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Resources, Community, and
Economic Development Division

B–283235

August 5, 1999

The Honorable Dianne Feinstein
United States Senate

Subject: Water Quality: Problems in the New River and Imperial County, California

Dear Senator Feinstein:

In a January 6, 1999, letter, you requested that we examine a number of issues concerning water quality problems in the New River and Imperial County in southern California. On May 27, 1999, we briefed your office on our key findings. As agreed during subsequent discussions with your office, this letter summarizes our briefing. Specifically, the letter discusses (1) the types and the sources of pollutants entering the New River, (2) the agencies and the organizations responsible for monitoring and regulating pollution in the New River, (3) the risks to human health and the environment from water pollution in Imperial County, (4) the health advisories and the precautions in place to protect the public from pollution in the New River, and (5) the actions being taken to reduce the flow of pollutants into the Salton Sea.

Results in Brief

The New River in southern California has been a severely polluted waterway for decades. A major source of this pollution has been untreated and undertreated municipal and industrial wastewater, including raw sewage, discharged into the river from the city of Mexicali in Mexico. Drainage from agricultural lands in the United States, however, has contributed most of the water in the river and is also a major source of pollution. Bacteria from sewage, nutrients (i.e., chemical elements, such as nitrogen and phosphorus), silt, volatile organic compounds (i.e., chemical substances that easily change from a liquid into a gas), and pesticides have been identified as the major water quality problems for the New River and have been found in sufficient quantities to prevent the river from supporting its designated uses, such as fishing and swimming.

The Colorado River Basin Region of the California Regional Water Quality Control Board (Regional Control Board) and the State Water Resources Control Board are the primary agencies responsible for monitoring water quality in the portion of the New River that flows within its borders. Other organizations also monitor water quality, such

as the International Boundary and Water Commission and the U.S. Fish and Wildlife Service. The Regional Control Board is the primary agency responsible for regulating discharges of pollutants into the New River in the United States. In Mexico, federal and state agencies have similar responsibilities for regulating discharges of pollutants into the New River. The U.S. Environmental Protection Agency is the lead federal agency that works with Mexico on border pollution issues.

Untreated and undertreated wastewater in the New River poses a serious potential threat to human health and the environment and could cause serious illnesses, such as typhoid and hepatitis. However, the Imperial County Health Department has reported no documented cases of adverse effects on human health from exposure to the river, primarily because most residents stay away from the river. The sewage has affected environmental conditions in the river. For example, the wastewater has nearly eliminated aquatic habitat in the first 20 miles of the river in the United States because it lowers oxygen concentrations in the water to levels that are unsuitable for most aquatic life. Other pollutants in the river, such as pesticides and volatile organic compounds, also pose potential threats to human health and the environment.

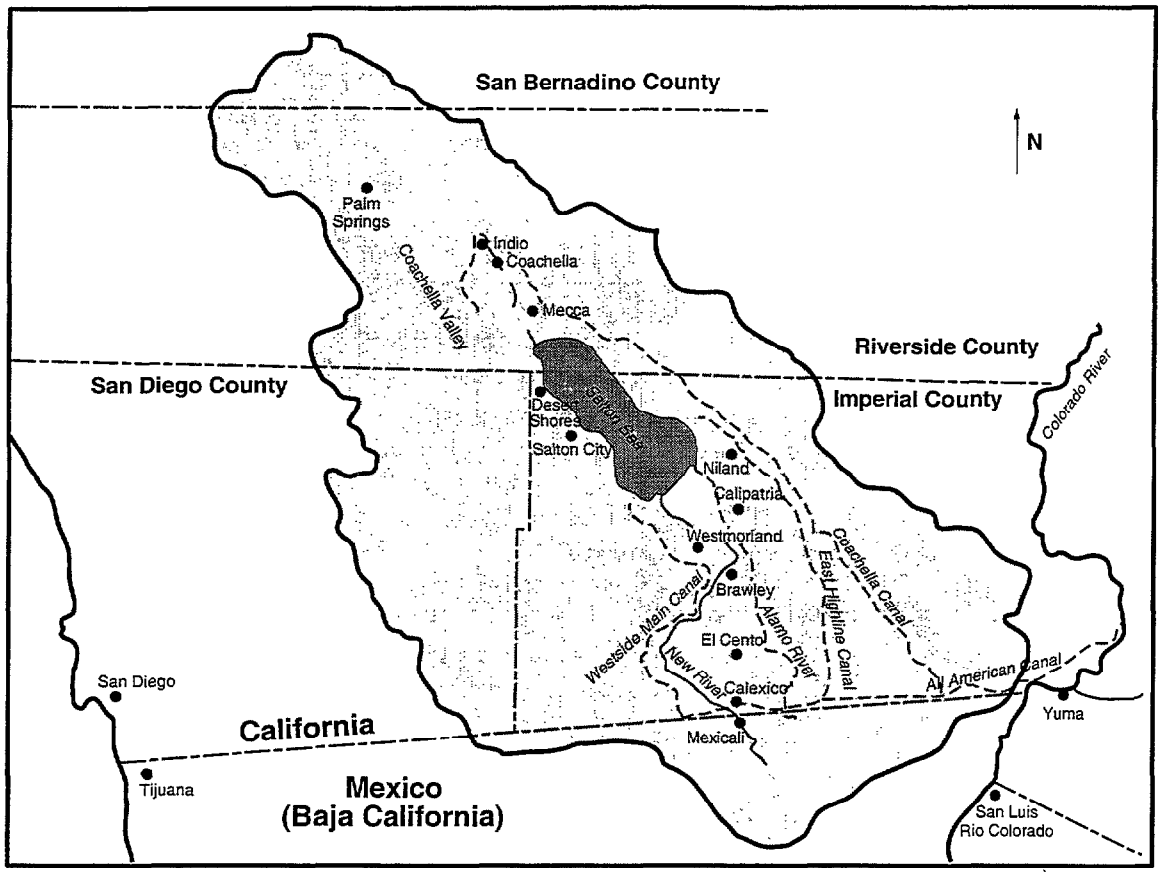
As a result of sewage contamination, the Imperial County Health Department has had an advisory warning against contact with the river and consumption of fish from it for over 20 years. Precautions related to pollution problems include Mexico's notifying the United States when raw sewage releases in excess of what typically occurs are expected.

Several actions are under way to address the level of pollutants flowing into the Salton Sea. The U.S. section of the International Boundary and Water Commission and the Environmental Protection Agency are leading efforts with Mexico to upgrade existing wastewater treatment facilities and to construct new facilities in Mexicali, Mexico. California's Regional Control Board is in the process of developing additional strategies to reduce the level of bacteria in the New River. In addition, the U.S. Bureau of Reclamation and a local organization—the Salton Sea Authority—are leading efforts under the Salton Sea Reclamation Act of 1998 to study potential solutions to reduce pollution and mitigate other problems in the sea.

Background

The New River originates about 15 miles south of Mexicali, Mexico, and flows northward into Imperial County through Calexico, California (see fig. 1). The New River receives about one-third of its total flow from sources in Mexico. The river travels a total of about 60 miles in California before emptying into the Salton Sea. The New River and the Alamo River provide almost 80 percent of the total inflow to the Salton Sea, accounting for 33 and 46 percent, respectively. Much of this water is agricultural drain water from Imperial County. Wastewater from Mexico accounts for about 3 percent of the total inflow to the Salton Sea.

Figure 1: Map of the New River; Imperial County, California; and the Salton Sea



The Clean Water Act requires states to establish water quality standards to protect water quality and public health. These standards include designated uses for bodies of water, such as swimming or fishing, and the water quality criteria the water must meet to support those designated uses.[1] For example, states can measure the levels of bacteria in water to determine if it can or cannot safely support swimming. The Colorado River Basin Region of California's Regional Control Board has designated the New River for swimming, fishing, other recreational uses (e.g., boating), and supporting aquatic and terrestrial wildlife. Accordingly, the Regional Control Board has set water quality criteria to measure whether the New River is supporting its designated uses. For example, to allow swimming in the New River, the average monthly concentration of fecal coliform bacteria must be less than 200 MPN/100 ml.[2]

Types and Sources of Pollutants in the New River

The Regional Control Board has identified five pollutants that violate water quality standards for the New River—bacteria, nutrients, silt, volatile organic compounds, and pesticides.

Bacteria

There are two water quality criteria for bacteria for the New River—an international criterion established through agreements with Mexico and one set by the Regional Control Board. The international criterion, agreed upon in 1980 by the governments of the United States and Mexico, says that the river should be free of untreated domestic and industrial wastewater at the international boundary. The Regional Control Board's criterion says that the average monthly concentration of fecal coliform bacteria in the 60-mile stretch of the New River in California is not to exceed 200 MPN/100 ml

Polluted wastewater from Mexico, however, has resulted in levels of bacteria that exceed the water quality criteria set by both the Regional Control Board and the international agreement. In 1998, monthly monitoring conducted by the Regional Control Board showed monthly averages at the international boundary consistently in the hundreds of thousands of MPN/100ml. A high of 5 million MPN/100ml was recorded in June and September of that year. These levels of fecal coliform bacteria indicate the presence of untreated wastewater. However, as the New River flows through California to the Salton Sea, these levels decrease, although they still exceed the Regional Control Board's fecal coliform criterion.

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[1]33 U.S.C. section 1313. The Federal Water Pollution Control Act, 33 U.S.C. sections 1251-1387, is generally referred to as the Clean Water Act.

[2]Fecal coliform counts are a common bacterial measure that typically indicate water that has been contaminated with the feces of humans or animals and may also contain other pathogens or disease-producing bacteria or viruses found in fecal material. MPN is an estimate of the 'most probable number' of fecal coliform bacteria colonies present in a 100-milliliter sample of water.

Nutrients

Such nutrients as nitrogen and phosphorus are found in sewage, agricultural drainage, and other sources. The Regional Control Board's water quality criterion for nutrients relies on the best professional judgment of the ratio of nitrate to phosphate because ratios of about 5 to 1 are typically associated with eutrophication in bodies of water.[3] Nutrients are identified as a problem for the New River because the nitrate to phosphate ratio is about 5 to 1.

Silt

The Regional Control Board's water quality criterion for silt is a combination of criteria including turbidity (i.e., a measure of water clarity) and sediment. These criteria basically state that the presence of such pollutants shall not adversely affect designated uses. The Control Board has identified silt as a problem because high levels of silt have been reducing aquatic habitat and impacting wildlife. For example, deposits of silt reduce or eliminate spawning grounds for some fish species and clog fish gills, thereby causing death or reducing growth. The Regional Control Board is also very concerned about silt's role as a mechanism to transport insoluble pesticides, particularly dichlorodiphenyltrichloroethane (DDT) and pollutants caused by its breakdown and toxaphene, which is a type of organochlorine chemical.

Volatile organic compounds

The water quality criterion for volatile organic compounds is for the New River to be free from untreated domestic or industrial wastes or substances that are harmful to humans or animals. Monitoring by the Regional Control Board has detected volatile organic compounds at the international boundary. According to the Board, these compounds come primarily from the untreated industrial wastes discharged from Mexicali into the New River.

Pesticides

The water quality criterion for pesticides is for the New River to be free of pesticides at concentrations that could cause harmful effects to humans, fish, and wildlife. The Regional Control Board has identified pesticides as a problem because samples of fish tissue taken from the New River for toxin monitoring during the 1990s exceeded California's "Elevated Data Levels" (a measure for the level of contaminants in fish tissue) for many pesticides, such as chlorpyrifos, DDT, dieldrin, and polychlorinated biphenyls (PCB).[4] Monitoring during this period also revealed concentrations of chlordane and toxaphene that met or exceeded the National Academy of Science's

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[3]Eutrophication is a process by which a body of water becomes overloaded with nutrients. This overload causes excessive plant and algae growth, making the water undesirable for recreation and unsuitable for fish and other aquatic life.

[4]While California's "Elevated Data Levels" are not directly related to potentially adverse effects on human or animal health, they are used to compare contaminant levels to reference conditions around the state and to identify areas of concern.

recommended maximum concentrations for toxic substances in fish tissue. The academy's recommended concentrations are intended to protect aquatic organisms and the species that consume them.

Agricultural Drainage Is the Primary U.S. Source of Pollutants in the New River

In the United States, pollutants entering the New River are primarily from drainage from the more than 500,000 acres of irrigated agricultural land in Imperial County. This drainage accounts for about 65 percent of all the water in the New River. Irrigation water used in Imperial County comes from the Colorado River, which contains, among other constituents, salts and selenium. To minimize the accumulation of salts in soils, subsurface drainage systems have been installed for almost all of the agricultural land in Imperial County.[5] There are about 30,000 miles of subsurface drains and over 1,450 miles of surface drains that discharge agricultural drain water into the Alamo River, the New River, and the Salton Sea. In addition to salts and selenium from the Colorado River, this agricultural drain water also contains nutrients, pesticides, and silt that have accumulated during crop production. While the purpose of the subsurface drainage systems is to minimize the accumulation of salts, the systems also inadvertently consolidate and, in some cases, concentrate pollutants and deliver them directly to bodies of water in Imperial County.

Other sources of pollutants in the New River are stormwater runoff from urban areas, animal-feeding operations, and eight wastewater treatment facilities that have discharge permits from the Regional Control Board. Of these sources, pollutants from the treatment facilities are most easily quantified and likely to account for the bulk of the remaining pollutants, albeit small in comparison to the agricultural contribution. Discharges from the treatment facilities average about 6.6 million gallons per day (about 2 percent of the New River's total flow) of treated wastewater into the New River or into agricultural drains that empty into the river. The wastewater treatment plants for the cities of Brawley and Calexico in California are the two major dischargers into the New River, with 55 and 31 percent of the total amount of wastewater discharged, respectively.

Because five of the eight treatment facilities—including Brawley, the largest one–do not effectively disinfect wastewater, some of their treated wastewater may still contain pathogens. The Regional Control Board is working with these five facilities to help them implement disinfection capability. In addition, three treatment facilities—those for the city of Brawley, the city of Westmorland, and the U.S. Naval Air Facility–have current compliance issues. The Brawley facility currently operates close to, or exceeds, its design capacity on a regular basis. The Westmorland facility currently leaks untreated sewage from old aeration ponds. The disinfection system at the Naval Air Facility was designed to handle average, not maximum, flows. As a result, these three facilities have had violations, and the Regional Control Board has issued a schedule for when they should have their problems addressed. According to a Regional Control Board official, if the bacteria levels in the New River were not already elevated because of pollution from

[5]Agricultural drains in Imperial County are operated by the Imperial Irrigation District.

Mexicali, discharges from these three facilities would likely cause localized violations of water quality criteria for bacteria.

Discharges of Untreated and Undertreated Wastewater Are the Primary Mexican Source of Pollutants in the New River

In Mexicali, Mexico, the lack of adequate wastewater treatment capability is the primary cause of excessive levels of pollutants entering the New River. According to the State Public Services Commission of Mexicali (the agency that runs the sewage collection system), about 90 percent of the population in Mexicali is served by sewer collection service. However, wastes from only about 67 percent of the population can be adequately treated. Mexicali's current treatment capacity (which does not include disinfection capability) is about 20 to 25 million gallons of wastewater per day. As of 1997, however, actual flows were about 35 to 40 million gallons per day. As a result, about 15 million gallons of untreated wastewater has been discharged daily into the New River.

According to a technical report published in 1997 on industrial dischargers in Mexicali, about 180 industrial facilities in Mexico discharge waste into Mexicali's sewage collection system. Although these facilities apparently have permits limiting the amount of certain pollutants they may discharge, very few have programs to remove industrial contaminants not removed during the sewage collection system's wastewater treatment, such as volatile organic compounds. Almost 90 additional industrial facilities discharge wastewater into ditches, drains, or streams or directly into the New River. According to the Regional Control Board, more than half of these facilities do not have discharge permits and appear to discharge untreated waste directly into bodies of water.

Some of the industrial facilities that are discharging pollutants could be the 179 maquiladoras reported operating in Mexicali in 1999 by the Mexican government statistical agency.[6] While maquiladoras are required to transport their hazardous wastes out of Mexico, they are allowed to discharge wastewater that could contain nonhazardous concentrations of various pollutants, such as metals and volatile organic compounds. According to EPA's 1997 transport records of hazardous waste, approximately 60 facilities owned by companies in the United States and operating in Mexicali were shipping hazardous wastes to the United States. Agricultural runoff in Mexico is also a source of pollutants in the New River, although to a much smaller degree than agricultural drainage in the United States, because subsurface drainage systems are not used in Mexico.

[6]Maquiladoras are foreign-owned manufacturing and assembly plants in Mexico.

Agencies and Organizations Responsible for Monitoring and Regulating Pollution in the New River

Several different agencies, including federal and state agencies in the United States and Mexico, are involved in monitoring the New River and regulating the release of pollutants into the river.

U.S. Federal Agencies

The U.S. Environmental Protection Agency (EPA) is ultimately responsible for ensuring that California is adequately protecting and restoring water quality under the federal Clean Water Act. Accordingly, EPA has oversight responsibility for how California (1) issues and enforces wastewater discharge permits to municipal and industrial dischargers and (2) identifies bodies of water that are not supporting designated uses and takes actions to restore these waters. EPA is also responsible for coordinating and monitoring the implementation of the La Paz Agreement, an agreement between the United States and Mexico to protect and improve the environment in the border region. Other federal agencies, such as the U.S. Geological Survey and the U.S. Fish and Wildlife Service, periodically monitor water quality in the New River to understand the impact of pollutants on wildlife and the environment.

U.S. State Agencies

The California State Water Resources Control Board (State Control Board) and the Regional Control Board are responsible for protecting and restoring water quality under the Clean Water Act and applicable state laws. The Regional Control Board monitors water quality at the international boundary and elsewhere in Imperial County to determine whether bodies of water are meeting their designated uses. In addition, the State Control Board annually monitors toxins by analyzing tissue from fish at the international boundary, at other locations in the New River and Imperial County, and in other bodies of water in the state. If water quality problems are found, the Regional Control Board is responsible for developing and implementing strategies to respond to them. The Regional Control Board also issues and enforces discharge permits to municipal and industrial facilities that discharge wastewater, large animal-feeding operations, and entities required to address stormwater, such as large cities and certain construction sites. The State Control Board is responsible for ensuring that the Regional Control Board implements these activities properly.

Mexico's Federal Agency

Mexico's primary environmental protection agency is the Secretariat for Environment, Natural Resources, and Fisheries. The National Water Commission is the unit within this agency with responsibility for managing and regulating facilities that discharge water, such as the approximately 90 industries that discharge into the waters of Mexico in Mexicali. There is also an enforcement unit within the Secretariat that conducts inspections and enforces environmental regulations.

Mexico's State Agency

The Director of Ecology in Mexico's Baja California is responsible for ensuring compliance with state environmental laws, including the discharge of industrial wastes from the 180 industrial facilities that discharge wastewater into the sewage collection system.

International Organization

The International Boundary and Water Commission (IBWC) is a joint organization of the United States and Mexico that addresses border issues, including environmental concerns. IBWC has no regulatory authority but does conduct water quality monitoring in Mexico near the border and in Mexicali. IBWC also conducts monthly binational "observation" tours in Mexicali to known problem areas and to two wastewater treatment plants—one that is being upgraded and one that is being constructed–to monitor their progress.

Risks to Human Health and the Environment From Water Pollution in Imperial County

Untreated and undertreated sewage poses a serious potential hazard to human health. Pathogens, including bacteria and viruses, found in waters as a result of contamination with sewage can cause many serious illnesses, including dysentery, typhoid, hepatitis, and cholera. Because of this potential hazard, Imperial County requested the U.S. Agency for Toxic Substances and Disease Registry (ATSDR) to conduct a health evaluation of the New River. ATSDR published the results of this study in 1996 and concluded that the New River is a potential hazard to public health because of untreated and undertreated sewage. The report also indicated that no pathogenic hazard was expected in the Salton Sea from sewage contamination because of the saltiness of its waters and the distance from the source of the sewage. While the report noted some anecdotal evidence of human illnesses associated with pathogens in the New River, ATSDR found no documentation describing them or their associated causes. Officials from the Imperial County Health Department and the Regional Control Board said that the primary reason there have been no documented cases of illness is that residents are aware of the pollution and stay away from the river. ATSDR's report and officials with the Regional Control Board stressed, however, that even low levels of exposure could pose a threat to human health and cause illness.

According to ATSDR, other pollutants—metals, volatile organic compounds, PCBs, and pesticides—contaminate fish in the New River and may pose health hazards, such as an increased risk of cancer to humans who consume large concentrations of fish from the river. However, given the low rate of actual human exposure to the river, ATSDR concluded that significant exposure was unlikely. According to an official with the Imperial County Health Department, there has been no documented case of adverse health effects from these types of pollutants in the New River.

Pollution in the New River also poses environmental risks. Excessive sewage in the river severely reduces oxygen levels for about the first 20 miles of the river in the United States. As a result, aquatic habitat is virtually nonexistent in this part of the river. Also, ammonia levels are often high in this part of the river and result in acute toxicity for aquatic life. Both of these conditions lead to fish kills. Other pollutants in the New River pose other problems for aquatic species and waterfowl. For example, several studies conducted by the U.S. Bureau of Reclamation, the U.S. Geological Survey, and others, found that selenium and pesticides from agricultural drainage could cause toxicity illnesses, reproductive impairments, and death. According to toxics monitoring done by California, rivers and agricultural drains in Imperial County, including the New River, continue to have some of the highest levels of certain pesticides, such as dacthal and diazinon, found in fish tissues in the state. In addition, the nutrients flowing into the Salton Sea from the New River and other waters contribute to eutrophic conditions in the sea.

Health Advisories and Precautions for the New River

The Imperial County Health Department has issued a health advisory for the entire length of the New River in the United States that warns the public not to come into contact with the water or consume fish from the river. This advisory has been in effect since it was first issued in 1978, when a total of 50 signs were posted along the river. After its health evaluation of the New River, ATSDR recommended that access to the river be restricted at bridges and near populated areas. In addition, the agency recommended that Imperial County increase and improve the signs displaying the advisory for the river. According to a Health Department official, while the Department agreed with the recommendations, they have not been implemented because of resource constraints.

The U.S. and Mexican sections of IBWC have established a process for Mexico to notify the United States when excessive raw sewage releases occur. Sometimes releases occur because some components of the existing wastewater treatment plant break down or are taken out of operation for maintenance or upgrades. The Mexican section of IBWC notifies the U.S. section, which in turn contacts numerous agencies in Imperial County, including the Health Department and the Regional Control Board.

Border Patrol agents and illegal aliens attempting to cross the border via the New River are the individuals most likely to come into contact with its water. Illegal aliens usually come into contact with its water if the rafts they use to float across it capsize. Border Patrol agents come into contact with the river when they try to save someone in the river who appears to be drowning or needs assistance getting out of the river. According to Border Patrol officials, an agent is exposed to the river's water in this way once every few months. Border Patrol agents are directed to seek medical attention within 24 hours of exposure. Agents are also required to have regular preventative shots for communicable diseases, such as hepatitis, that may help protect against some of the pathogens found in the river. Illegal aliens are given the option to request medical attention if exposed to the water.

Actions Being Taken to Reduce Pollutants Flowing Into the Salton Sea

A variety of actions are under way that could reduce the amount of pollutants flowing into the Salton Sea. The primary actions we identified relate to concerns in three areas.

Mexicali Wastewater Treatment Plant Upgrade and New Construction

Since 1995, EPA, IBWC, and California state and local agencies have worked with Mexico to identify and implement projects to reduce the amount of untreated wastewater being discharged into the New River until a more comprehensive solution can be implemented. Construction of these projects has been completed, including lining or replacing over 30,000 feet of sewage collection pipes and removing about 200,000 cubic yards of sludge from lagoons used to treat wastewater. The United States and Mexico shared the cost of these projects—about $2 million—contributing 55 and 45 percent, respectively.

EPA and IBWC have also been working with Mexico on a more permanent solution to water quality problems at the border through the construction of additional treatment facilities. Construction on one part of the project—the Mexicali II plant that is designed to treat 20 million gallons of wastewater per day—is under way and should be complete by late 2000. According to officials with the city of Mexicali, the total cost of the entire project is expected to be about $50 million and it will be shared among the United States, Mexico, and other sources. In addition to sharing construction costs, Mexico will be responsible for about $200,000 per year in operations and maintenance costs. Successful implementation and operation of this project is expected to result in 100 percent treatment of Mexicali wastewater.

Total Maximum Daily Load Development

The Clean Water Act requires the development of a total maximum daily load for a body of water that is not supporting designated uses. This load includes numeric targets for the desired levels of specific pollutants (i.e., the levels that will still support the water's designated uses), a description of the amount of pollutants the various sources each contribute, and the allocation of that load among the different sources of pollution. The Regional Control Board is in the early stages of developing total maximum daily loads for bacteria in the New River and silt in the Alamo River. The first step in this development process, a description of the water quality problem, was published in May 1999 for each river.

Salton Sea Reclamation Act

In November 1998, the Congress passed the Salton Sea Reclamation Act of 1998.[7] The primary purpose of this act is for the federal government to conduct feasibility studies concerning the construction of a project to reclaim the Salton Sea. Overall, the project

[7]Pub. L. No. 105-372, 112 Stat. 3377 (1998).

is intended to permit the continued use of the Salton Sea as a reservoir for irrigation drainage, reduce and stabilize its overall salinity, stabilize the surface elevation, reclaim—in the long term—healthy fish and wildlife resources and their habitats, and enhance the potential for recreational uses and economic development of the Salton Sea. The act directs the Secretary of the Interior, through the Bureau of Reclamation, to complete feasibility studies and cost analyses of potential solutions (including some specific options presented in the legislation) by January 1, 2000. The Bureau and its local agency partner, the Salton Sea Authority, are planning to release a draft environmental impact statement that will provide analyses of alternatives and costs in September 1999.

A science subcommittee created by the act has been conducting multiple scientific analyses of water quality conditions and associated impacts on aquatic species and other wildlife resources of the Salton Sea. The results of these studies are intended to provide the needed scientific information to analyze potential solutions and have been provided to the Bureau and the Salton Sea Authority on an ongoing basis. However, according to the official in charge of the Bureau's Salton Sea project office, some pollution problems in the Salton Sea are not well understood. Therefore, the draft environmental impact statement will be proposing a phased approach to reclaiming the Salton Sea. This approach will include recommending actions to address the problems that are well understood, identifying the issues that appear to be problems for the Salton Sea but require more information, recommending additional studies of these issues, and recommending the establishment of a long-term monitoring program for the sea. The act also authorizes the Secretary of the Interior to conduct research and construct river reclamation and wetlands projects to improve water quality by treating water in the New River and the Alamo River as well as the water that flows into them from irrigation drains. The Bureau of Reclamation has plans for two such wetland projects. In addition, the act directs the Secretary to establish a long-term monitoring program to maximize the effectiveness of any wetlands that are constructed under the act.

Agency Comments

We provided a copy of a draft of this report to the Regional Control Board to verify factual information. The Executive Officer of the Board and the staff from his office said that they generally agreed with the facts presented in the report. The officials also provided several technical corrections and suggested clarifications, which we have incorporated into the report, where appropriate. We also verified key data with officials of EPA and the U.S. Bureau of Reclamation.

Scope and Methodology

To address our reporting objectives, we contacted various federal, state, and local agencies involved in water quality issues in southern California and obtained relevant documentation concerning the New River and the Salton Sea. We spoke with officials with the Toxic Substances Monitoring Program in California's State Water Resources Control Board, EPA Region 9's border pollution section, the U.S. section of IBWC, the Imperial County Health Department, the Imperial Irrigation District, the Salton Sea

Authority, the Bureau of Reclamation's Salton Sea office and its National Irrigation Water Quality Program, the U.S. Geological Survey, and the U.S. Border Patrol in southern California. We also spoke with the Regional Control Board's Executive Officer and officials with the border pollution and wastewater discharge permitting sections.

To describe the types and the sources of pollutants entering the New River, we analyzed monitoring data on water quality and fish tissues, wastewater discharge permits and reports on the compliance status of dischargers to the New River in the United States, technical studies conducted by the Bureau of Reclamation and the U.S. Geological Survey, and technical documents describing wastewater treatment capability and industrial dischargers in Mexicali. To identify the agencies and the organizations responsible for controlling the discharge of pollution into the river, we reviewed the Clean Water Act, the Regional Control Board's Water Quality Control Plan, and documents describing the role of Mexico's environmental agencies. To identify the health precautions and advisories that help protect the public from pollution in the New River, we spoke with officials with the Imperial County Health Department, the Border Patrol, and IBWC.

To identify and describe the risks to human health and the environment from water pollution in Imperial County, we reviewed ATSDR's health evaluation of the New River and public health statements for various pollutants and numerous scientific studies, such as U.S. Fish and Wildlife documents describing impacts on fish and wildlife. To describe actions being taken to reduce the flow of pollutants into the Salton Sea, we reviewed plans for carrying out the activities under the Salton Sea Reclamation Act, technical documents describing proposed construction and upgrade projects for Mexicali wastewater treatment, and the Regional Control Board's plans for addressing pollutants such as bacteria and silt.

We conducted our work from March 1999 through June 1999 in accordance with generally accepted government auditing standards.

As agreed with your office, we plan no further distribution until 7 days after the date of this letter. At that time, we will distribute copies of this report to the Honorable Carol Browner, Administrator, Environmental Protection Agency; the California State Water Resources Control Board and the Regional Control Board; the Bureau of Reclamation; the International Boundary and Water Commission; the Imperial Irrigation District; the Salton Sea Authority; the Imperial County Health Department; and other interested parties. Copies will also be made available to others upon request.

If you or your staff have further questions or would like to discuss these issues in more detail, please call me or my Assistant Director, Steve Elstein, at (202) 512-6111. Key contributors to this report were Dena Owens and Trish McClure.

Sincerely yours,

Peter F. Guerrero
Director, Environmental
Protection Issues

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