

**INTERNATIONAL BOUNDARY AND WATER COMMISSION  
UNITED STATES AND MEXICO**

**Ciudad Juarez, Chihuahua  
July 17, 2009**

**JOINT REPORT OF THE PRINCIPAL ENGINEERS  
CONCERNING U.S.-MEXICO JOINT COOPERATIVE ACTIONS  
RELATED TO THE YUMA DESALTING PLANT (YDP) PILOT RUN  
AND THE SANTA CLARA WETLAND**

To the Honorable Commissioners  
International Boundary and Water Commission  
United States and Mexico  
El Paso, Texas-Ciudad Juarez, Chihuahua.

Sirs:

In accordance with your instructions, we respectfully submit this Joint Report concerning U.S.-Mexico joint cooperative actions related to the proposed Yuma Desalting Plant (YDP) Pilot Run. The purpose of this report is to identify actions that could be carried out by each country related to the proposed YDP Pilot Run and to identify other efforts related to the Santa Clara Wetland in Mexico.

To continue with the binational spirit of cooperation with regard to the Colorado River limitrophe section and the Santa Clara Wetland as established in Commission Minute No. 306 entitled, "Conceptual Framework for United States-Mexico Studies for Future Recommendations Concerning the Riparian and Estuarine Ecology of the Limitrophe Section of the Colorado River and its associated Delta," signed on December 12, 2000, and in accordance with the resolutions in Minute No. 242, "Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River," signed on August 30, 1973, in November 2008, the U.S. and Mexico, through the International Boundary and Water Commission, initiated binational consultations regarding the proposed Pilot Run to operate the YDP.

**Proposed Pilot Run of the YDP and Alteration of Flow to the Santa Clara Wetland.**

The United States passed the *Colorado River Basin Salinity Control Act of 1974* (Salinity Control Act), which authorized the construction, operation, and maintenance of certain works in the Colorado River Basin to control the salinity of water that is delivered to Mexico in accordance with the 1944 Water Treaty. Title I of the Salinity Control Act provides the legal basis for programs to comply with the provisions of Minute No. 242 downstream from Imperial Dam. To implement provisions of Title I of the Salinity Control Act, construction of the YDP in Yuma, Arizona was largely completed in 1992. Shortly thereafter, it operated at one-third capacity for a brief trial period. With above average flow on the Colorado River and other considerations, operation of the YDP was then suspended and has not operated since, with the exception of a 90-day demonstration run at 10% of its capacity in 2007.

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The Metropolitan Water District of Southern California (MWD), Southern Nevada Water Authority (SNWA), and Central Arizona Water Conservation District (CAWCD) have requested that the U.S. Bureau of Reclamation (Reclamation) conduct a Pilot Run of the YDP and are considering providing some funds needed for operation. These parties, as well as other U.S. entities, are interested in gaining additional information under low water conditions in the Colorado River Basin that can be used when considering long term, sustained operation of the YDP as a tool to extend water supplies. Such consideration requires gathering information that can only be obtained through actual operation of the YDP. This includes collecting performance and cost data, identifying any remaining improvements to equipment, and testing changes already performed on the plant. Reclamation has developed a plan for the proposed Pilot Run, in which the plant would operate for 365 days within a period of up to 18 months at one-third capacity to gather such information. The proposed Pilot Run would produce approximately 29,000 acre-feet (35.8 million cubic meters (mcm)) of water for use within the United States. Reclamation, as the owner and operator, will comply with all the applicable requirements of federal law prior to determining whether to commence the Pilot Run.

Under current conditions, saline flows are bypassed to Mexico via the Wellton-Mohawk Bypass Drain and eventually flow into the Santa Clara Wetland. We observe that the Santa Clara Wetland is part of the Upper Gulf of California and Colorado River Delta Biosphere Reserve, the highest category of protection that Mexico assigns to a wetland, in addition to being declared a protected wetland under the RAMSAR Wetlands Convention. This area provides wetland habitat for migratory birds on the Pacific Flyway and for various species including threatened and endangered species. When the YDP is not operating, flows to the Santa Clara Wetland from the Wellton-Mohawk Bypass Drain between 2004 and 2008 averaged an estimated 107,000 acre-feet (132.0594 mcm) annually with a salinity of approximately 2,664 parts per million. Under the proposed Pilot Run, absent any joint cooperative actions, flows that reach the Santa Clara Wetland from the Wellton-Mohawk Bypass Drain would be reduced to approximately 77,000 acre-feet (95.0334 mcm), while salinity would increase to approximately 3,204 parts per million.

We observed that both countries are interested in preserving the environmental value of the Santa Clara Wetland during the proposed YDP Pilot Run, and we also observe that Mexico, the United States and the potential YDP funding partners, in the interest of binational cooperation, are willing to undertake joint cooperative actions that are responsive to address the Santa Clara Wetland and the U.S. interest in conducting the proposed YDP Pilot Run.

#### **U.S.-Mexico Discussions Concerning the YDP Pilot Run and the Santa Clara Wetland**

We observed that Resolution 4 of Minute No. 242 states that Mexico shall permit the United States to discharge to the Santa Clara Slough "the volumes of brine from such desalting operations in the United States as are carried out to implement the Resolution of this Minute, and any other volumes of brine which Mexico may agree to accept" and Resolution 6 stipulates that "With the objective of avoiding future problems, the United States and Mexico shall consult with each other prior to undertaking any new development of either the surface or the groundwater resources, or undertaking substantial modifications of present developments, in its own territory in the border area that might adversely affect the other country."

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We also observed that Minute No. 306 provides, “That in recognition of their respective governments’ interest in the preservation of the riparian and estuarine ecology of the Colorado River in its limitrophe section and its associated delta, the Commission shall establish a framework for cooperation by the United States and Mexico through the development of joint studies that include possible approaches to ensure use of water for ecological purposes in this reach and formulation of recommendations for cooperative projects, based on the principle of an equitable distribution of resources.”

In November 2008, in order to further both the consultation process established under Minute No. 242 and the spirit of binational cooperation with regard to the ecology of the Colorado River limitrophe and its delta as established in Minute No. 306, the U.S. and Mexico, through the International Boundary and Water Commission, initiated consultations regarding the proposed YDP Pilot Run.

The binational consultation consisted of a series of meetings held over a period of five months where the details of the Pilot Run were presented and expert stakeholders from both countries had an opportunity to discuss the proposed action. The following were the primary items of discussion:

- Whether or not current average annual flows reaching the Santa Clara Wetland would be reduced and if so, what the impact would be that reduced volumes and increased salinity could have on the biodiversity and the ecosystem,
- Need for a comprehensive binational monitoring program of the Santa Clara Wetland,
- Importance of the YDP Pilot Run in order to gather data required for future decision making,
- Ensuring that all agreements with regards to this YDP consultation are limited to the proposed YDP Pilot Run and its duration,
- Addressing the importance of understanding the requirements for long term sustainability of the Santa Clara Wetland based on specific habitat requirements instead of historical flows reaching the Santa Clara Wetland, and
- Importance of maintaining existing infrastructure such as the Wellton-Mohawk Bypass Drain and the Santa Clara drain to ensure flows reach the intended locations within the Santa Clara Wetland.

### **Proposed Joint Cooperative Actions**

Based on the binational discussions regarding the YDP Pilot Run discussed during the preceding five months, a program of joint cooperative actions was developed and proposed to address the interests of both countries in the event Reclamation determines to commence the Pilot Run. The suggested joint cooperative actions discussed to date regarding the proposed YDP Pilot Run are described below.

- 1) If, the proposed 365 day YDP Pilot Run, is approved by the appropriate U.S. agency, it is recommended that the Joint Cooperative Actions described in this document be carried out.
- 2) During the YDP Pilot Run, each one of the parties, the U.S., Mexico and Non-Governmental Organizations (NGOs) each intend to arrange for 10,000 acre-feet (12.3 mcm) of water for a

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total of 30,000 acre-feet (37.0 mcm) pursuant to the letters of commitment that have been received from the respective participants.

- 3) All actions undertaken pursuant to this agreement will be carried out in such a way as not to interfere with deliveries of water to Mexico either at Morelos Dam or the Southerly International Boundary (SIB) nor interfere with the rights of the United States or Mexico in accordance with the 1944 Water Treaty.
- 4) The non-federal U.S. parties (MWD, SNWA and CAWCD) intend to contribute a total of \$250,000 toward a comprehensive binational monitoring program for the Santa Clara Wetland.
- 5) Mexico is willing to allocate resources to perform the necessary dredging work in order to allow Santa Clara drain flows to reach the Santa Clara Wetland.
- 6) If deemed necessary, the U.S. is willing to allow for the use of the amphibious excavator to excavate the Santa Clara Drain, and Mexico will provide funds for the operation, maintenance and, if necessary, repair of the equipment.
- 7) The U.S. Bureau of Reclamation will provide a one-time contribution of \$100,000 for additional maintenance activities related to the Wellton-Mohawk Bypass Drain.
- 8) Upon request of Mexico and pursuant to further arrangements and in a manner that poses no conflicts with the provisions of the 1944 Water Treaty, the U.S. is willing to arrange for the use of the Wellton-Mohawk Bypass Drain for the conveyance of water that Mexico and the non-governmental organizations intend to contribute to the Santa Clara Wetland through said drain.
- 9) Both countries are willing to continuing work, under the auspices of Minute No. 306, and to include this topic in the Colorado River Joint Cooperative Process discussions, to specifically identify the true requirements for long term sustainability of the Santa Clara Wetland based on specific habitat requirements instead of historical flows reaching the Santa Clara Wetland.

**Specific Details of the Proposed Joint Cooperative Actions**

1. The proposed YDP Pilot Run consists of the operation of the YDP at one-third capacity for 365 days during a period of up to eighteen months. The implementation of this pilot run is subject to the conclusion of the Environmental Assessment (EA) and subject to a decision by Reclamation to proceed. In order to carry out the proposed Pilot Run, 37,980 acre-feet (46.8 mcm) of water from the Wellton-Mohawk Bypass Drain will be treated at the plant, resulting in about 21,700 acre-feet (26.8 mcm) of treated and desalinated product water. This treated and desalinated product water will be discharged along with an estimated 7,300 acre-feet (9 mcm) of untreated water from the Wellton-Mohawk Bypass Drain, resulting in discharge to the Colorado River of approximately 29,000 acre-feet (35.8 mcm) of water with salinity substantially similar to current river salinity. The saline concentrate that is a byproduct of the treatment process will be discharged to the Wellton-Mohawk Bypass Drain, which would increase the salinity to an estimated salinity of 3,204 ppm.
2. The United States, Mexico, and a partnership of non-governmental organizations intend to each arrange for 10,000 acre-feet (12.3 mcm) of water, for a total of 30,000 acre-feet (37 mcm), in connection with the reduction in flow to the Santa Clara Wetland and the increase in salinity that would occur during the proposed YDP Pilot Run in the absence

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of the Joint Cooperative Actions identified in this agreement. These volumes shall be conveyed during the YDP Pilot Run period, however each party may initiate conveyance of their respective volumes starting on the date a decision is made by the appropriate U.S. agency to proceed with the proposed YDP Pilot Run until the conclusion of the proposed YDP Pilot Run.

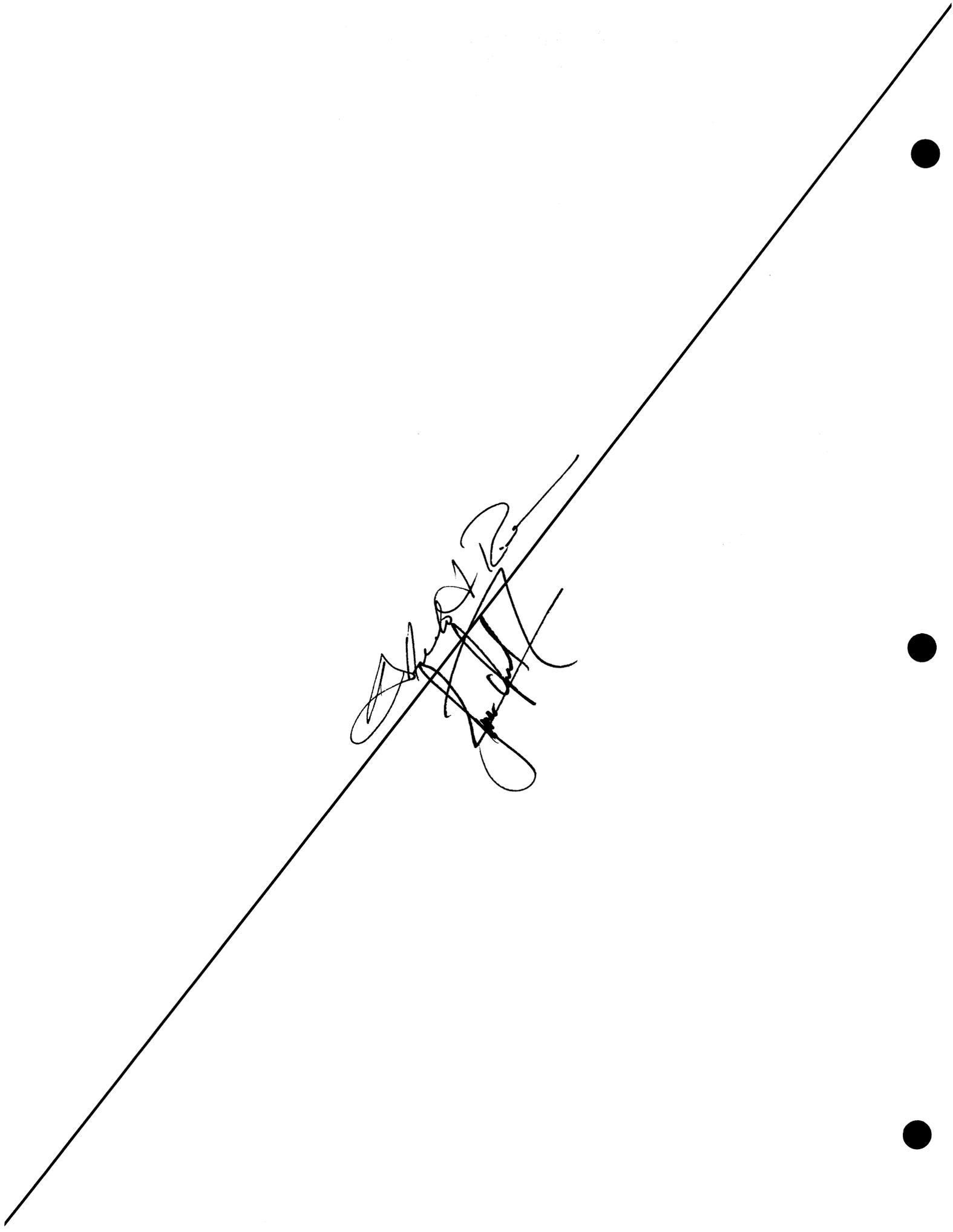
- (a) As a matter of binational cooperation, the U.S. intends to convey through the Wellton-Mohawk Drain to the Santa Clara Wetland 10,000 acre-feet (12.3 mcm) of non-storable Colorado River flows, which arrive in Mexico due to limitations in U.S. system operations and are not part of its Colorado River allocation.
  - (b) Mexico intends to provide 10,000 acre-feet (12.3 mcm) of water to the Santa Clara Wetland. To do so, Mexico is making the necessary arrangements and investments to send water to the Santa Clara Wetland.
  - (c) U.S. and Mexican non-governmental organizations intend to use existing water rights that are property of the NGOs trust and lease sufficient water rights from the Mexicali Valley Irrigation District to provide 10,000 acre-feet (12.3 mcm) of water for delivery to the Santa Clara Wetland. This responsibility is limited to the NGOs without responsibility to the U.S. or Mexican government. It is recommended that Mexico and the U.S. work with the NGOs to document through the Commission this agreement and deliver this water through the Wellton-Mohawk Bypass Drain.
3. The U.S. is willing to operate its systems in a manner that allows conveyance of the contribution stated in point 2 (a) above, 10,000 acre-feet (12.3 mcm) of water, directly into the Wellton-Mohawk Bypass Drain. The U.S. conveyance of 10,000 acre-feet (12.3 mcm) of non-storable Colorado River water identified in point 2 (a) above should not be considered part of Mexico's Colorado River water allocation as provided for under the 1944 Water Treaty, nor impact the delivery of said waters, including monthly allocations and delivery schedules.
4. It is recommended that the U.S. and Mexico coordinate regarding system operations to ensure conveyance of the water volumes described in 2 (b) and 2 (c) above to the Santa Clara Wetland, including consideration of the feasibility of delivering Mexican water to the Santa Clara Wetland through the Wellton-Mohawk Bypass Drain or by means of other infrastructure owned or operated by the United States. It is recommended that the Commission develop a new Minute to facilitate the conveyance of said water using the Wellton-Mohawk Bypass Drain.
5. The volume of 10,000 acre-feet (12.3 mcm) conveyance stated in point 2 (a) above during the YDP Pilot Run will not be accounted in favor of Mexico as part of its Colorado River water allocation provided for under the 1944 Water Treaty.

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6. For the contribution stated in point 2 (b) above, Mexico intends to, using Mexican resources and infrastructure, perform the necessary maintenance work on the Santa Clara Drain, including removal of sediment, to ensure that Santa Clara Drain flows reach the Santa Clara Wetland, and if appropriate, any other actions to guarantee its commitment as required.
7. Reclamation's non-federal funding partners for the YDP Pilot Run intend to contribute a total of \$250,000 for a comprehensive binational monitoring program of the Santa Clara Wetland and related activities. It is recommended that a binational group be established by the Commission to make recommendations to the Commission for the program's terms of reference, scope, and duration. The terms of reference should outline what agencies will be participating, how the information will be exchanged, and how the final product will be published.
8. As may be requested by the Mexican Section, the U.S. Section is willing to authorize the Mexican Section to use the U.S. Section's amphibious excavator, two 19-foot aluminum boats, and the air boat and trailer, currently loaned to the Mexican Section for Wellton-Mohawk Bypass Drain maintenance, for maintenance of the Santa Clara Drain, using Mexican funds for the operation, maintenance and, if necessary, repairs to the equipment. The use of the equipment for the Santa Clara Drain shall be consistent with the conditions established for this purpose. Use of the equipment and the conditions for its use will be coordinated between the two Sections of the Commission.
9. Reclamation, through the U.S. Section, is willing to provide a one-time contribution to the Mexican Section of \$100,000 dollars for extraordinary maintenance of the Wellton-Mohawk Bypass Drain. Performing extraordinary maintenance on the Wellton-Mohawk Bypass Drain will assure reliable flows to the Santa Clara Wetland by effectively improving the conveyance capacity to transport sediment through the canal and avoid sediment build-up at the terminus of the canal that could disrupt flow to the wetland. The Mexican Section intends to provide to the U.S. Section a detailed list of the actions to be performed for review and concurrence.
10. It is recommended that Colorado River Joint Cooperative Process' Work Groups and Core Group address the future needs of the Santa Clara Wetland. Consistent with Minute No. 306, the Colorado River Joint Cooperative Process intends to address long-term approaches to maintain the environmental values of the Santa Clara Wetland. Such approaches should focus on identifying and quantifying the habitat values to be preserved then identifying the amount, timing, quality and source of water associated with preservation of those values.



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**Recommendations**

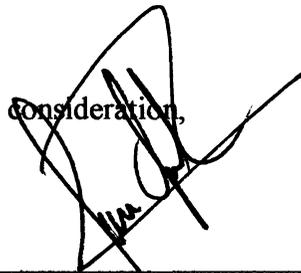
Based on the foregoing and that the U.S. and Mexico participants involved in the consultation process have provided their concurrence with the implementation of the proposed Joint Cooperative Actions Program, we respectfully recommend that the Commissioners approve the aforementioned program of joint cooperative actions.

After the approval of this report by the Commissioners and in the event that any of the recommended joint cooperative actions described in this report are not implemented due to unforeseen conditions, it is recommended that under the auspices of the Commission and in the interest of binational cooperation, all parties involved in the process reinitiate discussions, in good faith, to expeditiously resolve any unforeseen issues related to the proposed YDP Pilot Run.

Respectfully submitted for your consideration,



**Alfredo J. Riera**  
**Principal Engineer**  
**United States Section**



**Luis Antonio Rascón Mendoza**  
**Principal Engineer**  
**Mexican Section**

