Natural Environment Study

Total Maximum Daily Load (TMDL) and Implementation Plan for Trash in the New River at the International Boundary, Imperial County, California

The purpose of the Natural Environment Study (NES) is to provide biological studies and biological-related information necessary for the environmental review process regarding land use decisions. Full disclosure of environmental impacts of proposed projects is required to satisfy legal mandates of various California and federal statutes and regulations. The NES includes documentation of project area biological resources and an impact assessment of project alternatives on those resources.

The project is an amendment to the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan) that will establish the **Total Maximum Daily Load (TMDL) and Implementation Plan for Trash in the New River at the International Boundary, Imperial County, California**. For the purpose of the TMDL, trash is human-caused litter. "Litter" is defined in California Government Code Section 68055.1(g) as follows:

> "Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."

A TMDL is the maximum amount of a pollutant that a water body can receive while it still meets water quality objectives (narrative or numerical) designed to protect beneficial uses. [40 Code of Federal Regulations (CFR) section 130.2(d); Water Code section 13241.] The Basin Plan states that beneficial uses of the New River include: warm freshwater habitat (WARM); wildlife habitat (WILD); preservation of rare, threatened, or endangered species (RARE); water contact recreation (REC I); non-contact water recreation (REC II); and freshwater replenishment (FRSH) (California Regional Water Quality Control Board as amended to date).

Water quality objectives (WQOs) were established by the Regional Board to protect these designated beneficial uses of waterways in the Region. Trash-related WQOs include Qualitative Standards 1 through 5 of Minute No. 264 of the Mexican-American Water Treaty, applicable to the New River at the International Boundary.[1] Other trash-related WQOs are applicable to all surface waters in the Region, and include Aesthetic Qualities, Tainting Substances, Dissolved Oxygen, Suspended Solids and Settleable Solids, Biostimulatory Substances, and Turbidity. All of these WQOs are being violated by trash in the New River that

[1] Minute No. 264 of the Mexican-American Water Treaty titled "Recommendations for Solution of the New River Border Sanitation Problem at Calexico, California – Mexicali, Baja California Norte" was approved by the Governments of the United States and Mexico effective on December 4, 1980. Minute No. 264 specifies qualitative and quantitative standards for the New River at the International Boundary.

crosses into the U.S. from Mexico. Violation of these WQOs indicates impairment of beneficial uses, and degraded water quality conditions.

The New River watershed drains about 200,000 acres of Imperial Valley, and about 300,000 acres of the Mexicali metropolitan area and agricultural Mexicali Valley, Mexico. The New River extends about 20 river-miles within Mexico with headwaters located in the heart of the city of Mexicali. The U.S. section of the New River is about 60 river-miles long, and is one of the main tributaries to the Salton Sea, California's largest inland surface water body. The New River is characterized on the U.S. side by highly productive Imperial Valley farmland irrigated with water imported from the Colorado River.

The New River at the International Boundary is severely polluted by trash that originates in Mexico. The trash impairment is due to inadequate solid waste infrastructure in Mexicali, resulting in littering of open lots, unpaved roads, the New River itself, and the River's tributaries within and peripheral to the metropolitan area. Types of trash include flotation devices from illegal immigrants crossing into the U.S. (e.g., inner tubes, styrofoam, wooden boards, plastic containers), trash bags, tires, animal carcasses, diapers, raw sewage, plastic, household appliances, furniture, oil cans, dismantled cars, slaughterhouse wastes, glass, rubber, pesticides, cigarette butts, and household cleaning agents, among others.

The TMDL focuses on the New River at the International Boundary, although the entire river is listed as impaired by trash on the State of California's Clean Water Act Section 303(d) TMDL List. The TMDL is the first stage of trash reduction in the New River. Trash is visible on the surface mostly at the International Boundary, not in downstream reaches. However, trash has an impact on the water column all the way to the River's terminus at the Salton Sea because trash serves as a carrier for other pollutants, thus causing secondary water quality impacts.

The International Boundary area has been prioritized over other New River reaches because:

(a) the International Boundary area is closer to, and therefore more affected by, the major trash source (originating in Mexico) than are downstream reaches,

(b) reduced trash at the International Boundary area will lead to reduced trash in downstream reaches, and could eliminate the need for further New River trash TMDLs,

(c) reduced trash at the International Boundary will lead to a reduction in other pollutants (e.g., pathogens, volatile organic compounds, organic matter) carried by trash,

(d) data are scarce (between Calexico and Brawley) or non-existent (downstream of Brawley) for reaches downstream of the International Boundary area, thereby making an economic impact assessment only speculative for those reaches, and

(e) limited Regional Board resources are being targeted on the most polluted areas in the Region.

The Regional Board does not have the authority to require Mexico or the U.S. Government to reduce trash that crosses the International Boundary. However, the Regional Board has the ability to raise awareness with U.S. agencies that directly cooperate with Mexico on International Boundary issues. Accordingly, the TMDL requests, but does not require, that the U.S. Government (i.e., the U.S. Section of the International Boundary and Water Commission and the U.S. Environmental Protection Agency): (a) specifies and implements measures to ensure that trash discharges from Mexico do not violate or contribute to a violation of the TMDL, (b) removes trash from Mexico that has accumulated at Imperial County Calexico Landfill culverts, and (c) conducts water quality and trash monitoring in the New River at the International Boundary. Additionally, the TMDL requests, but does not require, that third party cooperating agencies and organizations increase their coordination of New River projects through a Memorandum of Understanding.[2]

The Basin Plan Amendment:

- Summarizes TMDL elements, including the Problem Statement, Numeric Target, Source Analysis, Margin of Safety, Seasonal Variations and Critical Conditions, Loading Capacity, and Load Allocations and Wasteload Allocations.

- Establishes an interim numeric target of 75% reduction in trash within 2 years of U.S. Environmental Protection Agency (USEPA) approval of the TMDL, and a final numeric target of zero trash within 3 years of USEPA approval of the TMDL for the New River at the International Boundary.

- Incorporates a TMDL Implementation Plan, as required by Section 13242 of the Porter-Cologne Water Quality Act [Water Code section 13000 et seq.], that includes designation of responsible parties and cooperating agencies/organizations, a description of required and requested actions, time schedules, and Regional Board compliance monitoring.

- Describes TMDL enforcement.

- Describes the Regional Board TMDL review process.

- Includes Regional Nonpoint Source Control Program elements.

- Updates and/or deletes information that is no longer accurate.

The TMDL's purpose is to achieve water quality objectives and protection of beneficial uses by reducing the amount of trash in the New River. Trash adversely affects fish and wildlife communities. Trash also serves as a carrier for pathogens, volatile organic compounds, and

[2] These third party cooperating agencies are identified in the Trash TMDL Implementation Plan and include USEPA, USIBWC, BECC, North American Development Bank, Citizens Congressional Task Force on the New River, City of Calexico New River Committee, New River/Mexicali Sanitation Program Binational Technical Advisory Committee, and California Border Environment Cooperation Commission.

organic matter that pose a public health threat to people and fish and wildlife communities. Compliance with the TMDL is expected to result in the New River being unimpaired by trash, and protective of beneficial uses.

STUDY METHODOLOGY

Literature Review Methods

Research was done on wildlife, vegetation, and habitats in and near the New River/International Boundary area. Literature sources included field guides, research papers, websites, government publications, and the California Natural Diversity Database (California Department of Fish and Game 2005a). Information specifically cited within this report is recorded in the "References Cited" section. Background information not specifically cited within the text is recorded in the "References Relied Upon" section.

Special status species recorded as "accidental" in the literature are not included in this report, as project area habitat generally is not considered suitable for these species**.**

Special Status Definitions

The California Department of Fish and Game and U.S. Fish and Wildlife Service designate the status of a species. "Special" is defined for this report as plants, animals, or natural communities whose populations are of concern, including those that are endangered, threatened, special concern species, and otherwise rare/sensitive. This definition is consistent with the California Natural Diversity Database, which tracks such animals (California Department of Fish and Game 2004), plants (California Department of Fish and Game 2005b), and natural communities (California Department of Fish and Game 2003). Special status species are categorized and defined as:

> "Endangered" species are those that have such limited numbers that they are in imminent danger of extinction throughout all or a significant portion of their range.
>
> "Threatened" species are those that are likely to become endangered in the foreseeable future.
>
> "Special Concern Species" are those that have declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction. (State-listed Special Concern Species that are "Fully Protected" are those that may not be taken or possessed without a state permit. Federally-listed Special Concern Species are no longer tracked by the U.S. Fish and Wildlife Service, and thus are not discussed in this report.)
>
> "Rare/Sensitive" species are those that are biologically rare, very restricted in distribution, declining throughout their range, in danger of local extirpation, are closely associated with a rapidly declining habitat, or have a critical, vulnerable stage in their life cycle that warrants monitoring.

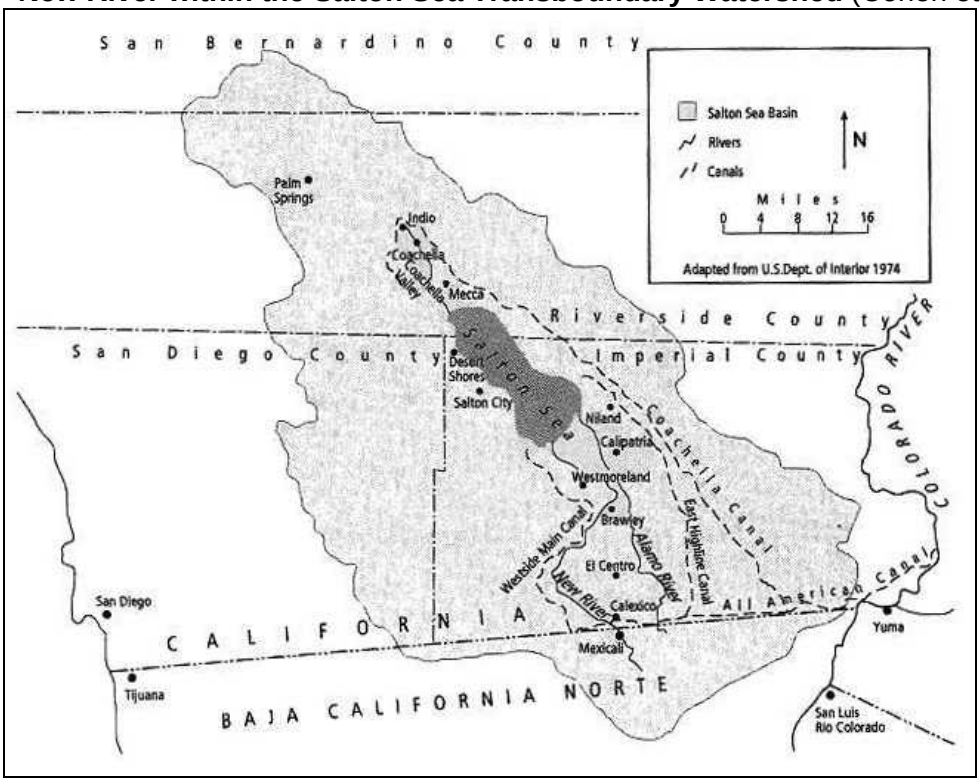
Endangered and threatened species have the highest level of protection, followed by special concern species, then rare/sensitive species. When a species is listed in more than one category in the California Natural Diversity Database (e.g., State Special Concern Species and Rare/Sensitive), this Natural Environment Study records only the category offering the highest level of protection.

ENVIRONMENTAL SETTING

Affected Environment

The area affected by the project includes the New River/ International Boundary area. However, the project also will affect the environment in downstream reaches of the New River, because improving trash conditions at the Boundary will lead to improved conditions downstream. The U.S. section of the New River is located in southeastern California. Figure 1 shows a map of the New River within the Salton Sea Transboundary Watershed.

Figure 1: New River within the Salton Sea Transboundary Watershed (Cohen et al. 1999)



The New River channel at the International Boundary is V-shaped, and three to four feet deep. Flow from Mexico at the Boundary is dominated by raw sewage and untreated industrial wastes from the City of Mexicali.

Weather

The project area is located in the Colorado Desert region of the Sonoran Desert. The climate is hot, with dry summers, occasional thunderstorms, and gusty high winds with sandstorms. The area is one of the most arid in the United States. The average rainfall is about 2 inches per year, and summer temperatures reach 120ºF (U.S. Fish and Wildlife Service 2003). The climate is relatively stable throughout the year, without the wide swings in temperature and precipitation found in other parts of the country.

Land Uses

The U.S. section of the New River at the International Boundary is located in Imperial County. The County covers about 4,597 square miles (2,942,080 acres) (Imperial County 1998). About 74% of County lands are undeveloped desert and mountain areas, mostly under federal or state ownership. About 17% of County lands are irrigated for agriculture, totaling over 500,000 acres located mostly in Imperial Valley. The Salton Sea covers about 8% of the County. Developed areas (e.g., cities, communities, and support facilities) occupy less than 1% of County land. Table 1 shows Imperial County land use distribution.

Table 1. Imperial County Land Use Distribution

Land Use	Acres	Data Source
Irrigated (Agriculture)		
Imperial Valley	479,327	Imperial Irrigation District 1999
Bard Valley	14,737	Imperial County 1998
Palo Verde	7,428	Imperial County 1998
Developed		
Incorporated	9,274	Imperial County 1998
Unincorporated	8,754	Imperial County 1998
Desert and Mountains		
Federal	1,459,926	Imperial County 1998
State	37,760	Imperial County 1998
Indian	10,910	Imperial County 1998
Private	669,288	Imperial County 1998
Other		
Salton Sea	242,049	Tetra Tech Inc. 2000

Imperial Valley contains about 480,000 acres of irrigated land in production. Major Valley crops are alfalfa, wheat, sudan grass, and sugar beets, based on amount of land in production (Imperial County Agricultural Commissioner 1995-2001). Imperial Irrigation District (IID) distributed 2.6 to 3.2 million acre-feet/year of irrigation water from the Colorado River from 1964 through 1998.

Imperial County has an agricultural-based economy, and produces over $1 billion dollars annually (California Farm Bureau Federation 2003). One in three Imperial Valley jobs is agriculture-related (Imperial Irrigation District 1998). For every $1,000 of total gross value produced in the agriculture sector, $345 of personal income is generated from agricultural-related jobs (Imperial County Agricultural Commissioner 2001).

Some fishing occurs in downstream reaches, although the contaminated water makes the River unfit for any recreational use. An advisory was issued by the Imperial County Heath Department warning against consumption of fish caught in the New River.

Historical Setting

The New River, along with the Salton Sea and Alamo River, formed due to a catastrophic flood event in 1905, when a temporary diversion for irrigation water from the Colorado River to the Imperial Valley failed during flood conditions (Gruenberg 1998). The entire flow of the Colorado River diverted to the Salton Basin. The dike breach was repaired sixteen months later, and the Colorado River then resumed its former course across the International Boundary into the Gulf of California.

The Sea's accidental creation coincided with agricultural development in the Coachella, Imperial, and Mexicali Valleys. Since then, agricultural return flows and domestic/municipal wastewater have sustained the New River, Salton Sea, and Alamo River.

Ecological Setting

The New River at the International Boundary is so polluted that many species no longer exist there or occur in very low numbers. However, downstream reaches of the New River provide important habitat for many kinds of wildlife. Poor water quality at the International Boundary continues to impact the New River all the way to the Salton Sea due to constituents (e.g., pathogens, volatile organic compounds, and organic matter) that leach from trash.

The New River pollutant problem is most severe at the International Boundary. Very few bottom-dwelling invertebrates can survive in the New River from the Boundary to nearly nine miles downstream—only three species, sometimes represented by only one organism, were detected in one study (Setmire 1984). Invertebrate populations continue to increase in numbers and diversity downstream (Setmire 1984).

Low invertebrate populations at the Boundary lead to low fish populations, as many fish consume invertebrates. Low fish populations have negative impacts on fish-eating species, especially birds, at the Boundary. About 20 miles downstream of the International Boundary, near Seeley, the health of the New River begins to improve substantially, although the River still is impaired by a number of pollutants.

Downstream reaches of the New River exhibit more intricate food webs than are present at the International Boundary. In downstream reaches, food webs incorporate many terrestrial and aquatic elements, including plants, invertebrates, fish, mammals, reptiles, amphibians, and birds. Organisms at the food web base are consumed by organisms at the next highest trophic level. These organisms then are consumed by the next highest trophic level, and so on until the top of the food web is reached. The base of the New River food web in downstream reaches includes plankton, detritus, and aquatic vegetation, which are consumed by aquatic invertebrates such as snails, waterboatmen, and insect larvae. The aquatic invertebrates are consumed by crayfish, river clams, and fish. (Some fish also may consume plankton directly.) Birds and turtles are at the top of the food web, feeding on aquatic invertebrates, aquatic vegetation, crayfish, river clams, and fish. Generally, waterfowl and shorebirds are seen where the New River meets the Salton Sea. Birds are the most diverse wildlife group using the New River, as indicated by abundance and species richness, and are most concentrated in downstream reaches. Relatively few bird species are present in the New River at the International Boundary.

Riparian habitat is found along some parts of the New River, especially in downstream reaches. These riparian areas provide important habitat for songbirds. Riparian corridors are potential wildlife movement corridors, and thus are important aspects of habitat. The dominant plant species along these corridors is tamarisk (also known as salt cedar), an introduced species that has suffocated native vegetation (Montgomery Consulting Engineers Inc. 1987).

The New River empties into the Salton Sea, which is a critical stop for migrating birds on the ecologically important Pacific Flyway, a major migratory route connecting Canada and the U.S. to Mexico and Central America. Millions of birds, representing more than 350 species, winter at the Sea in one of the few remaining wetland environments along the Pacific Flyway (U.S. Fish and Wildlife Service 1997). Salton Sea bird communities represent a significant proportion of the breeding populations of many species (Tetra Tech Inc. 2000).

The New River supports a substantially different ecosystem than that of the Salton Sea into which the River empties, despite the Sea receiving agricultural discharges and other relatively freshwater flows from the New River, Alamo River, and agricultural drains. This is due to physical and chemical differences, the most important being the Salton Sea's high salinity level. The interface between the New River and the Salton Sea contains elements of both ecosystems, and serves as a transition zone where fresh and salt water intermix to form brackish water.

Federal and state refuges are near the Salton Sea. The Salton Sea National Wildlife Refuge and the Wister Wildlife Management Unit are located at the southern end of the Salton Sea, where the New River and Alamo River form the Salton Sea's delta. The federal Salton Sea National Wildlife Refuge was established in 1930 to preserve wintering habitat for migratory birds, and to provide forage areas to limit crop damage caused by migratory and resident birds. The state Wister Wildlife Management Unit was established in the 1950s as a way station for migratory waterfowl. Both refuges contain state and federally endangered and threatened species.

Habitats

Available habitat is intricately associated with wildlife diversity and abundance. Impacts to habitat have direct impacts on the wildlife dependent upon that particular habitat. Habitat at the New River/ International Boundary area is highly disturbed due to urban development, U.S. Border Patrol maintenance of New River banks, dredging, and illegal immigrant crossings.

Habitats near the New River at the International Boundary are described below. Habitat diversity is low here, with only two types of habitat present: tamarisk scrub and open water. Other non-natural habitats (e.g., agricultural land, urban land) are near the project area.

Tamarisk scrub is common in the project area, along the banks of the New River and further out into the desert. This habitat is fairly open, and consists mainly of introduced *Tamarix* species in combination with desert scrub. Tamarisk commonly replaces native vegetation, especially in riparian areas, and reduces available water. Some tamarisk grows along the River's banks, but the U.S. Border Patrol does not allow them to grow much, in order to reduce cover for illegal immigrants.

Open water occurs in the New River and some of its tributaries. This habitat is always flooded, and may support submerged or emergent vegetation, especially in downstream reaches.

Agricultural land occurs near the New River at the International Boundary in outlying areas on both the east and west sides of the River. Agricultural land is not considered natural habitat, but is used by wildlife because planted vegetation provides food and cover.

Urban land occurs near the Boundary, on the U.S. side, about four miles downstream of the Boundary at the community of Calexico. Urban land is not considered natural habitat, but is used by wildlife because buildings and planted vegetation provide food and cover.

Other habitats are outside of the project area, far from the New River at the International Boundary. Wetland (i.e., freshwater marsh, saltwater marsh) and mudflat habitats are located mostly on the southern end of the Salton Sea, associated largely with delta areas where the New River and Alamo River meet the Salton Sea. However, marsh areas that are relatively small occur in isolated places along the River, starting about 20 miles downstream of the International Boundary near the community of Seeley. Palm oasis, fine sand, and cave/mine/cliff habitats occur in isolated areas away from the New River channel.

Representative Plants

Table 2 lists plant species that occur or potentially occur in the project vicinity. Although this list is not complete, it is representative of plants in the area.

Table 2. Representative List of Plant Species in the Project Vicinity

Common Name	Scientific Name	Special Status
Chamise	*Adenostoma fasciculatum*	No
Western ragweed	*Ambrosia psilostachya*	No
Quail bush	*Atriplex canescens*	No
Slender wild oat	*Avena barbata*	No
Brome	*Bromus rubens*	No
Yellow-star thistle	*Centaurea solstitialis*	No
Bull thistle	*Cirsium vulgare*	No
Common horseweed	*Conyza canadensis*	No
Smoke tree	*Dalea spinosa*	No
Jimsonweed	*Datura wrightii*	No
Western sunflower	*Helianthus annuus*	No
Cow parsnip	*Heracleum sphondylium*	No
Telegraph weed	*Heterotheca grandiflora*	No
Prickly lettuce	*Lactuca serriola*	No
Creosote bush	*Larrea tridentata*	No
Alfalfa	*Medicago sativa*	No
Bristly ox-tongue	*Picris echioides*	No
Arrowweed	*Pluchea sericea*	No
Rabbitfoot grass	*Polypogon monspeliensis*	No
Golden dock	*Rumex maritimus*	No
Willow	*Salix hindsiana*	No

Common Name	Scientific Name	Special Status
Russian thistle	*Salsola tragus*	No
Tamarisk	*Tamarix* spp.	No
Stinging nettle	*Urtica holosericea*	No

IMPACT TO BIOLOGICAL RESOURCES

Impact Assessment for Special Status Species and Natural Communities

Seventeen special status wildlife and plant species (including one that is endangered and/or threatened) were identified in the literature review as occurring or potentially occurring in the project vicinity (Table 3). However, some identified species occur only outside of the project area because of a lack of suitable habitat (e.g., fine sand, wetland) on-site, and thus will not be impacted by the project. No special status communities were identified in the literature search. Table 3 presents information regarding special status species, including common name, scientific name, status, habitat (used for nesting, roosting, and/or foraging), local seasonal presence (regardless of abundance), and potential for being impacted by the project. The impact assessment is based on species' sensitivity to project impacts, species' natural history requirements, site proximity to known occurrences, species' range, seasonal abundance, consultation with local resource managers, and professional judgment.

Table 3. Impact Assessment for Special Status Species

Common Name	Scientific Name	Status	Habitat	Local Seasonal Presence	Potential for Being Impacted
Wildlife = 12					
Flat-tailed horned lizard	*Phrynosoma mcalli*	SSC	Sand	Sp, S, F	None
Yuma clapper rail	*Rallus longirostris yumanensis*	FE, ST	Wetland	Y	None
Mountain plover	*Charadrius montanus*	SSC	Ag	Sp, F, W	None
Burrowing owl	*Athene cunicularia*	SSC	Ag	Y	Low
Short-eared owl	*Asio flammeus*	SSC	Ag	F, W	None
Black-tailed gnatcatcher	*Polioptila melanura*	R/S	Scrub	Y	None
Crissal thrasher	*Toxostoma crissale*	SSC	Scrub, Riparian	Y	None
Yellow warbler	*Dendroica petechia brewsteri*	SSC	Riparian, Urban	Sp, F, W	None
California gray-headed junco	*Junco hyemalis caniceps*	SSC	Scrub, Ag	Sp, F, W	None
Colorado Valley woodrat	*Neotoma albigula venusta*	R/S	Scrub	Y	None
American badger	*Taxidea taxus*	SSC	Scrub, Ag	Y	None
Western yellow bat	*Lasiurus xanthinus*	R/S	Scrub, Riparian, Oasis	Sp, S, F	None

Common Name	Scientific Name	Status	Habitat	Local Seasonal Presence	Potential for Being Impacted
Plants = 5					
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	R/S	Scrub	Y	None
Abrams's spurge	*Chamaesyce abramsiana*	R/S	Scrub	Y	None
Rock nettle	*Eucnide rupestris*	R/S	Scrub	Y	None
Brown turbans	*Malperia tenuis*	R/S	Scrub	Y	None
Hairy stickleaf	*Mentzelia hirsutissima*	R/S	Scrub	Y	None

Legend:
Status: FE = Federal Endangered
FT = Federal Threatened
R/S = Rare or Sensitive
SE = State Endangered
ST = State Threatened
SSC = State Special Concern
FP = Fully Protected (an additional State designation)

Habitat: Ag = agricultural land
Cave = cave, mine, cliff
Mudflat = mudflat, beach
Oasis = palm oasis
Open Water = open water (e.g., New River, drain channels)
Riparian = shrubby vegetation (e.g., willow, tamarisk) along waterways
Sand = fine sand
Scrub = desert scrub
Urban = human residential and industrial areas
Wetland = emergent wetlands (e.g., freshwater marsh, saltwater marsh)

Local Seasonal Presence: Sp = Spring (about April through May)
S = Summer (about June through August)
F = Fall (about September through October)
W = Winter (about November through March)
Y = Year-round (resident, or visitors throughout the year)

Special Status Wildlife

Twelve special status wildlife species, including one that is threatened and/or endangered, were identified in the literature review as occurring or potentially occurring in the project vicinity (Table 3). The following bullet statements discuss project impacts on this threatened and/or endangered species, and on these other special species.

- The Yuma clapper rail will not be impacted by the project. This species is federally endangered and state threatened, and uses wetland habitat that occurs only outside of the project area. Yuma clapper rails are found locally on the south and east sides of

the Salton Sea, and also occur on the New River near the community of Seeley, about 20 river-miles downstream of the International Boundary, where New River water quality begins to improve.

- The Flat-tailed horned lizard will not be impacted by the project. This species is a special species (not threatened and/or endangered) that uses fine sand habitat that occurs only outside of the project area (in isolated areas away from the New River channel).

- Nine other species will not be impacted by the project. These species are special species (not threatened and/or endangered), and include the Mountain Plover, Short-eared owl, Black-tailed gnatcatcher, Crissal thrasher, Yellow warbler, California gray-headed junco, Colorado Valley woodrat, American badger, and Western yellow bat. These species use habitats (e.g., desert scrub, agricultural land, urban land) within the project area, but will not be impacted by reduced trash in the New River. Rather, these species will benefit from reduced trash because trash will no longer accumulate on the New River banks, be carried by winds onto adjacent land, or negatively impact the food web.

- The Burrowing owl has a low potential for being impacted by the project. This species is a special species (not threatened and/or endangered) that uses burrow holes in drain banks. Trash removal at landfill culverts may have an impact on Burrowing Owls, but this impact can be reduced to less than significant with mitigation. Trash removal likely will be done with construction equipment. If sediment/soil is disturbed and dumped on-site, the sediment/soil potentially could be pushed onto drain banks and cover Burrowing Owl burrow holes. A potential mitigation measure involves walking the culvert areas to look for active burrow holes with “active” meaning that a walker sees owls at burrow holes. If active burrow holes are found, the burrows should be flagged as stay-out zones. Any sediment/soil to be dumped on-site would need to be left outside of the stay-out zone. This will protect burrows from being filled in.

Special Status Plants

Five special status plant species, none of which are threatened and/or endangered, were identified in the literature review as occurring or potentially occurring in the project vicinity (Table 3). The following bullet statements discuss project impacts on these special species.

- Five species are special species (not threatened and/or endangered) that use desert scrub habitat within the project area. These species include the Chaparral sand-verbena, Abram’s spurge, Rock nettle, Brown turbans, and Hairy stickleaf. However, these species will not be impacted by reduced trash in the New River. Rather, these species will benefit from reduced trash because trash will no longer accumulate on River banks, be carried by winds onto adjacent land, or negatively impact the food web.

Special Status Natural Communities

There were no special status natural communities identified in the literature review as occurring

or potentially occurring in the project vicinity. Therefore, the project will not impact any special status natural communities.

Impact Assessment of Project Alternatives

The Preferred Alternative has been the basis for all discussions in this Natural Environment Study. However, other alternatives exist, including a No Action Alternative, a Faster Compliance Timeline Alternative, and an Increased Regulatory Oversight Alternative. Each alternative is described below, with an assessment of impacts on biological resources.

The Preferred Alternative is defined as the Basin Plan Amendment to incorporate the subject TMDL and corresponding Implementation Plan. This alternative requests that third party cooperating agencies and organizations (the U.S. Section of the International Boundary and Water Commission and the U.S. Environmental Protection Agency): (a) specify and implement measures to ensure that trash discharges from Mexico do not violate or contribute to a violation of the TMDL, and (b) remove trash from Mexico that has accumulated at Imperial County Calexico Landfill culverts, and (c) conduct water quality and trash monitoring in the New River at the International Boundary. This alternative also requests that third party cooperating agencies and organizations[3] sign a Memorandum of Understanding to increase their coordination of New River projects. This alternative utilizes self-determined actions and inter-agency cooperation in conjunction with existing laws/regulations/treaties. This alternative uses an interim numeric target (75% trash reduction within two years of USEPA approval of the TMDL), and requires full compliance (100% trash reduction) within three years of USEPA approval of the TMDL. This time schedule is moderately aggressive, yet reasonable, and was established due to pollution severity and existing technical expertise of responsible parties. The time schedule provides sufficient time to comply with Implementation Plan provisions. The Preferred Alternative will decrease health risks to biological and human communities. Biological resources will not be impacted by this alternative. Rather, this alternative is expected to benefit biological resources by reducing trash.

The No Action Alternative is defined as no Regional Board adoption of a Basin Plan Amendment to incorporate the subject TMDL and corresponding Implementation Plan. This means that excess trash in the New River at the International Boundary will continue to: (a) violate Basin Plan water quality objectives, (b) impair beneficial uses, and (c) place the health of biological and human communities at an unacceptable risk level. This alternative does not comply with the Clean Water Act or meet the purpose of the Preferred Alternative, which is to eliminate on-going water quality violations. A regulatory action is necessary to address these violations. Because biological resources will be adversely and significantly impacted by this alternative, this alternative is not acceptable.

The Faster Compliance Timeline Alternative is defined as the Preferred Alternative with full compliance to be achieved within one year (instead of three years) of USEPA approval of the TMDL. This alternative is not feasible or reasonable, considering the coordination required between many agencies/organizations, and the economic setbacks of other trash reduction projects for which the U.S. Government and Mexico are responsible for addressing. This alternative would result in similar impacts to biological resources as the Preferred Alternative,

[3] See footnote 2, *supra*.

but could lead to greater economic impacts to responsible parties who may require more intense coordination efforts with third party cooperating agencies and organizations in the U.S. and Mexico.

The Increased Regulatory Oversight Alternative is defined as the Preferred Alternative with greater regulatory oversight, including more frequent submission of reports by responsible parties to the Regional Board. This alternative would result in similar impacts to biological resources as the Preferred Alternative, but would lead to greater economic impacts to responsible parties. This alternative could be unnecessarily burdensome on responsible parties, and unnecessarily exhaustive of limited Regional Board staff resources.

SPECIAL LAWS

The Federal Endangered Species Act of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. Section 7 of the Act (16 U.S.C. section 1536) requires Federal agencies to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The U.S. Fish and Wildlife Service administer this federal program.

The California Endangered Species Act (CESA) (Fish & G. Code section 2050 et seq.) requires the California Department of Fish and Game to establish a list of endangered and threatened species (section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (sections 2080-2089). The Act also requires the Department to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code section 21000 et seq.) when evaluating incidental take permit applications (Fish & G. Code section 2081(b) and Cal. Code Regs., tit. 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. The Department's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity (Cal. Code Regs., tit. 14, section 783.5(d)(3)). But in no event may the Department issue an incidental take permit if issuance would jeopardize the continued existence of the species (Fish & G. Code section 2081(c); Cal. Code Regs. tit. 14, section 783.4(b)).

The California Environmental Quality Act (CEQA) requires identification of potentially significant adverse environmental effects of proposed projects. Significant effects are to be mitigated by avoidance, minimization, rectification, or compensation whenever possible. Where a proposed project could result in the taking of a species listed under the CESA, an analysis of the impacts of the proposed taking must be conducted in addition to the environmental analysis of the project itself (Fish & G. Code section 2081; Cal. Code Regs., tit. 14, sections 783.2-783.5).

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC sections 703-712) is a federal law that implements international treaties and conventions held to protect migratory birds. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10. This includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February to 31 August, annually) to avoid nest abandonment and/or loss of eggs or young. The loss of habitat upon which the birds depend could constitute a violation of the MBTA.

MITIGATION MEASURES

Responsible parties are requested to enforce existing laws/regulations/treaties, remove trash from Mexico that has accumulated at Imperial County Calexico Landfill culverts, increase coordination among third party cooperating agencies/organizations, monitor water quality and trash, and submit data/reports to the Regional Board. A responsible party must comply with CEQA requirements, however, before it is allowed to implement any project proposed to achieve TMDL compliance. Consequently, pursuant to CEQA, the responsible party becomes a Lead Agency with respect to this compliance project. In this capacity, the responsible party shall, to the greatest extent feasible, use this environmental analysis, which describes the reasonably foreseeable methods by which compliance with the Trash TMDL will be achieved. [Pub. Resources Code sections 21159, 21159.2, 21159.4; CEQA Guidelines sections 15187 & 15189.] The responsible party as lead agency, remains responsible, however, for its own CEQA analysis and identifying any necessary mitigation measures for reducing potentially significant environmental impacts should its proposed compliance project fall outside the scope of this CEQA analysis. [Pub. Resources Code section 21159.2; CEQA Guidelines section 15189.]

California law prohibits the Regional Board from specifying the design, location, type of construction, or particular manner in which compliance may be achieved. [Water Code § 13360.] Hence, responsible parties may use any effective implementation action to achieve compliance with the Trash TMDL so long as the law does not prohibit the proposed action. Likely implementation actions and potential mitigation measures are described below:

1) Enforcement of existing New River/ International Boundary laws, regulations, and treaties (e.g., Minute No. 264 of the Mexican-American Water Treaty), to be conducted by the U.S. Section of the International Boundary Water Commission (USIBWC) and the U.S. Environmental Protection Agency (USEPA). Impacts of such actions are not significantly different than those that would have been considered when such laws/regulation/treaties were approved. This project requests, but does not require, that the USIBWC and USEPA submit reports to the Regional Board describing current/proposed measures and implementation progress. Mitigation measures likely are not necessary given that this action will not change enforcement actions already in place.

2) Removal of trash from Mexico that has accumulated at Imperial County Calexico Landfill culverts, to be conducted by the USIBWC and USEPA. Trash includes flotation devices from illegal immigrants crossing into the U.S. (e.g., inner tubes, styrofoam, wooden boards, plastic containers). The Imperial County Sanitation Department removes about 120 tons/year (20 tons every other month) of trash that accumulates where the New River intersects the Imperial County Calexico Landfill located about four miles downstream of the International Boundary. Impacts of such actions are not significantly different than those that are occurring now, as this project shifts trash removal from the county to the federal government. Trash removal likely will be infrequent and of short-term duration. Mitigation measures likely are not significantly different than those already in place and include flagging active Burrowing Owl burrow holes as stay-out zones when dumping disturbed sediment/soil on site. This mitigation measure would protect burrows from being filled in.

3) Increased coordination of third party cooperating agencies and organizations to be conducted for New River projects through a Memorandum of Understanding. This project requests, but does not require, that a coordination committee submit progress reports to the Regional Board. Mitigation measures likely are not necessary given that this action is administrative.

4) Water quality and trash monitoring in the New River at the International Boundary to be conducted by USIBWC and USEPA pursuant to a Quality Assurance Project Plan approved by the Regional Board Executive Officer. This project requests, but does not require, that the USIBWC and USEPA conduct monitoring, and submit data and reports, to the Regional Board. Likely actions include collecting water samples in the New River. Monitoring activities likely will be infrequent and of short-term duration. The New River/ International Boundary area is so polluted and disturbed that most special species in the vicinity occur in desert scrub habitat or agricultural land offset from the New River, or occur on the New River about 20 miles downstream of the Boundary near the town of Seeley where New River water quality starts to improve substantially. Therefore, the New River/ International Boundary likely does not support suitable habitat for sensitive species. However, potential mitigation measures include placing sample stations away from nesting/roosting habitat should any such habitat exist.

REFERENCES

References Cited

California Department of Fish and Game, Natural Diversity Database. 2003. List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database. September 2003. 77 pp. Sacramento, CA

California Department of Fish and Game, Natural Diversity Database. 2004. Special Animals. August 2004. 48 pp. Sacramento, CA

California Department of Fish and Game, Natural Diversity Database. 2005a. Database Information for Heber, Mount Signal, Seeley, Brawley NW, Brawley, Westmorland, and El Centro. April 2005. Sacramento, CA

California Department of Fish and Game, Natural Diversity Database. 2005b. Special Vascular Plants, Bryophytes, and Lichens List. January 2005. Quarterly publication, Mimeo. 87 pp. Sacramento, CA

California Farm Bureau Federation. 2003. Imperial County Farm Bureau. http://www.cfbf.com/counties/co-13.htm

California Regional Water Quality Control Board. As amended to date. Water Quality Control Plan: Colorado River Basin – Region 7. California Regional Water Quality Control Board, Colorado River Basin Region. Palm Desert, CA

Cohen, M., J. Morrison, and E. Glenn. 1999. Haven or Hazard: The Ecology and Future of the Salton Sea. Pacific Institute for Studies in Development, Environment, and Security. Oakland, CA

Imperial County. 1998. Imperial County General Plan. CD-ROM disk. Imperial County Planning Department. El Centro, CA

Imperial County Agricultural Commissioner. 1995. Imperial County Agricultural Crop and Livestock Report for 1994. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 1996. Imperial County Agricultural Crop and Livestock Report for 1995. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 1997. Imperial County Agricultural Crop and Livestock Report for 1996. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 1998. Imperial County Agricultural Crop and Livestock Report for 1997. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 1999. Imperial County Agricultural Crop and Livestock Report for 1998. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 2000. Imperial County Agricultural Crop and

Livestock Report for 1999. Imperial County Agricultural Commissioner. El Centro, CA

Imperial County Agricultural Commissioner. 2001. Imperial County Agricultural Crop and Livestock Report for 2000. Imperial County Agricultural Commissioner. El Centro, CA

Imperial Irrigation District. 1998. Fact Sheet: Imperial Valley Agricultural 1997. Imperial Irrigation District. Imperial, CA

Imperial Irrigation District. 1999. Annual Inventory of Areas Receiving Water Years 1998, 1997, 1996. Imperial Irrigation District. Imperial, California.

International Boundary and Water Commission (USIBWC), United States and Mexico. Minute No. 264. Recommendations for Solution of the New River Border Sanitation Problem at Calexico, California-Mexicali, Baja California Norte. Ciudad Juarez, Chihuahua. Signed August 26, 1980.

Gruenberg, P.H. 1998. A Historical Overview of New River Pollution in Mexico. California Regional Water Quality Control Board, Colorado River Basin Region. Palm Desert, CA

Montgomery Consulting Engineers, Inc. 1987. New River Pollution Abatement Report Recommended Projects for California Regional Water Quality Control Board Colorado River Basin – Region 7. December.

Setmire, J.G. 1984. Water quality in the New River from Calexico to the Salton Sea, Imperial County, California. Water Supply Paper 2212. 42 pp. U.S. Geological Survey

Tetra Tech, Inc. 2000. Salton Sea Restoration Project Draft Environmental Impact Statement / Environmental Impact Report, Draft. Prepared for the Salton Sea Authority and U.S. Department of Interior Bureau of Reclamation. January 2000. La Quinta, CA

United States Fish and Wildlife Service, Salton Sea National Wildlife Refuge. 1997. Wildlife Use of Agricultural Drains in the Imperial Valley, California. Salton Sea National Wildlife Refuge. Calipatria, CA

References Relied Upon

California Department of Fish and Game. 2001. California Wildlife Habitat Relationships System website. http://www.dfg.ca.gov/whdab

MacMahon, James A. 1997. National Audubon Society Nature Guides: Deserts. Alfred A. Knopf, Inc. New York, NY

National Audubon Society. 1996. Field Guide to Mammals, North America. Revised edition. Alfred K. Knopf, Inc. New York, NY

National Geographic Society. 1987. Field Guide to the Birds of North America. 2nd ed. The National Geographic Society. Washington, D.C.

Stebbins, Robert C. 1985. Peterson Field Guides: Western Reptiles and Amphibians. Houghton Mifflin Company. Boston, MA