Salton Sea playa exposure resulting to increase PM_{10} emissions as a result of the Project. The following topics were explored and their bearing on expected effects of the Project was evaluated:

1. Historical analyses and projections of exposed Salton Sea playa
    - Historical patterns of Salton Sea playa exposure
    - Correlation with air quality (PM_{10}) data
    - Projected playa exposure
2. Climate and Salton Sea playa stability
    - Surface crusting and chemistry
    - Temperature and humidity effects
    - Wind speed and duration
    - Implications
3. Other erodibility factors
    - Groundwater recharge conditions
    - Irrigation and hydrology
    - Surface soil texture
    - Abundance and location of mobile sand
    - Cultural practices

Historical Patterns of Salton Sea Playa Exposure

The following were evaluated:

- Landsat images for evidence of exposed and/or eroding playa.
- Correlation between Sea level and dust storm frequency
- Projected playa exposure

Landsat Image Analysis. Satellite images were obtained for two dates during the period for which Landsat images are available. Dates were chosen to show the Salton Sea at relatively low levels, and Salton Sea levels are as follows:

1. October 27, 1974: Sea level approximately -231 feet
2. October 16, 2002: Sea level approximately -226 feet

The images were examined for evidence of exposed playa erodibility or erosion. The 2002 shoreline was overlaid onto the 1974 image to illustrate areas exposed with the lower Salton Sea level. (Figure 9). The difference in Sea level does not result in large expanses of exposed Salton Sea playa. Most exposed areas appear to be saturated. There is no evidence of erosion on the imagery.

Correlation with Air Quality (PM_{10}) Data. Over the past century, the Salton Sea has fluctuated in size and surface elevation. This has resulted in exposure of sediments, presenting a potential opportunity to test the hypothesis that increased sediment exposure leads to greater emissions. The data record for emissions history is more limited; 10 to 20 years of data are available from air districts and California Air Resources Board (CARB).

Figure 10 shows fluctuations in Sea level during this period. The lowest levels result in exposure of about 2,500 acres of Sea playa. No significant correlation between exposed playa area and any PM_{10} variable in either Imperial or Riverside County is detectable (Figures 11 through 14).

Projected Playa Exposure. The Project would result in flow reductions to the New River, which would, in turn, result in exposure of an additional 3,983 acres of Sea Playa. The exposure expected from the IID Transfer is approximately 59,745 acres. The sediment exposure attributable to the Project is 6.2 percent of the total Sea exposure expected with the Transfer.

Bathymetry suggests that the majority of exposed Salton Sea playa would be located at the northern and southern ends of the Salton Sea (Figure 15). Steeper bathymetry on the east and west shores would result in very little exposed playa in these areas.

Potential PM_{10} impacts of this area depend on playa management and characteristics.

Climate and Salton Sea Playa Stability

The following aspects of climatic effects on the stability of the Salton Sea playa are discussed in this section:

- Surface crusting and chemistry
- Temperature and humidity effects
- Wind speed and duration

The implications of these climatic effects on the stability of the Salton Sea playa also are discussed.

Surface Crusting and Chemistry. Formation of surface crusts is expected at the Sea. These crusts result from cementation of surface sediments by evaporite salt minerals that form as evaporating saltwater concentrates at the playa surface. This salt crust can protect soil, reducing erodibility. Salt crust hardness depends primarily on the Sea water chemistry, and on the type of minerals formed upon Sea water evaporation.

Climate strongly affects the extent to which minerals are hydrated. Hydrated minerals expand, and this expansion can result in a softened crust; when hydration does not occur, cemented crusts may remain quite hard and resistant to erosion.

Like those of Owens Lake, the waters of the Salton Sea have a sodium-chloride chemistry, representing the waters' dominant ions (Figure 16). However, Salton Sea water differs from that of Owens Lake in that it has higher percentages of calcium and magnesium, while lacking bicarbonate and carbonate. As the Salton Sea level drops, water along the edges will evaporate to dryness, leaving chloride and sulfate salts, the most common of which are halite ($NaCl$), gypsum ($CaSO_4 \cdot 2H_2O$), epsomite ($MgSO_4 \cdot 7H_2O$), and mirabilite ($Na_2SO_4 \cdot 10H_2O$) or thenardite (Na_2SO_4). The Owens Lake playa has carbonate salts in addition to the chlorides and sulfates; the presence of carbonates or sulfates may contribute to soil crust softening as discussed under Temperature and Humidity Effects below.

Though there are exceptions (Dixon and Weed 1989), chloride salts are usually not hydrated and therefore are less important in determining erodibility. Also, they tend to be less dominant in airborne salt mixtures (Reheis et al., 2001).

Compared to Owens Lake, salts that form from Salton Sea water will have a higher percentage of chloride. This may result in a decreased erodibility at this site. Summer dehydration of salts is expected to be similar to that at Owens Lake because of similar summer temperatures. Winter temperatures at the Salton Sea are warmer and may result in less frequent and prolonged hydration.

Temperature and Humidity Effects. Temperature and humidity affect the hydration state of salts. In winter, when temperatures drop, evaporative demands decrease and humidity increases, providing water molecules that can hydrate salts. When salts are hydrated, they are expanded to a volume several times that of the non-hydrated form. For example, mirabilite, a hydrated sodium sulfate, occupies a volume 4.1 times that of thenardite (non-hydrated sodium sulfate). These expanded crystalline structures are common in sulfates and carbonates, and create less dense, "fluffy" material, significantly softening the soil crust until dehydrated salts form again. When this soil crust softening occurs, the surface can be much more erodible. At Owens Lake, this condition partly determines the duration of the dusty season. Patterns of temperature and humidity, the main factors driving this transformation, have been compared between the two locations to determine how significant the potential for this transformation is at the Salton Sea, relative to Owens Lake. These patterns are compared to thenardite / mirabilite transformation thresholds, and correlated to PM_{10} emissions events at Owens Lake.

Five-day moving averages for temperature and relative humidity (RH) data available for Owens Lake and Brawley were calculated. Recent (2002 to present) data from weather stations on Owens Lake were used to develop corrections to temperature data from nearby Haiwee, and RH data from Bishop. Much of the period from 1991 to present was available from these stations.

These averages are plotted relative to mineral stability thresholds (Troi et al., 2002; Figure 17). Owens Lake points scatter farther into the range of mirabilite stability (the expanded hydrated form), but the frequency and timing of this occurrence is not clear from this data display.

To further investigate the effects of temperature and RH on PM_{10} emissions, an erodibility index (EI) was developed from the 5-day moving averages of these two variables. For any point, the index is the shortest distance between the point and the transition curve; units are (deg F^2 * percent $RH^2)^{0.5}$. The EI is negative when it is in the thenardite range, and positive when in the mirabilite range. No scaling of the two variables (temperature and RH) was done since they vary in approximately the same range and magnitude. The resulting EI provides a single number indicating how far conditions on a particular day depart from the mineral stability threshold, and whether conditions favor formation thenardite (negative) or mirabilite (positive). About 12 years of EI data for both sites are plotted on Figure 18. It is readily apparent that the index fluctuates from values below -40 to values near or above 0 during each year, at both sites.

The EI relationship to PM_{10} emissions patterns at Owens Lake is examined. Patterns of EI favoring, or not favoring emissions can be assessed at the Salton Sea, since the basic physical process of mineral transformation in response to climate is somewhat independent of other local factors.

The EI for Owens Lake and Brawley are plotted for each year from 1991 through present, and available Owens Lake PM_{10} emissions data were plotted on the same graphic (Figures 19 through 31). Wherever PM_{10} data rise above the zero line at this scale, they indicate a dust storm. Note that a monitor was installed at the very emissive Dirty Socks site in 2000. This is one factor favoring more frequent observation of extreme storms after the turn of the century. Also, dust mitigation facilities construction began at Owens Lake in 2001; this activity may also have influenced dust storm frequency, intensity, and location.

These plots are evaluated as follows, and findings are summarized in Figure 32 and in Table 3:

1. Checked for dusty years. Years with relatively few and no extreme storms were rated at a half, with dusty years as 1, and non-dusty years as zero.
2. Checked for excursions (and duration of excursions) of the EI above 15, 10, and 0 at any time of year. Excursions were marked 1.

TABLE 3

Evaluation of Annual Plots of Erosion Index at Owens Lake and Brawley

Year	Owens				Brawley		
	Dusty[a]	EI>15?[b]	Months EI>10	Months EI>0	EI>15?[b]	Months EI>10	Months EI>0
1991	0	0	0	1	0	0	0.5
1992	0.5	0	0	0	0	0	1
1993	0.5	0	0.5	0.1	0	0	0.5
1994	0	0	0	0.25	1	0.25	0.5
1995	1	1	1	0.75	1	0.25	0.5
1996	1	0	0.25	1	0	0	0.1
1997	1	1	0.75	1	0	0	0.5
1998	0.5	1	1	1.5	0	0	1
1999	1	1	0.5	0.5	0	0	0.25
2000	1	1	0.5	2	0	0	0.5
2001	1	1	0.75	1.5	1	0.25	1
2002	1	1	0.25	0.5	0	0.1	0.2
2003	1	0	0.25	0.3	0	0	0.1

Source: IID Water Conservation and Transfer Draft EIR/EIS

[a] Entries in this column are 0 = no apparent PM_{10} events, 0.5 = no large PM_{10} events, and 1 = large PM_{10} events

[b] Entries in this column are 1 = yes, at some point during the year, 0 = not at any point during the year

Dusty days appear to be most reliably "set up" by years with more than 2 days during the previous year with an EI above 15. This condition occurred during 6 of the 8 dustiest years at Owens (1995 to 1997, and 1999 to 2003). During 1996 and 2003, this condition did not occur, yet these years were dusty.

It has been observed at Owens Lake that crust conditions are mainly affected by conditions during the preceding year. However, a portion of the playa surface continues to exhibit conditions created earlier. In 1996 and 2003, this carryover effect could have contributed to playa susceptibility to erosion and emissions. Also, dust mitigation facilities were under construction during 2003. Associated disturbance could have influenced playa erodibility.

At Brawley, only in 2001 did more than 2 days during the previous year exceed an EI of 15.

Finally, the cumulative distribution of EI is compared between the two sites (Figure 33). The upper graphic shows that Brawley EI is distributed over a more narrow range, with fewer high and low values. The lower graphic (zoom view of upper graphic) shows that it is extremely rare (0.1 percent, or 5 days in about 13 years) for EI to exceed 15 at Brawley, where the maximum observed EI was 16.5. However, about 1 percent (50 days in about 13 years) of Owens Lake EI values exceed 15, and the maximum observed EI at Owens is almost 30.

In summary, extreme (>15) EI events are best correlated with crust susceptibility to erosion, and with dusty years. Days with EI in this range are about 1/10 as frequent at the Salton Sea as at Owens Lake.

Wind Speeds, Frequency and Duration. The primary erosive force contributing to PM_{10} emissions is wind. The frequency of high wind levels at the Salton Sea is lower than at Owens Lake (Table 4), as reported in the EA. More detailed wind data for the Salton Sea are presented in the Master Response on Wind Conditions at the Salton Sea, section 3.16.

TABLE 4

Comparison of Wind Speed Frequency at 10 m Above Ground Surface for Salton Sea and Owens Lake

Location	Percent of time winds are >8.5 m/s (19 mph)	Percent of time winds are >11.0 m/s (25 mph)
Niland (Near Salton Sea)	4.4	1.4
Tower N3 (Owens Lake)	18.9	7.9

Source: IID Water Conservation and Transfer Draft EIS EIR

Implications. The weight of evidence suggests that Salton Sea playa surfaces should become emissive much less frequently than playa surfaces at Owens Lake.

Other Erodibility Factors

There are no currently accepted emissions factors that apply to exposed Salton Sea playa. Therefore, the Salton Sea characteristics were compared with those of surrounding agricultural lands and to Owens Lake. The potential emissions from exposed Sea playa were evaluated relative to these areas. The factors potentially affecting erodibility of the future exposed Sea playa and surrounding agricultural lands include the following:

- Groundwater recharge conditions
- Irrigation and hydrology
- Surface soil texture
- Abundance and location of mobile sand
- Cultural practices

Groundwater Recharge Conditions. The effects of groundwater on the playa surface have been raised as a factor potentially contributing to creation of emissive conditions at Owens Lake. Therefore, the hydrogeologic setting of Owens Lake is briefly characterized and compared to that of the Salton Sea.

At Owens Lake, recharge from surrounding, steep mountains creates artesian pressures over much of the playa. Shallow groundwater remains near the surface over large areas, particularly near the lake margin, where springs and seeps ring the lake. Over large areas on the playa, shallow groundwater is also near the surface.

Recharge to the Salton Sea is significant in the north, where artesian pressures are also common. In the south, groundwater levels are deeper below the Sea level, and there is very little recharge to the Sea. Further, artesian pressures are not present in the south.

Irrigation and Hydrology. Farmland that is wetted periodically will be more stable during those irrigation events. The Sea playa, on the other hand, will not be irrigated. How significant is the stabilizing effect of irrigation?

Farmlands are irrigated most frequently in the summertime, when the playa is at least risk of instability (see previous section on climate and crusting). Also, the stabilizing effect of irrigation is temporal, lasting for the brief period that the soil is wet. Therefore, the reduction in PM_{10} emissions due to occasional wetting by irrigation, relative to non-irrigated Sea playa, is likely to be marginal.

Surface Soil Texture and the Abundance and Location of Mobile Sand. Surface soil texture affects soil particle detachment and susceptibility to erosion. Detached particles can be picked up by wind or blown across the soil surface. Finer textures are generally more cohesive and therefore less prone to detachment and transport; however, finer particles are more easily carried in wind. Coarser particles are more easily detached and can be blown across surfaces in a hopping motion (“saltation”), potentially abrading the soil surface.

Agricultural soils around the Salton Sea and on the playa are similar in texture to one another. The basin is dominated by soils with fine (silty clay loam to silty clay) textures, with coarser textures occurring in narrow bands along alluvial channels and closer to mountains (Figure 34). Sand textured soils that are close to the Salton Sea are located primarily along the western shore, where topography is steeper and the mountains are in closer proximity. The areas with coarser soils and dunes are removed from the northern and southern ends of the Salton Sea where most Sea playa would be exposed. Sediments in playa areas that will be exposed are primarily finer textures. Sand abrasion would likely be needed to create severe erosion of these finer soils, and a ready source of free sand will not be present.

The erosive effect of mobile sand is the primary cause of PM_{10} emissions from the Owens Lake playa. At Owens Lake, the correlation of mobile sand to PM_{10} emissions is so pronounced that measurement of sand motion is one of the primary tools used to map PM_{10} emissions. Owens Lake is located in a steep sunken valley (graben). The close proximity of mountain ranges on three sides has delivered eroded sand material transported directly to shoreline alluvial fans, from which it has been blown into shoreline dunes. This has resulted in a large volume of mobile sand surrounding Owens Lake. Large and small dunes line the perimeter of the exposed playa and provide a constant source of abrasive, mobile sand.

The topography around the Salton Sea is relatively level compared with that of Owens Lake. The nearest mountain ranges are approximately 5 miles to the east (Chocolate Range), 15 miles to the west (Fish Creek Range) and 3 to 5 miles to the Northeast (Santa Rosa Range). Much of the sand eroded from these mountains is deposited before reaching the Sea. Sand sources at the Salton Sea include deposits along the New and Alamo Rivers and their deltas, and along the western shore near Salton City. Large dune sources are located to the southeast of the Sea, more than 20 miles away.

Where sandy soils and sand dunes do occur along the western side of the Sea, bathymetry suggests sediment exposure would be very limited. The exposed Sea playa will be in shallower areas surrounded by fine textured soils. Major sand sources and exposed playa are separated by longer distances at the Salton Sea than at Owens Lake, so there will be less free sand available than at Owens Lake.

Cultural Practices. Cultural practices that affect erodibility include the following:

- Field operations such as tillage, harvest, and other vehicle disturbance
- Crop cover

The primary cultural practices affecting erodibility of farmlands are tillage and harvesting, which disturb the soil surface and liberate particles that can mobilize in the wind for suspension or saltation. The California Air Resources Board methods for development of crop-specific emissions factors (Yu and Gaffney, 2003), and their application to large areas of farmland, considers no other factor as a contributor to emissions (Figure 35), suggesting that these factors are the dominant driving forces for PM_{10} emissions from cropland.

Crop-specific emissions factors are developed by taking an inventory of field operations (primary and secondary tillage, harvest operations) related to the particular crop (Figure 35). The related operation-specific emissions factors for each operation are then summed. The notion that soil disturbance is the dominant driving force for PM_{10} emissions is implicit.

Anthropogenic disturbance of exposed playa is not anticipated. The likelihood of disturbance by natural factors such as mobile sand has already been addressed. In the absence of either type of disturbance, salt crust present on exposed, undisturbed playa will help protect the surface by cementing surface material into a resistant crust.

Sample emissions factors from Yu and Gaffney (2003) are shown in Table 5.

TABLE 5

Sample Crop-Specific Emissions Factors, and Total Emissions Estimate for Imperial County Farmland

			Total Emissions Estimate	
Emissions Item	**Value**	**Units**	**for 1,920 acres:**	**for 3,983 acres:**
Max commodity, e.g. carrots	22.8	Pounds/acre-year	22 Tons/year	45 Tons/year
Min commodity, e.g. citrus	0.07	Pounds/acre-year	0.1 Tons/year	0.1 Tons/year
Imperial acreage (Table 2)	589,996	Acre	[a]	[a]
Imperial emissions (Table 2)	4,221	Tons/year	[a]	[a]
Imperial average emissions	0.007	Tons/acre-year	[a]	[a]
Imperial average emissions	14.3	Pounds/acre-year	13.7 Tons/year	28.5 Tons/year

[a] Cell intentionally left blank; this item was not calculated in the units listed, or for the two exposure scenarios.

Considering the preceding discussion of anticipated playa conditions and management, application of average or maximum crop emissions factors to exposed Salton Sea playa would be conservative, and likely inappropriate. With the understanding that these emissions rates exceed what could reasonably be expected to occur on exposed Salton Sea playa, emissions rates were calculated from exposed Sea playa acreage projections (Table 5). The maximum emission rate so calculated is 45 t/y. Again, stable playa that is not artificially disturbed should emit at a lower rate than this. In either case, maximum emissions rates fall well below the conformity criterion of 100 t/y.

Low emissions rates from exposed playa could be realized due to the stabilization and erodibility factors discussed previously. Limiting disturbance (e.g., exclusion of off-road vehicles, no tillage) is critical to maintenance of stable playa, as noted in the EA and IID Water Transfer documentation.

With respect to crop cover, where drainage is adequate, exposed playa sediments can become vegetated by halophytes, which have been observed to establish naturally over time in some areas where Sea water has been excluded by levees.

On the other hand, standing vegetation only seasonally protects croplands, to which the Salton Sea playa has been compared in an effort to estimate emissions. Annual crops provide cover to agricultural lands primarily during the summer season. This is also the season when the Sea playa crust is most stable, so that it has least need of erosion protection. Perennial forage crops, on the other hand, should render farmlands quite stable, and emissions from these lands should be as low as for stable playa.

SSA 7: Comment states that alternatives analysis is too narrow because it did not consider the alternative of discharging the treated wastewater to the New River Basin.

NEPA and EPA regulations at 40 CFR 6.506(b)(5) only require that EPA evaluate feasible alternatives. Since Mexico would not consider discharging into the New River, this alternative was not a feasible alternative and EPA did not analyze this alternative in the EA. For details, see Response to Citizen 2.

SSA 8: Comment states "There is no analysis of the Proposed Action in combination with other projects thereby missing the intent of a cumulative impacts analysis."

EPA disagrees. Section 4.1.1.3 of the EA, entitled "Cumulative Effects," EPA explicitly considered the effect of the diversion of water from the power plants in the baseline, and also discussed the potential effects of the IID water transfer. In addition, further cumulative effects were considered throughout the EA. See e.g. sections 4.1.2.3, 4.1.3.3, 4.2.2.3, 4.2.3.3, 4.3.1.3, 4.3.3.3, and 4.4.1.3. In addition, EPA notes that the Department of Energy prepared an Environmental Assessment of the impacts of the power plants and the Bureau of Reclamation prepared an Environmental Impact Statement to look at the impacts of the water transfer.[1]

SSA 9: Comment states that EPA should be obligated to pay $22 million in mitigation.

EPA disagrees. NEPA requires agencies to disclose the impacts of their action, as well as any planned mitigation. It does not require the agency to mitigate impacts from that action.

Over forty comments were received from U.S. citizens who live or vacation along the Río Hardy in Mexico. These commenters noted that impacts in Mexico had not been disclosed to the same degree in the EA as the impacts in the U.S. and expressed concerns regarding impacts in Mexico. Under NEPA, an Environmental Assessment is only intended to assess impacts to the U.S. environmental resources. A review of potential environmental impacts in Mexico is discussed in the Mexican Environmental Assessment, *Manifestación de Impacto Ambiental "MIA" del Proyecto de Saneamiento y Análisis Financiero del Sistema de Agua Potable y Drenaje de Mexicali, Baja California*. EPA has nevertheless included any

[1] The Department of Energy is currently in litigation over the EA for the power plants. See BORDER POWER PLANT WORKING GROUP v. DEPARTMENT OF ENERGY, Docket No. 02-CV-513-IEG, 2003 WL 21037927 (S.D.Cal. May 2, 2003)

responsive information that the Agency has regarding impacts in Mexico in the specific comments below.

Citizen 1: Comments expressed concern about how the treatment plant would be operated and what the potential for spills during storm events.

Since the project was developed with bi-national funding, the local utility has had to demonstrate that it has sufficient revenue to pay for operations and maintenance, not only for the new system, but also for the entire Mexicali wastewater collection and treatment system. The choice of design for the treatment plant, a series of lagoons, through which water flows by gravity, has lower energy requirements and has greater capacity to buffer storm events than conventional activated sludge systems that may be impacted by storm drains. In fact, the local utility company, Comisión Estatal de Servicios Públicos de Mexicali (CESPM) has informed us that they intend to size the wastewater treatment lagoons to treat flows twice as large as the average dry weather flows in order to allow for sufficient capacity during heavy storm events. In addition, the pump stations and force mains bringing wastewater to the plant will be new. If the electricity and standby generators should fail, the wastewater might not be able to reach the treatment plant, and would therefore flow untreated into the New River. However, once the wastewater reaches the treatment plant, it should not be able to bypass the treatment system, regardless of power outages.

Citizen 2: Comments asked if other discharge locations, which would result in discharge to other water bodies, such as the Laguna Salada or the New River had been considered.

The response to these comments requires some historical background. In 1944, the U.S. and Mexico signed a treaty giving Mexico the right to 1.5 million acre-feet of water from the Colorado River per year. Mexico has exclusive right to use and dispose of that water. Much of it is used within the Mexicali Valley, primarily for agriculture, but over the last forty years, more and more has been sent to the cities of Mexicali and Tijuana. The citizens in Imperial Valley have long been concerned about the flow of untreated wastewater coming from the city of Mexicali into the U.S. via the New River. The first Mexicali II project certified by the Border Environment Cooperation Commission (BECC) in 1997 was for a treatment plant south of the city, but within the New River drainage basin. As noted on page 1-1 of the EA, another Environmental Assessment had already been prepared to examine the effects from this alternative. That project was not completed because Mexico ultimately determined that odors produced by the plant would cause a nuisance to nearby residences and businesses. In 2002 the Bi-national Technical Committee advising CESPM also examined the option of taking advantage of the increased capacity at Zaragoza wastewater ponds caused by the diversion of up to 450 lps of influent that will be treated by one of the power plants (Intergen). This idea was ultimately rejected because:

1. CESPM would not agree to treat the effluent to U.S. “norms,” one of the Border Environmental Infrastructure Fund (BEIF) criteria for discharges into waters that reach the United States. (See p.1-5 of EA for BEIF requirements.)
2. No assurance was provided that the power plants would guarantee consistent treatment of adequate flows in order to provide sufficient capacity at Zaragoza to handle the additional flows from Mexicali II service area.
3. The option did not provide a long-term solution to the growing wastewater treatment needs in Mexicali. In fact, by the time the line to the Zaragoza treatment plant was to be built, capacity of the wastewater treatment plant at Zaragoza would likely be exceeded.

4. Because this solution would have to depend on a power plant for wastewater treatment, the transboundary environmental effects of that power plant would have had to be evaluated.
5. CESPM decided that it would prefer to reclaim the wastewater for its own purposes, which include restoration of the Río Colorado Delta.

The two alternatives examined in the EA propose a site for the plant where there is little development. Both alternatives propose discharging treated wastewater into agricultural drains within the Río Hardy drainage basin. This outlet was chosen by Mexico over the Laguna Salada, the other terminal arm within the Colorado River Basin, in order to bring water to the once immensely productive Colorado River delta wetlands through the Río Hardy. Mexico also believes that the Río Hardy, now subject to great variability in flows, would benefit from this reliable supply of water.

As noted in the response to SSA 7, 40 CFR 6.506 (b)(5) requires EPA to include a comparative analysis of the *feasible* alternatives (emphasis added). Because Mexico would not consider discharge to Laguna Salada or the New River, EPA did not consider these "feasible" alternatives. EPA therefore believes that the two alternatives considered, combined with the "No Action" alternative, were appropriate and adequate.

Citizen 3: Comments noted concern for the water quality and quantity impacts of the treated wastewater on the Río Hardy. Some comments ask how Mexico's standards compare with US standards and how the effluent quality compares with the existing ambient water quality of the Río Hardy. One commenter expressed concern about the potential for increased risk for cholera and typhoid.

Regarding water quality, the effluent from Las Arenitas will be required to meet the Mexican Norma 001 ECOL 1996. The Comisión Nacional de Agua will require limits for fecal coliform, temperature, grease and oil, floating material, settleable solids, total suspended solids, biological oxygen demand, total nitrogen, total phosphorus and the following heavy metals: arsenic, cadmium, copper, chromium, mercury, nickel, lead, zinc and cyanides. These standards are less stringent than California would require for a similar discharge. However, effluent data from the existing Gonzalez Ortega wastewater treatment plant, which takes in some of the flow that will be routed to the new plant, indicate that all heavy metals and organic pollutants monitored meet the Mexican and U.S. water quality standards for metals and organic compounds.[2]

Fecal coliforms are bacteria that live in the digestive tract of warm-blooded animals (humans, pets, farm animals, and wildlife) and are excreted in the feces. Each person discharges from 100 to 400 billion coliform bacteria per day[3]. In themselves, fecal coliforms generally do not pose a danger to people or animals, but they may indicate the presence of other disease-causing bacteria, such as those that cause typhoid, dysentery, hepatitis A, and cholera. Water quality standards for fecal coliform reflect what the public health authority believes pose an acceptable level of risk, based on the intended use of the receiving water. For example, treated potable water must meet a limit of non-detect for fecal coliform, whereas water intended for

[2] Data from Table 4-15 of "Flow Monitoring and Sampling and Wastewater Characterization for Mexicali," May 1998, CH2MHill. Samples for chromium, lead, and selenium were reported at "non-detect" levels, which were higher than the U.S. standards; therefore, is not possible to determine whether the effluent was in compliance with the U.S. standards. Hardness-based standards for cadmium, chromium III, copper, lead, nickel, silver, and zinc were calculated using a hardness of 400 mg/l. "U.S. standards" are those provided in "EPA's National Recommended Water Quality Criteria: 2002."

[3] Crites & Tchobanaglous, *Small and Decentralized Wastewater Management Systems,* 1998, p.86.

recreational uses must comply with a less stringent standard. The Regional Water Quality Control Board sets a fecal coliform limit of 200 cfu / 100, while the limit set on the effluent from the Las Arenitas plant will be 1000 mpn / 100 ml.[4] CESPM informs us, however, that the plant will actually be able to reduce pathogens to much lower levels. In fact, they aim to achieve a fecal coliform level of 237 mpn / 100 ml. Furthermore, the effluent will travel over 40 km in irrigation canals before reaching the Río Hardy. CESPM estimates that the effluent will take over 45 hours to travel this distance. Total coliform levels are expected to decline by 90% in freshwater within 58 hours.[5] According to CESPM's projections, most of the remaining pathogens introduced from the treated Mexicali II wastewater should die off by the time the treated wastewater reaches the Río Hardy.

Users of the Río Hardy should also be aware that the Comisión Nacional de Agua (CNA) has measured the water quality in the Río Hardy and has found that both the Mexican and U.S. standards have been exceeded eleven out of twelve months in the year 2002, without the addition of the proposed effluent. In fact, the level of fecal coliform in the Río Hardy was measured at 240,000 mpn / 100 ml in July of 2002, and 24,000 mpn / 100 ml was exceeded for eight out of the twelve months of that year. CESPM has informed us that many small communities discharge untreated wastewater into the Río Hardy, and that many of the latrines on the campos used by vacationers may not provide adequate treatment. It is for this reason that CESPM and CNA believe that the effluent from the Las Arenitas treatment plant will actually improve the water quality in the Río Hardy and result in greater protection for users of the Río Hardy.

The Comisión Nacional del Agua is required by law to give priority to municipalities for use of Colorado River water. As Mexicali and Tijuana continue to grow, flows in the Río Hardy from agricultural runoff will continue to decrease. The Asociación Ecológica de Usuarios del Río Hardy-Colorado supports this project to ensure that the Río Hardy continues to have reliable flows. CESPM has signed an agreement with this group. In this agreement, CESPM has promised to conduct a more in-depth study to examine the impacts on the Río Hardy, and to monitor the receiving water on a monthly basis. EPA suggests that parties who are interested in reviewing this study should contact CESPM.

Citizen 4: Comments expressed concern about the impact of the treated wastewater on fish in the Río Hardy and the birds that feed on these fish, as well as the impact on humans that catch and eat these fish.

See response to Citizen 3.

Citizen 5: Comments expressed concern and opposition to the project but did not provide any specific reasons.

Comments have been noted.

Citizen 6: Comment asked about oversight of treatment plant effluent to ensure that it meets water quality standards.

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[4] Units are in "coliform forming units (cfu)"and "most probable number (mpn)." For purposes of comparing data, these units are equivalent.

[5] Annapolis Protocol, 1999, page 10.

The Mexicali II Wastewater Treatment Plant will be required by law to take monthly samples and provide quarterly reports to the Comisión Nacional del Agua presenting the analytical results.

Citizen 7: Comment expressed concern that the wastewater might not be sent to the river and delta, but used by power plants to be built nearby.

As explained in the Mexican Environmental Impact Assessment, CESPM intends to use the effluent for either irrigation or for enhancement of the Río Hardy and Río Colorado Delta, and have indicated that they have no intention to sell the water for use in a power plant. EPA will establish a grant condition to prohibit CESPM from using the wastewater for any purposes that would have a U.S.-side impact not identified in the EA.

Citizen 8: Comments asked about the timeline for completion of the project.

CESPM has informed EPA that the project is expected to be operational in early 2006.

Citizen 9: Comments ask about increase risk for flooding that such project might cause. Some note that they have already lost homes in Mexico due to flooding.

CEPSM has informed EPA that they do not expect that this project will increase the risk of flooding, as the flows from the treatment plant will be very small in relationship to the high flows during storm events. They also noted that periodic flooding of the Río Hardy is a natural occurrence that cannot be prevented.

Comments were received via email from the International Boundary and Water Commission

IBWC 1: Two typographical errors were noted.

Comment received.

IBWC 2: Comment asks how the wastewater will be routed during maintenance on the lagoons.

According to CESPM, the plant will have four individual treatment trains. When a lagoon needs to be cleaned, the wastewater will be routed to the other three trains.

Comments were received from the State Water Resources Control Board.

SWRCB 1: Comment notes support for the project and notes that project will "contribute to compliance with the TMDL pathogen limits for the International Border and proposed TMDL nutrient limits for the Salton Sea."

EPA concurs with comment. In fact, as noted in EPA's May 15, 2000 comments on the Draft Environmental Impact Statement for the Salton Sea Restoration project, EPA believes that "nutrient loading is one of the most immediate threats to the Sea's ecological health." We also agree that pathogens from untreated wastewater pose a serious public health threat to residents of Imperial County and Mexicali.

SWRCB 2: Comment expresses concern for the on-going spills of raw sewage into the New River, and notes that these spills need to be addressed with a comprehensive collection system maintenance and *rehabilitation program. Comment expresses support for acquisition of emergency pumping equipment that CESPM seeks.*

EPA remains committed to working together with CESPM to help address these needs.

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