RECLAMATION

Managing Water in the West

Appendices A, B, C, and D
Final Environmental Assessment
Yuma Desalting Plant Pilot Run

Aerial View of Yuma Desalting Plant

U.S. Department of the Interior
Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

August 2009

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Appendices A, B, C, and D Final Environmental Assessment

Yuma Desalting Plant Pilot Run

Prepared by

U.S. Department of the Interior
Bureau of Reclamation
Yuma Area Office
Environmental Compliance Group
Yuma, Arizona

U.S. Department of the Interior
Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

August 2009

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List of Appendices

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Appendix A

List of Preparers

U.S. Bureau of Reclamation
Ed Virden, Assistant Area Manager, Yuma Area Office
Bruce Ellis, Chief, Environmental Resources Management Division, Phoenix Area Office
Sean Torpey, Environmental Group Manager, Yuma Area Office
Julian DeSantiago, Environmental Protection Specialist, Yuma Area Office
Elizabeth Kennett, Environmental Protection Specialist, Yuma Area Office
Nicholas Heatwole, Environmental Protection Specialist, Yuma Area Office
Michael Biever, Environmental Protection Specialist, Yuma Area Office
Mike Norris, Supervisory General Engineer, Yuma Area Office

Consulting Firms
Brian Jobst, Management Consultant
Gutierrez-Canales Engineering (Air Quality)

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Appendix B

Comments Received on the Draft EA and Associated Responses

Introduction

Drought conditions, population growth, and the continuing need for water for municipal, environmental, and recreational uses in the lower Colorado River (LCR) have created further demand on an already stressed water supply.

Reclamation has identified a need to further identify opportunities to stretch existing supplies of Colorado River water. One of the tools that may be available in the future is operation of the YDP. In order to assess the viability of this option, Reclamation must first develop information regarding the capability and operational readiness of the YDP. This information can only be understood through actual operation of the facility. Without this real-time information, Reclamation would not be able to determine whether the YDP could reliably operate on a long-term basis and what, if any, improvements to the facility may be necessary to ensure the most efficient, cost effective and reliable long-term operation. Long term operation is outside the scope of this EA and would only be considered in the future and in accordance with appropriate federal law.

The NEPA process included a 30-day public comment period on the Draft EA where Reclamation received a total of 13 comment letters from 22 recipients (several letters were jointly authored). These letters contained over 150 specific comments. Several of the letters made similar comments. General comment responses follow which address the most common comments. All of the comment letters, with individual comments on the Draft EA identified, are reproduced following this section, along with individual responses by Reclamation.

General Comments

Many comment letters received as a result of the Draft EA stated: (1) the Agreement in Principle needs to be included as part of the EA; (2) NEPA requires the EA to address trans-boundary impacts; (3) U.S.-listed species will be adversely affected by impacts to the Cienega de Santa Clara, and must be addressed through a Section 7 consultation with USFWS; (4) the Purpose and Need (Section 1.4) and range of alternatives (Section 2.3) should be expanded; and (5) ICS should be further described within the EA.

General Comment Response One: Status of the Bi-national Agreement

Subsequent to the issuance of the Draft EA, the U.S. and Mexico, through the International Boundary and Water Commission, reached agreement on a program of joint

cooperative actions related to the proposed Pilot Run of the YDP. These cooperative actions are described in the "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" (Joint Report) provided in Appendix C. In the absence of the cooperative actions identified in the Joint Report, operation of the YDP would reduce flows to the Cienega in the amount of approximately 29,000 AF. The Joint Report, however, states:

- The United States, Mexico, and a partnership of non-governmental organizations agree to each arrange for 10,000 AF (12.3 mcm) of water, for a total of 30,000 AF (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 of the Joint Cooperative Actions identified in this agreement. These volumes should be provided from the date of any decision by Reclamation to proceed with the proposed YDP Pilot Run until the conclusion of the proposed YDP Pilot Run.

Additionally, the Joint Report discusses a comprehensive bi-national monitoring program for the Cienega. The information contained in the Literature Review provides a repository of information and historical analysis of the Cienega for the monitoring team. The document can also be used, consistent with Minute No. 306, by the members of the Colorado River Joint Cooperative Process Work Groups and Core Groups, to further develop long-term approaches to maintain the environmental values of the Cienega. As agreed in the Joint Report, 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. The Joint Report also recognizes both nations' commitment to continuing work through the Colorado River Joint Cooperative Process discussions.

General Comment Response Two: NEPA Approach for Potential Cienega Impacts

Several comments stated that NEPA requires disclosure of trans-boundary impacts, and that the EA must address potential impacts to the Cienega. Two comment letters stated that an EIS needed to be prepared, based on the alleged significance of impacts to the Cienega. Reclamation's position regarding NEPA compliance for trans-boundary impacts is described in Section 1.6 of the Final EA. The statutory provisions of NEPA (and the CEQ's regulations implementing NEPA) do not require assessment of environmental impacts within the territory of a foreign nation.

As noted in Section 1.6, matters related to the Cienega are matters of foreign policy that Reclamation addresses through the U.S. Section of the IBWC, the international body responsible for addressing Colorado River matters between the U.S. and Mexico, pursuant to the 1944 Water Treaty. Accordingly, Reclamation believes the outcome documented in the Joint Report (described above and included as Appendix C) is an appropriate resolution of the concerns expressed in the comment letters regarding the Cienega. Reclamation has documented that the appropriate forum was used to address

international concerns consistent with the 1944 Water Treaty, Minutes 242 and 306, E.O. 12114, and Section 397 of Public Law 109-432.

In particular, the DOI regulations at 43 C.F.R. § 46.170 require adherence to the approach set forth in E.O. 12114 which ‘‘represents the United States government’s exclusive and complete determination of the procedural and other actions to be taken by Federal agencies to further the purpose of the National Environmental Policy Act, with respect to the environment outside the United States, its territories and possessions.’’ These regulations also require coordination with the Department of State, which “shall coordinate all communications by the Department with foreign governments concerning environmental agreements and other arrangements in implementing E.O. 12114.” The information set forth in this EA and the consultations that have been led by IBWC fully comply with these requirements.

The EA includes an updated Appendix E, Cienega de Santa Clara Literature Review, to inform and facilitate the continuing diplomatic dialogue through the U.S. and Mexican Sections of the IBWC, rather than for purposes of NEPA compliance. Reclamation’s decision to prepare an EIS or a Finding of No Significant Impact will be based on the EA’s analysis of environmental impacts occurring in the United States as a result of the proposed Pilot Run.

General Comment Response Three: ESA Approach for Potential Cienega Impacts

Several comment letters cited the likelihood of impacts to U.S.-listed species in the Cienega and the need for Reclamation to consult with the USFWS on these impacts. This general comment response is intended to summarize Reclamation’s position with regards to these comments; however, specific revisions to the Cienega Literature Review were made based upon the comments received.

Reclamation has concluded that the Pilot Run will have no effect on listed species in the U.S., and the USFWS has acknowledged that finding in a letter dated July 13, 2009 (included in Appendix D). In June of 2009, Reclamation prepared a memorandum to the USFWS requesting that the USFWS acknowledge Reclamation’s determination that the Proposed Action would have “no effect” on the Yuma clapper rail, Southwestern willow flycatcher and the yellow billed cuckoo in the United States. The USFWS replied to Reclamation in a memorandum dated July 13, 2009. The USFWS memorandum advises that, based on the draft EA, the Proposed Action will not have effects to riparian or marsh habitats occupied by the named species in the United States.

Reclamation has also coordinated with the USFWS with regard to U.S.-listed species which may occur in Mexico. In earlier correspondence between USFWS and Reclamation, Reclamation sought USFWS guidance regarding the most appropriate approach to take with respect to the Endangered Species Act, regarding proposed discretionary Federal actions with potential trans-boundary effects. In a January 11, 2006 response to Reclamation’s All-American Canal Lining Project Biological Assessment, the USFWS concluded that Section 7 of the Endangered Species Act (ESA) does not

apply to such actions but recommended that Reclamation work with USFWS in a manner consistent with Section 8 to address concerns that could arise as a result of that project.

Section 8 of the ESA deals with endangered species issues beyond the borders of the United States, through the mechanisms of financial assistance, encouragement of foreign programs, and "research abroad." Specifically, under Section 8 of the Act, with appropriate consultation through the Secretary of State, the Secretary of the Interior has the ability to assist in conservation efforts for listed species outside the U.S. In the case of the Pilot Run, consistent with USFWS' 2006 direction, joint cooperative consultations have been successful as outlined in the Joint Report. As noted above, the Joint Report identifies joint cooperative actions to be undertaken by the United States, Mexico, and a partnership of non-governmental organizations which address the concerns raised by the comment letters. The Joint Report also identifies $250,000 of funding for a comprehensive, bi-national monitoring program for the Cienega.

In a letter to the USFWS dated August 11, 2009, Reclamation requested USFWS concurrence that the voluntary cooperative actions conducted through the IBWC and described in the Joint Report are appropriate to demonstrate the commitment of the United States as described in Section 8 of the ESA, particularly with regard to "entering into bilateral or multilateral agreements with foreign countries to provide for such conservation" of "fish or wildlife and plants including endangered species and threatened species." In a memorandum dated August 25, 2009, USFWS acknowledged the appropriateness of Section 8 and conveyed their appreciation for the joint cooperative process and actions described in the Joint Report, referring to the efforts as "inspiring" (see Appendix D).

General Comment Response Four: Purpose and Need and Range of Alternatives

Several comments focused on the Purpose and Need statement of the Draft EA, raising concerns that the stated purpose and need for the project was too narrow, and thus restricted the range of alternatives considered. Other comments suggested the purpose of the project should be broadened to include other water conservation options to meet the 1944 Water Treaty obligation, or use of Yuma area groundwater to meet the treaty obligation. Other comments suggested the proposed Pilot Run is really part of a larger, longer term resumption of YDP operations.

Reclamation has reviewed the comments and has determined the purpose and need for the project is correctly characterized in Section 1.4 of the EA. The proposed Pilot Run, if selected, is designed to be a short-term, preliminary, data-gathering action. Reclamation, as well as the broader stakeholder community interested in Colorado River management, must understand operational reliability, suitability of treatment processes, baseline operating costs, and any possible environmental consequences for operating the YDP. Reclamation has not made decisions with respect to long-term operation of the YDP, and the EA is not intended to assess operation beyond the scope of the Proposed Action. Further, it is not the purpose of the project to address broader water supply issues in the

LCR basin, or determine the least-cost way to meet the 1944 Water Treaty delivery obligations. These are beyond the scope of the Proposed Action.

General Comment Response Five: Intentionally Created Surplus (ICS)

Three comment letters raised questions and sought additional information regarding the possibility of three municipal utilities providing implementation funding for the Pilot Run in exchange for one-time ICS credits for the water conserved as result of the Pilot Run.

In response to these comments on the Draft EA, the Final EA includes Section 1.7, Connected Actions, and Section 3.11, Effects of Connected Actions. As noted in Section 1.7 of the Final EA, the development of ICS credits is not part of the Purpose and Need for the Proposed Action. However, the Proposed Action, by conserving water in the United States (thereby reducing releases from Lake Mead), does provide an opportunity for the creation of ICS credits. This opportunity that is created by the Proposed Action does not change the Purpose and Need for the project, and does not require the consideration of other alternatives to create ICS credits. It is, however, a connected action because it would not occur but for the implementation of the Proposed Action. Reclamation has determined the operation of the YDP is consistent with the Salinity Control Act, even if ICS credits are created, because the Pilot Run is not being proposed for the purpose of creating ICS credits.

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PRS 29.0 Yuma Desalting Plant

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
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Janice K. Brewer
Governor

Patrick J. Cunningham -YAQ
Acting Director

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ROL NO.
JOB NO 1090135

May 28, 2009

Mr. Sean Torpey
Bureau of Reclamation
Yuma Area Office,
7301 Calle Agua Salada
Yuma, AZ 85364

Re: Draft Environmental Assessment for the Yuma Desalting Plant Pilot Run

Dear Mr. Torpey:

Thank you for the opportunity to review the Draft Environmental Assessment (EA) for the Yuma Desalting Plant (YDP) Pilot Run.

The Arizona Department of Environmental Quality Water Quality Division (WQD) is responsible for ensuring the delivery of safe drinking water to customers of regulated public water systems under the Safe Drinking Water Act, permits for proposed discharges to surface waters of the United States under the federal Clean Water Act, permits under the state Aquifer Protection Program (APP), and water quality certifications of certain federal licenses and permits. With the information provided, the WQD would like to make you aware of some water quality issues that may need to be addressed for the environmental review record.

The EA states that for the Pilot Run, the YDP proposes to operate at one-third capacity of the original design for 365 operating days, within a twelve to eighteen month period. During the Pilot Run, the YDP will discharge into the Colorado River approximately 7,300 acre feet of untreated drainage water from Wellton-Mohawk Irrigation and Drainage District (WMIDD), blended with approximately 22,000 acre feet of desalinated product water.

1-1 The EA acknowledges that the proposed discharge will require an Arizona Pollutant Discharge Elimination System Permit (AZPDES), as required by Arizona Revised Statutes Section 49-255.01. Our records indicate that the Bureau of Reclamation (BOR) is in the process of obtaining the required AZPDES permit (#AZ0025348). For questions or further information about the status of that permit, please contact Samira Mirtalaei at 602-771-4678 or by e-mail at SM18@azdeq.gov, or Debra Daniels, Manager of our Surface Water Quality Section at 602-771-4665 or by e-mail at DD2@azdeq.gov.

1-2 The EA also acknowledges the need for an APP. The BOR has two current APPs for the YDP. However, Arizona Revised Statutes require that any facility that represents a point source discharge to a navigable water such as the Colorado River must have an APP (A.R.S. § 49-241(B)(9)). During a previous trial in 2007, the BOR sought and obtained a temporary APP (#P-105796) to operate the

1-2 YDP. That permit expired one year after the permit was finalized. We have no record at this time of the BOR applying for the required APP for this latest pilot run of the YDP. If you have any questions about the application process for the required Individual APP, please call Michele Robertson, Manager of our Ground Water Section at 602-771-4827 or by e-mail at mir@azdeq.gov.

1-3 As a note, the Colorado River from the Main Canal to the international border with Mexico is identified as an impaired for the surface water quality standards for dissolved oxygen and selenium. See Arizona's 2006/2008 303(d) Impaired Waters list (awaiting EPA final approval). The final AZPDES permit may have additional requirements to address these impairments.

We appreciate the opportunity to review and provide comments. If you need additional information, please contact David Lelsz of my staff at 602-771-4447 or via e-mail at dl2@azdeq.gov or myself at 602-771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

Linda C. Taunt, Deputy Director
Water Quality Division

Arizona Department of Environmental Quality
Comment Letter Response Table

Comment #	Response
1-1	Reclamation submitted an AZPDES permit on March 3, 2009. Reclamation will continue to collaborate with ADEQ regarding permit conditions as the process moves forward.
1-2	Reclamation submitted an application for an APP. Reclamation did so voluntarily, as neither the CWA nor any other federal law requires this permit.
1-3	Reclamation will monitor Colorado River water as required by any AZPDES permit conditions. This monitoring could include tracking levels of selenium and dissolved oxygen.

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PRS 29.0 Yuma Desalting Plant

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
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(602) 942-3000 • WWW.AZGFD.GOV
REGION IV, 9140 E. 28TH ST., YUMA, AZ 85365

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COMMISSIONERS
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DIRECTOR
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GARY R. HOVATTER
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090135

May 27, 2009

Sean Torpey
Environmental Planning and Compliance Group Manager
Bureau of Reclamation
Yuma Area Office
7301 Calle Agua Salada
Yuma, Arizona 85364

Re: Yuma Desalting Plant Pilot Run Draft Environmental Assessment

Dear Mr. Torpey:

The Arizona Game and Fish Department (Department) has reviewed the U.S. Bureau of Reclamation's (Reclamation) May 2009 Draft Environmental Assessment (Draft EA) describing the proposed Yuma Desalting Plant Pilot Run (Pilot Run). Department and Reclamation personnel also discussed the Draft EA and Pilot Run during a quarterly interagency coordination meeting on May 12, 2009. Given the project description and our understanding of planned activities, we are providing the following comments for your consideration.

The Department's Heritage Data Management System (HDMS) has been accessed and the attachment provides current records of special status species that have been documented in the project vicinity.

Project Description

As we understand from the Draft EA, Reclamation proposes a Pilot Run to operate the Yuma Desalting Plant at 1/3 capacity for 365 operating days over a 12 to 18 month period. The Yuma Desalting Plant has not been operated since 1993 except for a demonstration run at about 10 percent capacity over a 90-day test period in 2007. The proposed Pilot Run would result in reduced water releases from Hoover Dam by approximately 22,000 acre feet (AF), which would be compensated by taking water from the Main Outlet Drain Extension (MODE), treating it at the Yuma Desalting Plant, and putting it into the lower Colorado River for potential delivery to Mexico at Morelos Dam as part of their Colorado River water allocation. The Draft EA estimates that approximately 29,880 AF of water will be removed from the MODE, which feeds into the Cienega de Santa Clara in Mexico, and increasing the salinity in the MODE from approximately 2,664 parts per million (ppm) to 3,204 ppm. Approximately 29,000 AF of the MODE water will be put into the lower Colorado River below the Yuma Desalting Plant, increasing the river's salinity from approximately 778 ppm to over 800 ppm.

Department Recommendations

The Department has several comments regarding the proposed Pilot Run. This action will lower river surface elevations and decrease open water and backwater areas in the lower Colorado River between Hoover Dam and the Yuma Desalting Plant. The Draft EA states that these anticipated effects would be so small as to be immeasurable based on studies by Reclamation, which found that decreasing releases from Hoover Dam by 400,000 AF each year decrease average water surface elevation by only 0.4 feet. Although the proposed Pilot Run would result in reducing releases from Hoover Dam by only approximately 22,000 AF, this change could have a greater impact on the lower reaches of the Colorado River, where 22,000 AF per year represents a larger proportion of the available water in the river channel than in upstream reaches. As a result, the Department believes Reclamation should refine the analysis of anticipated changes to river surface elevation, including information focused specifically on the Yuma and Laguna Divisions of the lower Colorado River, and the potential impacts to fish, wildlife, and riparian habitat in those divisions.

2-1

Second, the Department recommends Reclamation thoroughly study and monitor the impacts that removing approximately 29,880 AF water from the MODE will have on the habitat and wildlife in the Cienega de Santa Clara that contribute to the population size and genetic diversity of species also occurring in Arizona, specifically including the Yuma clapper rail. Although it may be difficult to conduct a thorough analysis at this time, due to lack of baseline data linking rail populations in the Cienega de Santa Clara to populations in Arizona, studying and monitoring habitat changes and population dynamics and movements during and following the Pilot Run would provide valuable management information. Little is known regarding the current population dynamics and genetic exchange between clapper rail populations in Mexico and Arizona or how changes to the habitat in the Cienega de Santa Clara would impact those population interactions. Such information would contribute to baseline information and help provide a more thorough analysis of anticipated impacts should Reclamation propose to conduct a future partial- or full-scale operation of the Yuma Desalting Plant.

2-2

Finally, although the Department does not believe this proposed Pilot Run necessitates a Fish and Wildlife Coordination Act (FAWCA) consultation, we respectfully reserve the discretion to request a FAWCA consultation should Reclamation conduct a future partial- or full-scale operation of the Yuma Desalting Plant.

2-3

Thank you for the opportunity to review and comment on this Draft EA. If you have any questions, please contact me at 928-341-4068.

Sincerely,

Troy G. Smith
Habitat Program Manager
Region IV, Yuma

TGS:tgs

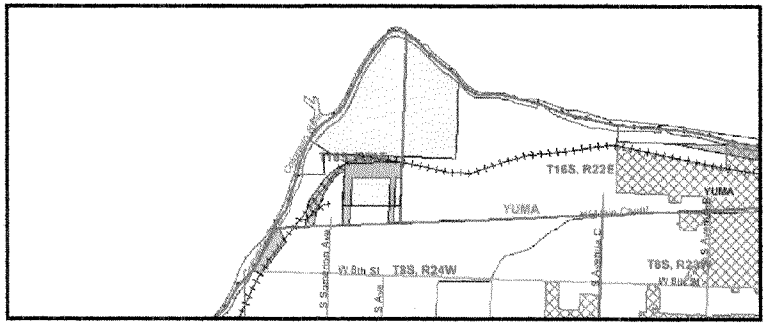
Enclosure: HDMS List (Search ID: 20090520008865)

cc: David Elms, Senior Environmental Scientist, California Department of Fish and Game
Steve Spangle, Field Supervisor, U.S. Fish and Wildlife Service
Pat Barber, Supervisor, Region IV
Laura Canaca, Project Evaluation Program Supervisor, Habitat Branch

AGFD # M09-05042451

Arizona's On-line Environmental Review Tool
Search ID: 20090520008865
Project Name: Draft EA for Yuma Desalting Plant
Date: 5/20/2009 2:18:36 PM

Project Location



The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	ESA	USFS	BLM	State
Ardea alba	Great Egret			S	WSC
Coccyzus americanus	Yellow-billed Cuckoo (Western U.S. DPS)	C			WSC
Cocopah Indian Reservation	Cocopah Indian Reservation				
Egretta thula	Snowy Egret			S	WSC
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE	S		WSC
Rallus longirostris yumanensis	Yuma Clapper Rail	LE			WSC
Sigmodon hispidus eremicus	Yuma Hispid Cotton Rat	SC			

Project Name: Draft EA for Yuma Desalting Plant
Submitted By: PEP Project Evaluation Program
On behalf of: BOR
Project Search ID: 20090520008865
Date: 5/20/2009 2:18:31 PM
Project Category: Waste Transfer, Treatment, and Disposal,Liquid waste/effluent,New Sewage treatment plant
Project Coordinates (UTM Zone 12-NAD 83): 152809.197, 3626867.747 meter
Project Area: 133.900 acres
Project Perimeter: 2977.926 meter
County: YUMA
USGS 7.5 Minute Quadrangle ID: 1545
Quadrangle Name: YUMA WEST
Project locality is not anticipated to change

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

 APPLICATION INITIALS: _____

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: http://arizonaes.fws.gov/.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

 APPLICATION INITIALS: _____

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Waste Transfer, Treatment, and Disposal,Liquid waste/effluent,New Sewage treatment plant

Project Type Recommendations:

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered; coordination with State Historic Preservation Office may be required http://www.pr.state.az.us/partnerships/shpo/shpo.html#anchor561695

Based on the project type entered; coordination with the Environmental Protection Agency may be required http://www.epa.gov/

Consider incorporating project components that may allow for the inclusion to promote, enhance, create, or restore wildlife habitat. Contact Project Evaluation Program for further information and opportunities - http://www.azgfd.gov/inside_azgfd/agency_directory.shtml.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Project Location and/or Species recommendations:

Tribal Lands are within the vicinity of your project area (refer to page 1 of the receipt) and may require further coordination. Please contact:

Cocopah Tribal Council

County 15th & Avenue G
Somerton, AZ 85350
Phone: 928-627-2061
Fax: 928-627-1617

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service

2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

 APPLICATION INITIALS: _____

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

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Signature:_____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

 APPLICATION INITIALS: _____

Phone: _____

E-mail: _____

 APPLICATION INITIALS: _____

Arizona Game and Fish Department
Comment Letter Response Table

Comment #	Response
2-1	Specific to the Yuma and Laguna Divisions, the proposed action would not reduce flows in these reaches of the Colorado River. Water delivered to Mexico at Morelos Dam is diverted at Imperial Dam and is conveyed through the first portion of the All-American Canal, before being returned via the Pilot Knob Wasteway to the Colorado River just upstream of Morelos Dam. Accordingly, the reduction in flow associated with the Proposed Action would not affect these reaches of the Colorado River, but might potentially affect the reaches between Hoover Dam and Imperial Dam. However, as the created ICS credits are utilized, those waters will be released from Hoover, thereby further minimizing impacts between Hoover and Parker Dam. Impacts between Parker Dam and Imperial Dam would be negligible, as described in the EA at Section 3.4.2.
2-2	Reclamation agrees that additional information will be valuable. More information is expected to be developed as a result of the monitoring program for the Cienega, as described in the "Joint Report of the Principal Engineers Concerning U.S.-Mexico Joint Cooperative Actions Related to the Yuma Desalting Plant Pilot Run and the Santa Clara Wetland," located in Appendix C. See also General Comment Response One.
2-3	Reclamation concurs (see Appendix D). Reclamation has and will continue to coordinate with all appropriate resource agencies regarding the Proposed Action.

Technical Comments:
Draft Environmental Assessment – Yuma Desalting Plant Pilot Run, May 2009

1.3 Background

3-1 P.8 – DELETE "For the next several years, high flow on the Gila River made it unnecessary to operate the YDP."

3-2 P.8 – (third sentence) ADD "for 90 days."

1.6 International Considerations

3-3 P.11 (second to last paragraph) – ADD (at the end) "Reclamation voluntarily is providing descriptions of possible water volume and water quality changes downstream of YDP as data to support these efforts."

3-4 P.11 (last paragraph, first sentence) – DELETE "for example"

3-5 (last paragraph, third sentence) – ADD, at the end, "nor should be considered a commitment to consider environmental impacts outside of the U.S."

2.1 No Action Alternative

3-6 P.13 (last sentence) – REWORD "Finally, Reclamation would continue to deplete the LCR water supplies to comply with the 1944 Water Treaty." (see purpose and need p.8)

2.2 Proposed Action

3-7 P.15 (first paragraph, first sentence) – DELETE "the same as in", REPLACE W/ "similar to": DELETE "can be" REPLACE/w "is"

3-8 P. 15 (first paragraph, third sentence) – DELETE "or", REPLACE/w "to"

2.2 Proposed Action

3-9 P.16 Figure 2-3 POTENTIAL MATH ERROR: "To the River 29,000 AF @ 290 PPM" does not appear to equal 7,300 AF @ 2664 ppm Blended Water + 22,400 AF @ 160 PPM Product Water. REFER to Last Paragraph P. 16 – MODIFY Figure 2-3 "To the River 29, 700 AF…" OR modify the last paragraph.

3-10 P. 16 Figure 2-3 ADD FOOTNOTE "WMIDD Bypass Drain annual flows vary widely in relation to agricultural practices and land and water uses in the WMIDD. There is no commitment by WMIDD or others to provide Bypass Drain flows."

3-11 P. 16 Figure 2-3 ADD "NIB" to the diagram

3-12 P. 16 (last sentence) DELETE "untreated"

3-13 P. 17 Table 2-1. Title – DELETE "Crossing NIB" ADD "Downstream of YDP"

3.4.1.2 Special Status Species

3-14 P.29 Yellow-Billed Cuckoo (third paragraph first sentence) DELETE "..there may be others if they meet the patch size, cover, and foliage volume requirements."

3.4.2.2 Proposed Action

3-15 P. 30 (first paragraph first sentence) DELETE "do not occur" REPLACE/w "are not know to occur"

3.5.1.1 Surface Water

3-16 P.33 (second paragraph) ADD (at end) "There is no commitment by WMIDD or others to continue to provide drainage water to the Bypass Drain."

3-17 P.33 (last paragraph first sentence) DELETE "Although shortages and surplus flows can differ," REPLACE/w "Although volumes delivered during shortages and surpluses may vary, during normal years"

3-18 P.33 (last sentence) ADD "even though the product water is approximately 160 ppm."

3.5.1.3 Groundwater

3-19 P.34 (third paragraph) UNCLEAR

3.5.2.2 Proposed Action Surface Water

3-20 P.35 (first paragraph) Numbers inconsistent with Figure 2-3

3.10.1 Projects in the Area

3-21 P.49 Multi-Species Conservation Program (first bullet) DELETE "work towards the recovery of" REPLACE/w "create and enhance habitat to support" (NOTE: MSCP is not a species recovery program)

Central Arizona Project Technical Comments
Comment Letter Response Table

Comment #	Response
3-1	Change made as requested.
3-2	Change made as requested.
3-3	Comment noted. Also see General Comment Responses One and Two.
3-4	Comment noted. The list was not intended to be a comprehensive listing of all applicable law, therefore "for example" is appropriate.
3-5	Comment noted. Also see General Comment Response Two.
3-6	Comment noted. The wording currently utilized in Section 2.1 more closely reflects Reclamation's goals for water use in the LCR system.
3-7	Change made as requested.
3-8	Change made as requested.
3-9	Language was added to the last paragraph dealing with the 700 AF of product water retained in the YDP.
3-10	Figure 2-3 was revisited and substantially updated based upon this comment and others so that ease of understanding water flow is much improved. The figure now appears as 2-4. In addition, the suggested insertion is noted in the text at various points.
3-11	Done. Figure 2-3 was revisited and substantially updated based upon this comment and others so that ease of understanding water flow is much improved. The figure now appears as 2-4.
3-12	Change made as requested.
3-13	This figure has been deleted.
3-14	Change made as requested.
3-15	Upon review by Reclamation, the text as written is an appropriate statement of occurrence due to lack of habitat.
3-16	Requested language was added, though earlier in paragraph for flow.
3-17	Change made as requested.
3-18	The TDS of product water is only one of many considerations for ADEQ.
3-19	Language has been added which clarifies the information.
3-20	Change made as requested.
3-21	This language was taken directly from the LCR MSCP HCP, Section 1.2., and is correct as written.

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JIM GIBBONS, *Governor*
JAY D. BINGHAM, *Chairman*
ACE I. ROBISON, *Vice Chairman*
GEORGE M. CAAN, *Executive Director*

STATE OF NEVADA

ANDREA ANDERSON, *Commissioner*
MARYBEL BATJER, *Commissioner*
TOM COLLINS, *Commissioner*
GEORGE F. OGILVIE III, *Commissioner*
LOIS TARKANIAN, *Commissioner*

COLORADO RIVER COMMISSION
OF NEVADA

June 1, 2009

VIA ELECTRONIC MAIL

U.S. Bureau of Reclamation
Attention: Mr. Sean Torpey, Manager
Environmental Planning and Compliance Group
Yuma Area Office
7301 Calle Agua Salada, Yuma, AZ 85364

Re: Comments regarding the Bureau of Reclamation's *Draft Environmental Assessment* (EA) for the *Yuma Desalting Plant Pilot Run*

Dear Mr. Torpey:

On behalf of the Colorado River Commission of Nevada (Commission), we have reviewed the *Draft Environmental Assessment (EA)* for the *Yuma Desalting Plant Pilot Run*, dated May 2009. Prepared by the U.S. Bureau of Reclamation (Bureau), this document evaluates potential effects associated with a short-term and limited scale operational Pilot Run of the Yuma Desalting Plant (YDP). The Commission expresses its support for the proposed Pilot Run.

The Colorado River Basin (Basin) has received nationwide attention over the past few years as it continues to experience a prolonged period of extreme drought. Unregulated inflow into Lake Powell has been below average in seven out of the past nine years, and current forecasts project it will be slightly below average again this year. These years of very low inflow have resulted in significant drawdown of the Basin's two major reservoirs, Lake Powell and Lake Mead. On October 1, 1999, storage in both Lakes Powell and Mead were 95% of capacity. As of May 18, 2009, storage in Lake Powell has been significantly reduced to 56% of capacity, and to 44% of capacity in Lake Mead. Southern Nevada receives nearly 90% of its water supply from the Colorado River. We cannot overstate the importance of this resource to southern Nevada and the concern that we as water managers have regarding its sustainability, especially in the face of an uncertain climatic future and increasing water demands that accompany population growth.

In recent years, the seven Colorado River Basin States (Basin States) have worked cooperatively with one another and the Department of the Interior, through the Bureau of Reclamation, to develop a set of operational and management strategies that promote efficient management of these reservoirs under a full range of conditions, including low reservoir conditions such as those currently being experienced. These efforts culminated in December 2007 with the issuance of the Record of Decision for *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead* (Guidelines).

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4-1 Although the Guidelines provide a degree of certainty with regard to water deliveries, it remains widely recognized by the Basin States and other stakeholders that there is a continued need to proactively develop and evaluate long-range measures to augment the flow of the Colorado River and to continue to evaluate other measures that can be taken to conserve system water. One measure that has received attention and warrants further evaluation is the operation of the YDP.

4-2 Because the YDP has not operated at any appreciable capacity since 1993, much-needed data regarding its operational capabilities is currently unavailable. The Commission supports the proposed Pilot Run as described in this environmental assessment and believes its conductance is necessary in order to obtain the information required to fully evaluate the potential for long-term operation of the Plant. Without this information, operational alternatives cannot be thoroughly examined.

4-3 It is understood that the Proposed Action examined in this EA is strictly for operation of the Plant at one-third capacity of the original design for 365 operating days, and that any future decision on long-term operation of the YDP would require additional environmental compliance, as appropriate.

Thank you for the opportunity to review and comment on the *Draft Environmental Assessment (EA)* for the *Yuma Desalting Plant Pilot Run*. If you have any questions, please feel free to contact me at (702) 486-2670.

Sincerely,

/s/McClain Peterson

McClain Peterson
Manager, Natural Resources Group

MP/NAE/jln

cc: Lorri Gray-Lee, U.S. Bureau of Reclamation
Bill Rinne, Southern Nevada Water Authority
Perri Benemelis, Arizona Department of Water Resources
Jerry Zimmerman, Colorado River Board of California

Colorado River Commission of Nevada
Comment Letter Response Table

Comment #	Response
4-1	Reclamation concurs. Reclamation has a wide-ranging water conservation program which seeks to explore and implement all possible avenues for preservation of Colorado River water including potential operation of the YDP.
4-2	Reclamation concurs that the information derived from the Proposed Action is necessary to make an informed decision on the possibility of long-term operation.
4-3	Reclamation concurs. As noted in the EA, the proposed Pilot Run, if selected, is designed to be a short-term, preliminary, data-gathering exercise. Reclamation has made no decisions with respect to long-term operation of the YDP, and this document is not intended to assess operation beyond the scope of the Proposed Action. As also noted in the EA, if Reclamation does consider future, long-term operation of the YDP, that potential action will receive full and appropriate environmental review. Such possible future consideration is not possible without the data which may be obtained from the Proposed Action.

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CENTER for BIOLOGICAL DIVERSITY Because life is good.

June 1, 2009

Mr. Sean Torpey
Environmental Compliance and Planning Group Manager
Bureau of Reclamation
YAO-7200
7301 Calle Agua Salada
Yuma, AZ 85364
Email: storpey@usbr.gov
FAX: 928-343-8320

Sent via Email and FAX

Dear Mr. Torpey,

RE: Draft Environmental Assessment for the proposed Yuma Desalting Plant Pilot Run

The Cienega de Santa Clara (Cienega) is all that survives of the once mighty Colorado River delta. Essentially all of the Cienega's water supply comes from the effluent bypass drain of the Wellton-Mohawk Irrigation District. The bypass drain makes the Yuma Desalting Plant (YDP) unnecessary.

Operation of the YDP by diverting water necessary for the survival of the Cienega is a discretionary, major, highly controversial federal action. The Draft Environmental Assessment (dEA) codifies Bureau of Reclamation's (BuRec's) refusal to accept responsibility for a discretionary action that will harm the Cienega and its dependent endangered species.

BuRec is the benefactor, promoter and distributor of massive subsidies to agribusiness, power producers and water developers. BuRec claims that, without YDP, "[r]eclamation would lose the ability to maximize water use efficiency in the LCR system." This is a fallacious claim at best for which BuRec offers no supporting documentation in the dEA.

Recently, a federal judge recognized BuRec's and US Fish and Wildlife Service's (USFWS') corrupt and deceitful favoritism towards power producers and water developers at the expense of the Grand Canyon and the endangered, Humpback Chub. The judge noted that "…an agency cannot entirely fail to consider an important aspect of a problem, nor can it offer an explanation for its decision that runs counter to the evidence before it. *Motor Vehicle Mfrs. Ass'n of U.S.*, 463 U.S. at 43; *Pac. Coast Fed'n of Fishermen's Ass'n*, 265 F.3d at 1034. The 2008 Opinion fails adequately to address the effect of MLFF on chub habitat." (See, Order, Grand Canyon Trust v. Bureau of Reclamation, CV-07-8164-PHX-DGC, May 26, 2009, page 27.)

The draft Environmental Assessment (dEA) is not complete in many other aspects. In fact, it fails to address most of the issues submitted by the Center for Biological Diversity and others during the scoping phase of the National Environmental Policy Act (NEPA) study process. Failure to address these issues in the dEA betrays the good faith participation in the NEPA process by the interested public. Continued failure to address these issues by the final Environmental Assessment stage will not be legal.

5-1 Issues ignored include exploration of a full range of alternatives and devotion of substantial treatment of these alternatives. This violates 42 USC 4332 and 40 CFR 1500 – 1508.

5-2 The dEA fails to address the extent of the controversy triggered by the proposed action. This violates 40 C.F.R. 1508.27.

The dEA codifies BuRec's attempts to evade and transfer responsibility for further evaluation and planning to the Department of State and the International Boundary and Water Commission (IBWC). Even if BuRec succeeds in this effort, the requirements of NEPA and the endangered species Act (ESA) cannot be denied. The dEA's nebulous promises of international agreements and monitoring commitments betray the fundamental purpose of NEPA and fail to fulfill the requirements of ESA.

We include the following specifics in order to establish a record of those topics still demanding full legal review:

5-3 <u>The statement of purpose and need is not complete</u>.

BuRec proffers the unsubstantiated premise that, without YDP, "[r]eclamation would lose the ability to maximize water use efficiency in the LCR system." YDP aside, BuRec has refused to examine its ability to maximize water use efficiency of water use in the LCR system itself, much less in the entire Colorado River system. The reason of BuRec's reticence for a thorough examination is obvious: such an examination would involve an (1) examination of the numerous unnecessary and/or highly subsidized projects promoted, facilitated and supported by BuRec; and would involve (2) culling of those projects draining both the LCR and the US Treasury.

BuRec's premise that, "[w]ithout resumption of YDP operations, LCR water supplies will continue to be depleted" is farcical. The LCR's and the entire Colorado River system's water is already significantly over-allocated.[1] Even without examining available viable

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[1] Barnett, Tim P., and David W. Pierce; Sustainable water deliveries from the Colorado River in a changing climate; www.pnas.org_cgi_doi_10.1073_pnas.0812762106; and, http://www.pnas.org/cgi/content/full/0812762106/DCSupplemental; April 20, 2009.

Barnett, Tim P., et al.; Human-Induced Changes in the Hydrology of the Western United States; www.sciencexpress.org; January 31, 2008

Intergovernmental Panel on Climate Change; Climate Change 2007: Synthesis Report; November 2007.

Intergovernmental Panel on Climate Change; North America, Climate Change 2007: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change; 2007.

Intergovernmental Panel on Climate Change; Technical Summary in Impacts, Adaptation and Vulnerability; Fourth Assessment Report of the Intergovernmental Panel on Climate Change; February 2007.

National Academy of Science's National Research Council; Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability; February 2007.

alternatives, the relative amount of water that BuRec intends to secure with the YDP is a tiny percentage of the system's total water. The fact that the BuRec portrays water sustaining the Cienega and its dependent endangered species as antithetical to "beneficial uses in the U.S" betrays BuRec's institutional philosophy. Survival of the Cienega and its endangered species are also beneficial to the US, as well as to Mexico.

5-4 The fact that BuRec makes the statement that "[w]ithout resumption of YDP operations, LCR water supplies will continue to be depleted" also confirms the fact that BuRec's planned pilot operation of YDP is part of a larger action. As, BuRec's intimate, YDP operational partner, Central Arizona Water Conservation District says,

> "Our goal is to get the Yuma desalination plant up and running."
> ("Getting the salt out," Michelle Blank, High Country News, April 25, 2007)

Failure to examine the pilot operation of YDP its much larger context is not legal.[2]

Included in the section on "purpose and need," the dEA states, "Reclamation has been contacted by the Central Arizona Water Conservation District (CAWCD), the Metropolitan Water District of Southern California (MWD), and the Southern Nevada Water Authority (SNWA) regarding the need to obtain information regarding the capability and operational readiness of the YDP." These groups have a long history of anti-environmental activities including advocacy for the destruction of endangered species including among others, Southwestern Willow Flycatcher, Moapa dace, Gila topminnow, Loach minnow, Spikedace, Razorback sucker, and Desert pupfish. Why does contact by such organizations rise to the level of the spending of tens of millions of dollars and the risking of the survival of the Cienega and its endangered species? The dEA does not answer the obvious question, why does BuRec display such favoritism in selectively representing such anti-environmental entities?

A full range of alternatives is not presented.

5-5 The dEA fails to examine a full range of activities. Many have been suggested during the scoping process. The most glaring omissions of the dEA include (1) conservation alternatives NOT provided by BuRec's subsidized patrons, and by BuRec's favored friends, CAWCD, MWD, and SNWA, and (2) the use of the Yuma area's excessive groundwater from the Yuma area as the source water for desalting plant. Either alternative, as well as others already described, would save an amount of water equivalent to that proposed to be deprived from the Cienega and its dependent endangered species without the risk.

One obvious example includes the use of the Yuma area's excessive groundwater. The excessive groundwater in the Yuma area is currently being pumped from the ground to protect Yuma area lands. Use of this excessive groundwater for the proposed pilot run is particularly logical given the fact that the groundwater would ordinarily flow to Mexico and the Sea of Cortez if it were not intercepted by the pumping.

Saunders, Stephen, et al.; Hotter and Drier; The West's Changed Climate; The Rocky Mountain Climate Organization and Natural Resources Defense Council; March 2008.

[2] "Significance cannot be avoided by terming an action temporary or by breaking it down or by breaking it down into small component parts..." (40 C.F.R. 1508.27)

The extent of the excessive groundwater and the proximity to surface of the area's groundwater are illustrated on BuRec's own website. Please see:
http://www.usbr.gov/lc/yuma/programs/YAWMS/Groundwater/YV032009-72dpi.pdf;
http://www.usbr.gov/lc/yuma/programs/YAWMS/Groundwater/YA122008-72dpi.pdf;
http://www.usbr.gov/lc/yuma/programs/YAWMS/Groundwater/RD122008-72dpi.pdf; and,
http://www.usbr.gov/lc/yuma/programs/YAWMS/Groundwater/SG032009-72dpi.pdf .

The excessive groundwater in the Yuma area is currently being pumped from the ground to protect Yuma area lands. Use of this excessive groundwater for the proposed pilot run is particularly logical given the fact that the groundwater would ordinarily flow to Mexico and the Sea of Cortez if it were not intercepted by the pumping.

The Responsibility to Avoid Harm to endangered species Remains Inviolate.

BuRec acknowledges that its proposed pilot operation will "reduce the amount of water that flows into…the Cienega…"; however, it then attempts to absolve itself of any responsibility with a disingenuous and incomplete premise. BuRec reasons that since the Cienega is located wholly within Mexico, Mexico has exclusive control over the water once it crosses into Mexico. Consequently, BuRec reasons that matters related to the Cienega are purely matters of foreign policy that only the U.S. Section of the International Boundary & Water Commission (IBWC) can address pursuant to Section 397 of Public Law Number 109-432. Consequently, if BuRec's reasoning is true, then the further responsibility for protection of the Cienega and its dependent endangered species falls on IBWC.

No matter which agency, either BuRec or IBWC, ultimately owns responsibility for full NEPA and ESA compliance, several fundamental facts still guarantee compliance with the obligatory and statutory protections for the Cienega and its dependent endangered species:

1. The diversion of Wellton_Mohawk effluent water to YDP and the consequent denial of this water to the Cienega by BuRec is a proactive action by BuRec over which BuRec has discretionary control;

2. Mexico has no option for the hyper-saline Wellton-Mohawk effluent water but to allow it continued sustenance of the Cienega;

3. the Law of the River does not exclude provision of the Wellton-Mohawk effluent water to the Cienega as it is not "excess water" and does not count as part of Mexico's Treaty allotment of Colorado River water;

4. nothing in law, practice or precedent precludes BuRec and/or IBWC from fulfilling the mandate to conserve endangered species and to avoid jeopardizing an endangered species.

We support each of these facts with the following details:

5-6

1. The diversion of Wellton_Mohawk effluent water to YDP and the consequent denial of this water to the Cienega by BuRec is a proactive action by BuRec over which BuRec has discretionary control;

5-7

Nothing in the law requires the operation of YDP. While Public Law 93-320 authorizes the building of YDP, Section 104 provides the Secretary of the Interior with discretion to operate or to not operate YDP at the lowest overall cost to the US. Public Law 93-320 states,

"Public Law 93-320- JUNE 24, 1974

5-7

SEC. 101. (a) The Secretary of the Interior, hereinafter referred to as the "Secretary", is authorized and directed to proceed with a program of works of improvement for the enhancement and protection of the quality of water available in the Colorado River for use in the United Sates and the Republic of Mexico, and to enable the United States to comply with its obligations under the agreement with Mexico of August 30, 1973 (Minute No. 242 of the International Boundary and Water Commission, United States and Mexico), concluded pursuant to the Treaty of February 3, 1944 (TS 994), in accordance with the provisions of this Act…

SEC. 104. The Secretary is authorized to provide for modifications of the projects authorized by this title to the extent he determines appropriate for purposes of meeting the international settlement objective of this title at the lowest overall cost to the United States."

"Modifications of the projects" includes the non-operation of YDP as long as Treaty obligations are met. This has been the practice to date.

5-8

The June 1975, Final Environmental Statement for the Colorado River Basin Salinity Control Project Title I (Final EIS) is no longer applicable. Much new information is now available.

The Final EIS did not evaluate the importance of the surviving Delta, either culturally or biologically. The status of the endangered Yuma clapper rail and the endangered desert pupfish has changed considerably. The fact that the Cienega population of desert pupfish is essential for recovery was not known at the time.

5-9

2. <u>Mexico has no option for the hyper-saline Wellton-Mohawk effluent water but to allow it continued sustenance of the Cienega</u>;

In 1961, Mexico protested the delivery of Colorado River water averaging a salinity of approximately 1,500 ppm resulting from the inadequately diluted effluent from Wellton-Mohawk Irrigation District. Mexico concluded water with salinity greater than about 1,300 ppm is not suitable for consumptive use.[3]

With Minute 242, the US agrees to provide Mexico with water of "an annual average salinity of no more than 115 p.p.m. ± 30 p.p.m. U.S. count (121 p.p.m. ± 30 p.p.m. Mexican count) over the annual average salinity of Colorado River waters which arrive at Imperial Dam…" In 2008, the water into the Colorado River channel by the US at Laguna Dam had a salinity of 737 ppm.[4]

The current salinity of water currently being provided for sustenance of the Cienega has a salinity of approximately 2,664 ppm. In other words, the water flowing to the Cienega is not good for any other use but for sustenance of the Cienega. This has been the case for more than 30 years.

In addition, Mexico has committed to the status quo protection of and to the perpetuation of the Cienega. Mexico includes the Cienega in the Reserva de la Biosfera Alto Golfo de

[3] Final Environmental Statement for the Colorado River Basin Salinity Control Project Title I, Bureau of Reclamation, June 1975.

[4] Draft Environment Analysis Yuma Desalting Plant Pilot Run, Bureau of Reclamation, May 2009.

California y Delta del Río Colorado. It protects the Cienega with the Management and Conservation Plan of the Upper Gulf of California and Colorado River Delta Biosphere Reserve published by the Mexican Government's Commission on Natural Protected Areas.

3. The Law of the River does not exclude provision of the Wellton-Mohawk effluent water to the Cienega as it is not "excess water" and does not count as part of Mexico's Treaty allotment of Colorado River water.

5-10 The February 3, 1944 Treaty between the US and Mexico provides for a "guaranteed annual quantity of 1,500,000 acre-feet" to Mexico.[5] On August 23, 1973, the US and Mexico signed Minute Entry 242 to definitively correct the salinity problem arising from the Wellton-Mohawk effluent drainage. Minute Entry 242 stops the US from counting the non-consumptive Wellton-Mohawk effluent as part of the yearly 1.5 million acre-feet guaranteed to Mexico. Minute 242 also provides for Mexico's building, operating and maintaining the continuation of the effluent canal from Wellton-Mohawk to the Cienega for the 118,000 acre-feet/year of effluent drainage water that "will not be replaced by substitution waters."

Minute Entry 242 states,

> "…the United States shall discharge to the Colorado River downstream from Morelos Dam volumes of drainage waters from the Wellton-Mohawk District at the annual rate of 118,000 acre-feet (145,551,000 cubic meters) and substitute therefore an equal volume of other waters to be discharged to the Colorado River above Morelos Dam; and, pursuant to the decision of President Echeverria expressed in the Joint Communique of June 17, 1972, the United States shall discharge to the Colorado River downstream from Morelos Dam the drainage waters of the Wellton-Mohawk District that do not form a part of the volumes of drainage waters referred to above, with the understanding that this remaining volume will not be replaced by substitution waters..."
>
> "…3. As a part of the measures referred to in point 1 (a), the United States shall extend in its territory the concrete-lined Wellton-Mohawk bypass drain from Morelos Dam to the Arizona-Sonora international boundary, and operate and maintain the portions of the Wellton-Mohawk bypass drain located in the United States…"
>
> "…To complete the drain referred to in point 3, Mexico, through the Commission and at the expense of the United States, shall construct, operate and maintain an extension of the concrete-lined bypass drain from the Arizona-Sonora international boundary to the Santa Clara Slough of a capacity of 353 cubic feet (10 cubic meters) per second. Mexico shall permit the United States to discharge through this drain to the Santa Clara Slough all or a portion of the Wellton-Mohawk drainage waters, the volumes of brine from such de salting 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..." (Minute No. 242; Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River; International Boundary and Water Commission; United States and Mexico; Mexico, D.F., August 30, 1973)

[5] Article 10, Treaty, Utilization of Waters of the Colorado and Tijuana Rivers and the Rio Grande + Treaty between the United States of America and Mexico; Signed at Washington; February 3, 1944.

5-11 4. Nothing in law, practice or precedent precludes BuRec and/or IBWC from fulfilling the mandate to conserve endangered species and to avoid jeopardizing an endangered species.

The applicability of US law to discretionary federal actions within the US that have effects outside of the US has been confirmed recently in the 2003 DC US District Court case, Defenders of Wildlife, et al v. Gale Norton, et al. The court confirms:

> "Regulations issued under section 7(a)(2) (16 U.S.C.S. § 1536(a)(2)) of the endangered species Act require consultations for all actions in which there is discretionary federal involvement or control, 50 C.F.R. § 402.03, and govern the consultation process. The consulting agency first prepares a biological assessment to evaluate the effects of its action on listed species in the "action area," which is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. 50 C.F.R. § 402.02. If the agency concludes that a listed species may be affected by its action, it must then formally consult with the United States Fish and Wildlife Service (FWS) (for land species) or the National Marine Fisheries Service (NMFS) (for marine species). 16 U.S.C.S. § 1536(a)(2); 50 C.F.R. § 402.14. The appropriate service (FWS or NMFS) must then issue its own biological opinion as to whether the action is likely to jeopardize the species and, if so, propose reasonable and prudent alternatives to the agency's proposal. 16 U.S.C.S. § 1536(b)(3)(A). If no such alternatives are available, or if the agency rejects the recommendation of FWS or NMFS, the agency must obtain an exemption from a cabinet-level endangered species Committee to proceed with its original plan. 16 U.S.C.S. § 1536(e)(3), (g)."
>
> "Under section 7(a)(2) (16 U.S.C.S. § 1536(a)(2)) of the endangered species Act each federal agency shall, in consultation with and with the assistance of the Secretary of the Interior (Secretary), insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected states, to be critical, unless such agency has been granted an exemption for such action by the committee pursuant to 16 U.S.C.S. § 1536(h). 16 U.S.C.S. § 1536(a)(2)."
>
> "There is a general presumption against extraterritorial application of American statutes in the absence of an affirmative intention of the United States Congress clearly expressed to extend their scope to extraterritorial conduct. The presumption is inapplicable, however, to federal agency actions within the United States that have extraterritorial effects. By definition, an extraterritorial application of a statute involves the regulation of conduct beyond United States borders. Even where the significant effects of the regulated conduct are felt outside United States borders, the statute itself does not present a problem of extraterritoriality, so long as the conduct which United States Congress seeks to regulate occurs largely within the United States…. There is a general presumption against extraterritorial application of American statutes in the absence of an "affirmative intention of the Congress clearly expressed" to extend their scope to extraterritorial conduct, *EEOC v. Arabian American Oil Co.*, 499 U.S. 244, 248, 113 L. Ed. 2d 274, 111 S. Ct. 1227 (1991);

Foley Bros. v. Filardo, 336 U.S. 281, 284-85, 93 L. Ed. 680, 69 S. Ct. 575 (1949). The presumption is inapplicable, however, to federal agency actions within the United States that have extraterritorial effects: By definition, an extraterritorial application of a statute involves the regulation of conduct beyond U.S. borders. Even where the significant effects of the regulated conduct are felt outside U.S. borders, the statute itself does not present a problem of extraterritoriality, so long as the conduct which Congress seeks to regulate occurs largely within the United States. *Environmental Defense Fund v. Massey*, 300 U.S. App. D.C. 65, 986 F.2d 528, 531 (D.C. Cir. 1993); **[**32]** *see also Gushi Bros. Co. v. Bank of Guam*, 28 F.3d 1535, 1538 (9th Cir. 1994)("Questions involving the reach of Congress' prescriptive jurisdiction are not implicated when the conduct sought to be regulated occurs inside the United States."). Defendants present no substantive argument to the contrary."

"Under 50 C.F.R. § 402.03, section 7(a)(2) (16 U.S.C.S. § 1536(a)(2)) of the endangered species Act and the requirements of 50 C.F.R. § 402.03 apply to all actions in which there is discretionary federal involvement or control."

"Even where the significant effects of the regulated conduct are felt outside U.S. borders, the statute itself does not present a problem of extraterritoriality, so long as the conduct which Congress seeks to regulate occurs largely within the United States. *Environmental Defense Fund v. Massey*, 300 U.S. App. D.C. 65, 986 F.2d 528, 531 (D.C. Cir. 1993); **[**32]** *see also Gushi Bros. Co. v. Bank of Guam*, 28 F.3d 1535, 1538 (9th Cir. 1994)("Questions involving the reach of Congress' prescriptive jurisdiction are not implicated when the conduct sought to be regulated occurs inside the United States.")." (Defenders of Wildlife, et al., Plaintiffs, v. Gale Norton, Secretary, Department of the Interior, et al., Defendants. Civil Action No. 00-1544 (JR); United States District Court for the District Of Columbia; 257 F. Supp. 2d 53; March 31, 2003.)

BuRec claims that it has no responsibility for the effects of this proposal because "matters related to the Cienega are matters of foreign policy that Reclamation addresses with the U.S. Section of the IBWC..." BuRec further attempts to absolve itself of any responsibility for its actions based on Section 397 of Public Law Number 109-432 (2006) which states,

> "The Treaty between the United States of America and Mexico relating to the utilization of waters of the Colorado [River] . . . and supplementary protocol . . . is the exclusive authority for identifying, considering, analyzing, or addressing impacts occurring outside the boundary of the United States of works constructed, acquired, or used within the territorial limits of the United States."

5-12 Even if BuRec successfully evades responsibility for its harming of the Cienega's endangered species by transferring responsibility to IBWC, NEPA and ESA are still fully applicable and must be obeyed. The Treaty between the US and Mexico referenced in Section 397 of Public Law Number 109-432 does not foreclose the obligation of the US Section of the IBWC, as the surrogate for BuRec, to avoid harm to endangered species via a consultation with USFWS. The Treaty says:

> "Article 2…The jurisdiction of the Commission shall extend to the limitrophe parts of the Rio Grande (Rio Bravo) and the Colorado River, to the land boundary between the two countries, and to works located upon their common boundary, each Section of the

Commission retaining jurisdiction over that part of the works located within the limits of its own country…"

"Article 23…The Commission shall determine the cases in which it shall become necessary to locate works for the conveyance of water or electrical energy and for the servicing of any such works, for the benefit of either of the two countries, in the territory of the other country, in order that such works can be built pursuant to agreement between the two Governments. Such works shall be subject to the jurisdiction and supervision of the Section of the Commission within whose country they are located."

"Article 24…In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements. The authorities of each country shall aid and support the exercise and discharge of these powers and duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties."

"Protocol… Wherever, by virtue of the of the Treaty between the United States of America and the United Mexican States, signed in Washington on February 3, 1944, relating to the utilization of waters of the Colorado and Tijuana Rivers and of the Rio Grande from Fort Quitman, Texas, to the Gulf of Mexico, specific functions are imposed on, or exclusive jurisdiction is vested in, either of the Sections of the International Boundary and Water Commission, which involve the construction or use of works for storage or conveyance of water, flood control, stream gaging, or for any other purpose, which are wholly within the territory of the country of that Section, and which are to be used only partly for the performance of treaty provisions, such jurisdiction shall be exercised, and such functions, including the construction, operation and maintenance of said works, shall be performed and carried out by the Federal agencies of that country which now or hereafter may be authorized by domestic law to construct, or to operate and maintain, such works. Such functions or jurisdictions shall be exercised in conformity with the provisions of the Treaty and in cooperation with the respective Section of the Commission, to the end that all international obligations and functions may be coordinated and fulfilled.

The works to be constructed or used on or along the boundary, and those to be constructed or used exclusively for the discharge of treaty stipulations, shall be under jurisdiction of the Commission or of the respective Section, in accordance with the provisions of the Treaty…" (The Treaty, officially the Utilization of Waters of the Colorado and Tijuana Rivers and the Rio Grande + Treaty between the United States of America and Mexico; Signed at Washington; February 3, 1944.)

BuRec's evasive efforts aside, IBWC has an established track record of compliance with NEPA and ESA regarding international, and cross-border projects. A brief review reveals the following examples:

- In December 2000, IBWC completed an Environmental Impact Statement (EIS) for the El Paso-Las Cruces Regional Sustainable Water Project.

- In 2003, IBWC completed a draft Environmental Impact Statement (dEIS), and in 2004 completed a final EIS regarding IBWC's Lower Rio Grande Flood Control Project. For this same project, IBWC produced a 1993 Biological Assessment and consulted with USFWS in 1993 and 2003 concerning the projects potential harm to endangered ocelot and jaguarondi. The consultation's Biological Opinion was finalized on May 23, 2003. [Consultation No. 2-11-91-F-144 Lower Rio Grande Flood Control Project (LRGFCP) in Cameron, Hidalgo, and Willacy Counties, Texas; for the proposed action and its effects on the endangered ocelot {Leopardus (Felis) pardalis}, listed throughout its entire range that includes Texas, Arizona, Mexico to Central and South America, and the Gulf Coast, and on the endangered jaguarundi (Hemailurus yagouaroundi cacomitli) that ranges from Texas to Mexico; Fish and Wildlife Service Ecological Services, Corpus Christi, Texas 78412.]

- In 2003, IBWC produced a dEIS and Biological Assessment regarding its River Management Alternatives for the Rio Grande Canalization Project with regards to possible effects on the southwestern willow flycatcher. (Notice of availability of Draft Environmental Impact Statement, River Management Alternatives for the Rio Grande Canalization Project, Sierra and Dona Ana Counties, NM and El Paso County, TX; International Boundary and Water Commission, United States And Mexico; United States Section; Federal Register /Vol. 68, No. 247 /Wednesday, December 24, 2003 /Page 74651.)

- On January 21, 2009, the Department of State issued the Final Environmental Impact Statement for the Keystone OilPipeline Project regarding the modifications, construction, and interconnections to the TransCanada Keystone Oil Pipeline Project (Record of Decision, Department of Energy, Western Area Power Administration, Interconnection for the Keystone Oil Pipeline Project; Federal Register, Vol. 74, Page 7886; February 20, 2009. The Department of State is also the lead agency for Keystone Oil Pipeline Project compliance with section 7 of the endangered species Act (ESA) (16 U.S.C. 1536), requesting consultation on December 16, 2008 of the U.S. Fish and Wildlife Service (USFWS) of the Department of the Interior to complete the ESA section 7 consultation for listed species including the gray wolf, whooping crane, Topeka shiner, western prairie fringed orchid, Eskimo curlew, and Dakota skipper.

<u>A nebulous "agreement in principle to monitor" does not protect the Cienega or its dependent endangered species.</u>

The dEA states that,

> "[t]The diplomatic process undertaken through the IBWC resulted in a voluntary, bi-national agreement in principle to monitor conditions in the Cienega and the Bypass Drain during the proposed YDP Pilot Run."

5-13

What exactly is this "agreement in principle"? Why is such a fundamental aspect of any protection plan not available for public examination, review and comment as part of this dEA? Where is the discussion of the adequacy of this monitoring proposal? Will it be sufficient?

Simply measuring well levels and surface water levels are not adequate. The following studies must be included, incorporated and discussed in any defensible monitoring plan:

- Granato, G.E., and Barlow, P.M.; 2005; Effects of alternative instream-flow criteria and water-supply demands on ground-water development options in the Big River Area, Rhode Island; U.S. Geological Survey Scientific Investigations Report 2004-5301, 110 p.

- Leake, S.A., Hoffmann, and Dickinson, J.E.; 2005; Numerical ground-water change model of the C aquifer and effects of ground-water withdrawals on stream depletion in selected reaches of Clear Creek, Chevelon Creek, and the Little Colorado River, northeastern Arizona: U.S. Geological Survey Scientific Investigations Report 2005-5277, 29 p.

- Bredehoeft, J., and T. Durbin; Ground Water Development—The Time to Full Capture Problem; Groundwater; 2009.

5-14 <u>A rumored, non-enforceable, non-contractual promise to deliver water does not remove jeopardy for the Cienega's endangered species.</u>

The dEA states,

> "Additionally, in the broad interest of preserving the ecology of the Colorado River, its Limitrophe region and the delta, and in the interest of international comity, the U.S. and Mexico have agreed in principle to voluntarily participate in a joint effort aimed at reducing or eliminating alterations in Bypass Drain flows and salinity that could potentially occur during the proposed YDP Pilot Run."

5-15

What exactly is this "agreement in principle"? Why is such a fundamental aspect of any protection plan not available for public examination, review and comment as part of this dEA? Where is the discussion of the adequacy of this "joint effort"? Will it be sufficient?

Not only is such a nebulous promise inappropriate at the dEA stage, it does not absolve BuRec or IBWC of the responsibility to conserve endangered species and to avoid jeopardizing those species, pursuant to ESA law. In Center for Biological Diversity, et al., v. Donald H. Rumsfeld, et al., we established that removal of jeopardy requires concrete and measureable mitigation. The Court ruled:

> "The MOA includes a laundry list of possible mitigation measures related to water conservation and recharge that the Army may implement, *id.*, but it does not establish which projects have to be undertaken, when, nor what the conservation objectives are for the respective projects. Without such specificity, the mitigation measures in the Final BO are merely suggestions."
>
> "The whole premise of the "no jeopardy" ruling, which is that within three years the Army and other interested parties will come up with a long-term plan to remedy the groundwater deficit problem, is an admission that what is currently on the table as far as mitigation measures is inadequate to support the FWS's "no jeopardy" decision. The FWS is looking to the plans, the AWRMP and the RWRMP, to be prepared within three years, to identify the necessary mitigation measures, which will prevent adverse impact to the water umbel and willow flycatcher. These measures, however, have to be identified and included in the Final BO, either as RPAs or incorporated into the Army's proposed action, to support a "no jeopardy" decision. Without these measures, there is no factual basis and no rational basis for the opinion."

"The Final BO's monitoring requirements do not measure the success or failure of the on-base and/or regional mitigation measures to reduce the groundwater [**36] deficit. It only requires the Army to develop "a monitoring program designed to assess progress," (Ps' SOF at Ex. 2: MOA, App. A at 1), and requires an annual review of the AWRMP, as to which projects have been implemented the past year and which are to be implemented in the coming year. Especially since the Final BO and the AWRMP fail to quantify the remedial value of the proposed projects, simply reporting project implementation is not a meaningful assessment of the success or failure of the mitigation measures in protecting the water umbel, willow flycatcher, and critical habitat from adverse impact. Such an assessment would require systematic monitoring of either San Pedro baseflows or the groundwater aquifer.

Even if the Final BO provided a meaningful monitoring mechanism to annually assess whether or not the San Pedro baseflow or aquifer was or was not being adversely affected, this is not a proper way to mitigate adverse impact. This type of analysis permits the Army to continue deficit-inducing operations when a longer-term analysis would reveal those operations to be causing jeopardy."

"Essentially, the FWS has attempted to sidestepped its obligation to make an accurate "no jeopardy" decision based on the best available evidence and seeks to postpone, for three years, this assessment which must be made as part of the process of issuing the Final BO. This, it cannot do." (Center for Biological Diversity, et al., Plaintiffs, v. Donald H. Rumsfeld, Secretary of Defense, et al., Defendants, Coalition of Arizona/new Mexico Coalition of Countries for Stable Economic Growth, Defendant-Intervenors; CIV99-203 TUC ACM; United States District Court for the District of Arizona; *198 F. Supp. 2d 1139*; April 8, 2002.)

5-16 Current USFWS' policy precluding ESA Section 7 consultation regarding the effects of a US project's effects on an endangered species in Mexico is not applicable to the YDP's jeopardizing the desert pupfish.

With the All-America Canal, USFWS established a new policy in order to try and avoid protection for affected endangered species.[6] This policy still stands.

For the YDP and the desert pupfish, however, BuRec (and IBWC) and the USFWS will not be able to similarly avoid protecting another endangered species. USFWS policy and ESA law do not preclude an evaluation of jeopardy for an endangered species in the US.

One of the few naturally occurring wild populations of endangered desert pupfish survives in the Cienega.[7] The pupfish of the Cienega are genetically unique.[8] They comprise a Distinct Population Segment.[9]

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[6] Memorandum; From USFWS Acting Manager, California-Nevada Operations Office, Sacramento, California; To: Regional Director, Lower Colorado Region Bureau of Reclamation, Boulder City, Nevada: Subject: Endangered Species Act Considerations in Mexico for the All-American Canal Lining Project; January 11, 2006.

[7] Desert Pupfish; General Information; USFWS; http://www.fws.gov/southwest/es/arizona/Documents/Redbook/Desert%20Pupfish%20RB.pdf; May 2008.

Desert Pupfish Recovery Plan; USFWS, Phoenix, AZ; September 1993.

5-17 The desert pupfish in the US is dependent for its survival and recovery on survival of the Cienega population. The Recovery Plan documents this perilous situation:

> "Current Species Status: Listed as endangered throughout its range. Composed of two subspecies in the U.S.: a Colorado River from and a Quitobaquito form. Natural populations of the Colorado River form have been extirpated from Arizona, restricted to three natural locations in California and the non-natural irrigation drains around the Salton Sea. The Colorado River form also occupies certain restricted locations of the Colorado River Delta in Sonora and Baja California, Mexico…
>
> Recovery Criteria: Secure, maintain and replicate all naturally occurring extant populations. Re-establish replicate populations in the most natural, identifiable habitats within the probable historical range…P. i
>
> Actions Needed: 1. Protect natural populations and their habitats…
>
> Downlisting Criteria…Desert pupfish (Cyprinondon macularius macularius) will be considered for downlisting when: …(1) Naturally occurring populations in the United States and Mexico are secure. These include five metapopulations in 12 known locations…(c) …Santa Clara Slough (2 localities), Sonora…"[10]

Conclusion

Operation of the Yuma Desalting Plant is highly controversial, and significantly environmentally damaging. Its operation is simply not necessary, especially when cheaper, less environmentally damaging alternatives are available.

The fate of the Cienega and at least one endangered species, the desert pupfish now hang in the balance. We trust our concerns will be addressed prior to any irretrievable commitment of resources taking place.

Please direct all correspondence to Robin Silver, M.D., Co-Founder and Board Member, The Center for Biological Diversity, PO Box 1178, Flagstaff, AZ 86002-1178, or Email: rsilver@biologicaldiversity.org.

Sincerely,

Robin Silver, M.D.
Co-Founder and Board Member

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[8] Final Report: To: U. S. Fish and Wildlife Service; Project: Cooperative Agreement No. 201814J826; Gila River Basin Native Fish Conservation Program, Tasks 3-65, 3-68, 3-70; Project CA-3-65; Title: Pupfish Genetics: Genetic Structure of Wild and Refuge Stocks of Desert Pupfish; By: A. A. Echelle, D. Loftis, H. Koike, and R. A. Van Den Bussche; Oklahoma State University; Date: 18 December 2007.

[9] Final Report: To: U. S. Fish and Wildlife Service; Project: Cooperative Agreement No. 201814J826; Gila River Basin Native Fish Conservation Program, Tasks 3-65, 3-68, 3-70; Project CA-3-65; Title: Pupfish Genetics: Genetic Structure of Wild and Refuge Stocks of Desert Pupfish; By: A. A. Echelle, D. Loftis, H. Koike, and R. A. Van Den Bussche; Oklahoma State University; Date: 18 December 2007.

Desert Pupfish Recovery Plan; USFWS, Phoenix, AZ; September 1993.

[10] Desert Pupfish Recovery Plan; USFWS, Phoenix, AZ; September 1993.

Center for Biological Diversity
Comment Letter Response Table

Comment #	Response
5-1	See General Comment Response Four.
5-2	With regard to 40 C.F.R. 1508.27, Reclamation is not aware of any scientific controversy regarding effects of the operation of the YDP within the U.S. In addition, trans-boundary issues are addressed in Section 1.6, International Considerations. Please also see General Comment Responses One and Two.
5-3	See General Comment Response Four.
5-4	See Comment Response 4-3.
5-5	See General Comment Response Four. More specifically, utilizing groundwater as feed water for the YDP is an alternative considered but eliminated, as discussed in Section 2.3.4.
5-6	Reclamation agrees that the decision to undertake the Pilot Run is a discretionary action. It is for this reason that an environmental analysis is being performed, as directed by NEPA.
5-7	Reclamation evaluated a No Action Alternative in the EA, as required by NEPA. Currently, the U.S. is able to meet 1944 Water Treaty and associated implementing protocols obligations without full-time operation of the YDP. However, this may change, and Reclamation is required to maintain the YDP in a ready-reserve status.
5-8	The 1975 Final Environmental Statement is a valuable environmental document which references many of the actions and issues related to the Proposed Action. Any regulatory or operational changes since 1975 are evaluated in this EA.
5-9	Comment noted. See Section 1.6, International Considerations.
5-10	Reclamation agrees that the Law of the River does not preclude conveyance of the Wellton-Mohawk effluent water to the Bypass Drain; such flows do not currently count as part of Mexico's 1944 Water Treaty allotment of Colorado River water. Reclamation takes seriously its responsibility to pursue the most efficient use of all waters allotted to the U.S. under the 1944 Water Treaty with Mexico. The Purpose and Need supports this responsibility.
5-11	See Section 1.6 of the Final EA and General Comment Response Three. Reclamation is fulfilling its responsibilities to conserve endangered species. Reclamation has and will continue to coordinate with all appropriate resource agencies regarding the Proposed Action. For further information, please see Appendix C for the Joint Report and Appendix D for consultations with the USFWS.
5-12	See General Comment Responses Two and Three.
5-13	See General Comment Response One.
5-14	See Section 1.6, International Considerations, and General Comment Response One.

5-15	See General Comment Response One.
5-16	See General Comment Response Three.
5-17	The Proposed Action will have no effect on desert pupfish populations in the U.S. To the degree that the overall status of the species may be affected by population declines in Mexico, such information will assist in creating the baseline for future Section 7 consultation for discretionary federal actions in the U.S. Additionally, see General Comment Response Three.

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Defenders of Wildlife * Living Rivers /Colorado Riverkeeper
Maricopa Audubon Society * National Wildlife Federation * Pacific Institute
Sierra Club Southwest Waters Committee * Yuma Audubon Society

June 1, 2009

Mr. Sean Torpey
Environmental Planning and Compliance Group, Manager
Bureau of Reclamation, Yuma Area Office
7301 Calle Agua Salada
Yuma, AZ 85364

Via Mail and e-mail: storpey@usbr.gov

Re: Draft Environmental Assessment for Yuma Desalting Plant Pilot Run

Dear Mr. Torpey:

We offer the following comments on the Draft Environmental Assessment for the Yuma Desalting Plant pilot run on behalf of Defenders of Wildlife, Living Rivers & Colorado Riverkeeper, Maricopa Audubon Society, National Wildlife Federation, Pacific Institute, Sierra Club Southwest Waters Committee and Yuma Audubon Society, together representing more than four million members nationwide. Individually and collectively, our organizations have actively promoted restoration of riparian and wetland areas of the Colorado River and its delta, including the Ciénega de Santa Clara. We appreciate the opportunity to comment on the Draft Environmental Assessment (EA) but must reiterate our opposition to operation of the Yuma Desalting Plant (YDP) that would have adverse effects on the environment, including the Ciénega de Santa Clara and its wildlife.

The Draft EA fails to acknowledge and address nearly all of the significant issues raised by our scoping comments.[1] Scoping is an "early and open" process for identifying the range of actions, alternatives and significant issues related to the action. 40 C.F.R. §§ 1501.7, 1508.25. The CEQ has instructed agencies to "be guided by these concerns, or be prepared to briefly explain why you do not agree. Every issue that is raised as a priority matter during scoping should be addressed in some manner in the EIS, either by in-depth analysis, or at least a short explanation showing that the issue was examined, but not considered significant for one or more reasons." Memorandum for General Counsels, NEPA Liaisons, and Participants in Scoping: Scoping Guidance (Apr. 30, 1981), available at http://ceq.hss.doe.gov/nepa/regs/scope/scoping.htm.

[1] We hereby incorporate by reference the comments submitted by these same environmental organizations in response to the September 29, 2008 press release from the U.S. Bureau of Reclamation requesting scoping comments on the proposed interim operation of the Yuma Desalting Plant (YDP). *See* Letter from Kara Gillon, Defenders of Wildlife to Sean Torpey, Bureau of Reclamation (Oct. 16, 2008). In addition to being a part of the official record, the comments are available at http://www.pacinst.org/topics/water_and_sustainability/colorado_river/10_08_scoping_comments_YDP_re-operation.pdf.

6-1 The scope of the Draft EA is a significant issue raised in our comments but which remains obscured. There are several aspects of the proposed action which have not been included in the Draft EA, including agreements for Intentionally Created Surplus (ICS) credits and for monitoring and mitigation measures, that are connected and cumulative actions that should be integrated into the scope of the Draft EA. When describing the agency action, NEPA regulations direct agencies to "use the criteria for scope," 40 C.F.R. § 1502.4(a), which is determined by the action, alternatives, and effects. *Id.* § 1508.25. Actions may be "(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements. (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously. (iii) Are interdependent parts of a larger action and depend on the larger action for their justification. (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." *Id.* § 1508.25(a).

6-2 Reclamation states "the Proposed Action is *exclusively intended* to provide benchmark data which can only be obtained through sustained plant operation…." Draft EA at 19 (emphasis added). As noted below, the proposed action is also apparently intended to provide ICS credits to three municipal water agencies. Failure to disclose this information, and the broader purpose of the subject action, is a significant flaw in the Draft EA. Reclamation must revise the Draft EA to describe and evaluate the execution of ICS agreements and the implementation of monitoring and mitigation.

In addition, Reclamation's Draft EA does not provide detailed analyses, but instead relies on questionable and baseless assumptions to justify its conclusions that there will be no adverse or significant impacts as a result of this action. "[C]onclusory remarks [and] statements that do not equip a decisionmaker to make an informed decision about alternative courses of action, or a court to review the Secretary's reasoning" are insufficient. *Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988). For example, Reclamation repeatedly asserts without supporting analysis that compliance with existing applicable laws will ensure no significant impacts occur and will mitigate adverse effects. *See, e.g.*, Draft EA at 29 (no adverse effects to biological resources because of AZPDES permit conditions), 36 (water quality), 40 (hazardous materials), 48 (noise). In largely deferring to the certification and permitting of other agencies, Reclamation fails to perform the case-by-case balancing analysis required by NEPA. *See Calvert Cliffs' Coordinating Comm., Inc. v. Atomic Energy Comm'n*, 449 F.2d 1109, 1122-25 (D.C. Cir. 1971) (rejecting agency practice that abdicated NEPA obligations to other agencies' judgments).

6-3 In another example, Reclamation asserts that it will "operate the plant in compliance with the *Resource Recovery and Conservation Act* (RCRA), *Pollution Prevention Act*, and the *Emergency Planning and Community Right to Know Act*" and directs the reader to section 3.6.2.2 for additional discussion. Draft EA at 19. There is not, however, any discussion of Reclamation's obligations and commitments under these laws in this section of the Draft EA, or in any other section.

Reclamation evades its NEPA obligations by simply claiming that compliance with applicable standards will always ensure that its action has no adverse or significant impact. Many environmental laws, permitting requirements and other standards do not require complete mitigation or avoidance of impacts. Reclamation must revise the Draft EA to discuss all effects of the action, applicable legal requirements, whether and to what extent these requirements may mitigate the effects of the action.

6-4

For these reasons, as explained more fully below, we strongly recommend that Reclamation revise and recirculate this NEPA analysis to incorporate the entire scope of the proposed action, its alternatives and its effects, to quantify the significance of the direct, indirect and cumulative effects using the complete measure of significance and to take a "hard look at [the] environmental consequences" of the proposed action. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (internal quotation omitted).

Purpose and Need

NEPA requires the statement of purpose and need to reflect the true purpose and need "to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R § 1502.13. Reclamation has failed to articulate a purpose and need that explains the need for a pilot run, that distinguishes the pilot run from the demonstration run, that ensures the development and selection of alternatives that meet the purpose and need, and that allows for a range of reasonable alternatives.

6-5

Purpose. What are the specific objectives, data needs and performance benchmarks Reclamation seeks to obtain from the pilot run? *See* Draft EA at 9. Without this information, the public cannot assess or advise as to whether what Reclamation seeks truly will "evaluate long-term operation," Draft EA at 9, or whether Reclamation will propose another short-term run of the plant, terming it an experiment or feasibility study or investigation, attempting operation of the plant in short-term bursts while avoiding full-scale environmental review.

6-6

An examination of Reclamation's treatment of the 2007 demonstration run – before and after – is a model of use of vague and moving targets. Reclamation proposed the demonstration run of the YDP at 10% capacity for 90 days "in a manner consistent with the operation previously analyzed in the *Final Environmental Statement Colorado River Basin Salinity Control Project Title I* (Reclamation 1975)." Bureau of Reclamation Categorical Exclusion Checklist: 90-day Demonstration Operation of the Yuma Desalting Plant at 10-percent capacity YAO-CEC-07-001 (Dec. 18, 2006). The purpose of the demonstration run was "to acquire current operational data, test equipment already replaced to address design deficiency, and conduct research applicable to the resolution of remaining design deficiencies." *Id.* The run "will provide the information necessary in order to realistically compare this bypass flow recovery method to other recovery and replacement alternatives" and "will allow for definitive data collection about current plant equipment condition and actual costs to operate." *Id.*

The Draft EA, on the other hand, states that the purposes of the demonstration run were "to demonstrate the YDP could operate, demonstrate the plant's use of current technologies, validate cost and performance estimates for the plant, improve overall plant readiness and provide

6-6 measurements of water quality impacts." Draft EA at 9. None of these five objectives addressed design deficiencies, bypass flow replacement methods or actual operating costs. *See, e.g.*, Bureau of Reclamation, *Yuma Desalting Plant Demonstration Run Report* 1, 3 (2008) (noting the demonstration was not intended to determine costs for commercial operation). Moreover, the actual demonstration run did not use the same pre-treatment process as the original plant design and operation. *See* Draft EA at 9.

Given the draft's dismissal of the data generated by the 2007 demonstration run, we are very concerned that, in the near future, Reclamation (or the municipal agencies) will again propose a new 'pilot' run, with the rationale that the current action is somehow deficient or unrepresentative of normal operating conditions and therefore needs to be repeated, with insufficient and inadequate environmental review and discussion.

Need. The need for short-term YDP operation has shifted from an assessment of alternative bypass flow replacement methods to information about the ability of the YDP to produce water

6-7 for "multiple end uses." Draft EA at 9. What are these potential end uses, and how will the proposed action inform these uses and the ability of the YDP to satisfy them? In addition, Reclamation must clarify whether and how this proposed project is relevant to Reclamation's ongoing effort to study methods to replace the bypass flow, since the demonstration run was

6-8 supposed to but did not. *See* Bureau of Reclamation, Lower Colorado Region, Bypass Flow Replacement or Recovery Methods, available at http://www.usbr.gov/lc/region/programs/bypass.html (last visited May 27, 2009) (a public process "to solicit information about potential methods to recover or replace agricultural return flows from the Wellton-Mohawk Irrigation and Drainage District that bypass the Colorado River and are discharged to the Cienega de Santa Clara in Mexico (the bypass flow)").

To comply with NEPA and to assure the public that the operation is worthwhile and necessary, Reclamation must revise the purpose and need statement to make explicit the objectives sought and the operations proposed to fulfill those objectives.

Alternatives

6-9 With the shift in purpose and need for operation of the Plant over the years, it appears that Reclamation has narrowly defined the purpose and need in order to predetermine operation of the YDP as the only practical alternative, despite our request to the contrary in our scoping comments. But Reclamation may not put forward a purpose and need statement that is so narrow as to "define competing 'reasonable alternatives' out of consideration (and even out of existence)." *Simmons v. U.S Army Corps of Eng'rs*, 120 F.3rd 664, 666 (7th Cir. 1997); *see also Alaska Wilderness Recreation and Tourism Ass'n v. Morrison*, 67 F.3d 723 (9th Cir. 1995).

Despite the artful crafting of a purpose and need statement, Reclamation's proposed alternative may yet fail to meet the agency's purpose and need because it possess the same flaws as rejected

6-10 alternatives. Rejected alternatives, on the other hand, may yet fulfill the purpose and need. *See infra*, Authorization. Reclamation did not examine reasonable alternatives that meet the purported purpose and need. For example, if an objective is to preserve water for beneficial uses

6-10 in the U.S., then many other viable alternatives, such as those identified in the YDP Working Group White Paper,[2] should be included and assessed as part of the NEPA process.

Proposed Alternative. The description of the proposed action is not clear, and is potentially misleading. Reclamation first implies that 7,300 acre-feet of MODE water will be discharged to the Gila River Pilot Channel, twenty-one miles upstream of the NIB:

> For the Proposed Action, the MODE water will be diverted via a diversion structure on the MODE near Drainage Point of Connection (DPOC) One. This diversion structure is a permanent water management facility called Reclamation's 'MODE 1 Diversion/Return Facility.' The structure discharges into the Gila River Pilot Channel which intersects with the Colorado River.
> …
> For example, from January 2008 through January 2009, Reclamation discharged approximately 457 AF of MODE water to the Colorado River via this [diversion/return] facility, which is located approximately twenty-one miles from the Northerly International Boundary (NIB).

6-11 Draft EA at 14. Figure 2-2 depicts the location of this facility above the confluence of the Gila River and the Colorado River. If this facility is located twenty-one miles upstream from the NIB near the Gila River pilot channel, according to Reclamation's "River Miles Chart" (available at http://www.usbr.gov/lc/region/pao/rvrmiles.pdf, last visited May 19, 2009), the facility is located slightly more than ten miles upstream of the confluence of the Gila and Colorado Rivers.

In describing how the proposed action will differ from the no action, Reclamation offers few specifics:

> During the Proposed Action, about 7,300 AF of water at 2,664 ppm [*discharged?*] from Reclamation's MODE 1 Diversion-Return Facility would increase river salinity [by] 30 ppm to 808 ppm. There is no evidence that a 30 ppm increase in salinity or 808 ppm total salinity will cause any impact to the flora or fauna of the river either at this location or downstream. Furthermore, the addition of 7,300 AF of water over twelve to eighteen months at this location will result in an incalculably small change in river level.

Draft EA at 15.

However, Figure 2.3 and its accompanying text, Draft EA at 16-17, suggest that these 7,300 acre-feet will not be discharged into the Gila River Pilot Channel from the MODE 1 Diversion/Return Facility, but rather will be blended, at the rate of approximately 20 acre-feet/day, with the YDP product water and "discharged into the Colorado River." Draft EA at 16. Reclamation fails to name the facility that will discharge this water into the Colorado River, or the location of this facility. Presumably, the water would be discharged via gravity from a location downstream of the YDP and upstream of the NIB. The failure to name this facility or its

[2] "Balancing Water Needs on the Lower Colorado River: Recommendations of the Yuma Desalting Plant/Cienega de Santa Clara Workgroup" (April 22, 2005).

6-11 location, especially given the draft's photograph, description and location of the MODE 1 Diversion/Return Facility, is quite remarkable.

Your email of May 21, 2009 to Michael Cohen indicates that the text on p. 15 is correct, and that the MODE water will be discharged, without blending, directly into the Gila River Pilot Channel at a point approximately 18 miles upstream of the point where the YDP product will be discharged, without blending, directly into the Colorado River. The 'blending' that occurs does so only on paper; the MODE water and the YDP product water actually mix with Gila River water and Colorado River water, and are not actually 'blended' together prior to being discharged into the rivers. Reclamation must describe this clearly in the revised draft; it is far from clear in the existing draft EA.

6-12 Presumably, the facility to be used to discharge the YDP product water is the same one used during the 2007 demonstration run. Inexplicably, the Draft EA fails to include information generated by this demonstration run. *See supra* at 3-4.

Scope of the Proposed Action. While Reclamation quotes at length from the municipal utilities' letter (hereinafter, "the letter") proposing the subject action, *see* Letter from David S. "Sid" Wilson, Gen. Manager, Central Arizona Water Conservation District to Lorri Gray, Reg'l Dir., Bureau of Reclamation (Jan. 14, 2009), Reclamation fails to state that these same municipal agencies offer, in the same letter, to contribute to the costs of operating the YDP in exchange for ICS credits for some portion of the product water generated by the proposed action. This critical information must be included as an interdependent connected action, including detailed information on the amount of funding offered by the agencies and the volume of water they expect as ICS credits. The document should also clearly state the authority under which the YDP
6-13 may be operated to generate ICS credits for municipal agencies, and how such activity is consistent with the document's stated purpose and need.

According to the proposed action, the water discharged to the Colorado River will be delivered to Mexico as part of its annual schedule of water deliveries pursuant to the 1944 Water Treaty. *See* Draft EA at 8, 16, 19. This will reduce the amount of water released from Lake Mead, thereby increasing the amount of water in storage, protecting against shortage.[3] Although raised during scoping, Reclamation has not addressed whether the proposed alternative truly will add water to the Colorado River system, whether it will result in additional releases from Lake Mead, as occurs under the No Action Alternative, or whether the municipal utilities will receive ICS credits.

Intentionally Created Surplus. The ICS program allows Colorado River water users to create, store and release water that has been intentionally conserved for storage in Lake Mead, allowing for subsequent delivery at a later date. "ICS may be created through projects that create

[3] Since 1974, the U.S. government has bypassed approximately 108,000 acre-feet of saline agricultural wastewater each year to the Ciénega de Santa Clara in order to control the salinity of Colorado River waters delivered to Mexico. Because the drainage water in the bypass drain is not desalted and returned to the river, this method of operation results in the release from Lake Mead of comparable quantities of water, which otherwise would not be needed if the bypassed water was delivered to Mexico as a part of the U.S. Treaty delivery obligation.

water system efficiency or extraordinary conservation or tributary conservation or the importation of non- Colorado River System water into the Mainstream." Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, 73 Fed. Reg. 19873, 19883 (April 11, 2008). The primary purposes of ICS are to:

> (a) Encourage the efficient use and management of Colorado River water; and to increase the water supply in Colorado River System reservoirs, through the creation, delivery and use of ICS; (b) help minimize or avoid shortages to water users in the Lower Basin; (c) benefit storage of water in both Lake Powell and Lake Mead; (d) increase the surface elevations of both Lake Powell and Lake Mead to higher levels than would have otherwise occurred; …

Id. The municipal utilities have proposed that the pilot run generate system efficiency ICS that would be apportioned among the utilities, deposited in their Lake Mead accounts, and delivered at a later date. Reclamation plays a key role in making ICS credits available, because ICS can be created and delivered pursuant only to a certification report submitted to the Secretary of the Interior, a delivery agreement to which the Secretary is a party and an ICS determination made by the Secretary via an ICS account maintained by the Secretary. *See generally id.*

6-14 Reclamation must therefore address and resolve the issue raised in our scoping comments, of whether or not the municipal utilities will receive ICS credits in exchange for partial funding of the proposed action, and if so, how Reclamation will account for the water the YDP adds to the system and whether additional releases from Lake Mead will still occur. The generation of system efficiency ICS cannot proceed without the proposed action and would be implemented by Reclamation, and thus meet the definition of a connected action under NEPA.

Indeed, even as Reclamation fails to address this issue under its purview, the agency gives it credence with the release of the municipal utilities' letter confirming their interest in ICS credits:

> Should a decision be made to conduct the proposed pilot run, the Municipal Utilities would also consider providing additional funds to partially fund the cost of implementing the Pilot Run in exchange for intentionally created surplus (ICS) credits in accordance with the 2007 Colorado River Interim Guidelines.

Letter from David S. "Sid" Wilson, Gen. Manager, Central Arizona Water Conservation District to Lorri Gray, Reg'l Dir., Bureau of Reclamation, at 5 (Jan. 14, 2009), available at http://www.usbr.gov/lc/yuma/environmental_docs/ydp/ydp_request_14Jan09.pdf.

Reclamation cannot hide its head in the sand – there is an abundance of public statements regarding the states' funding and ICS agreements, plans and expectations. *See, e.g.*, September 9, 2008, Executive Director's Monthly Report to the Colorado River Board of California, available at http://www.crb.ca.gov/Executive%20Directors%20Report/2008/2008Sep09_ED.pdf (stating that the states will indeed benefit, under the auspices of the ICS program); December 12, 2008 Executive Director's Monthly Report to the Colorado River Board of California, available

at http://www.crb.ca.gov/Executive%20Directors%20Report/2008/2008Dec12_ED.pdf (same)[4]; January 13, 2009 Executive Director's Monthly Report to the Colorado River Board of California, available at http://www.crb.ca.gov/Meetings/2009/Executive%20Director's%20Report/2009Jan13_ED.pdf (same); October 2, 2008, Regular Meeting of the [CAWCD] Board of Directors, available at http://www.cap-az.com/meetings/index.cfm?action=showMinutes&meetID=530&criteria=desalting%C3%BEplant%C3%BA0%C3%BA09%2D01%2D2008%C3%BA05%2D20%2D2009 (stating that CAWCD's share would be approximately $1.4 million (ten percent of the non-federal parties' cost) for approximately 3,000 acre-feet of intentionally created surplus (ten percent of the anticipated surplus) and that CAWCD would contribute approximately $70,000 toward environmental monitoring); Agreement Among the United States of America, through the Department of the Interior, Bureau of Reclamation, the Metropolitan Water District of Southern California, the Southern Nevada Water Authority, and the Central Arizona Water Conservation District, for Funding Environmental Compliance for a Proposed Pilot Project for Operation of the Yuma Desalting Plant, Agreement No. 09-XX-30-WO538, §§ 3.4, 7.

6-15

Authorization. Reclamation must also discuss whether and how the execution of ICS agreements is consistent with the Colorado River Basin Salinity Control Act (CRBSCA). The CRBSCA authorized the Secretary of the Interior to operate and maintain the YDP "to enable the United States to comply with its obligations under the agreement with Mexico of August 30, 1973 (Minute 242 …) … in accordance with the provisions of the Act." 43 U.S.C. § 1571(a).[5] The Act also made "[r]eplacement of the reject stream from the desalting plant, … and of any Wellton-Mohawk drainage water bypassed to the Santa Clara Slough to accomplish essential operation except at such times when there exists surplus water of the Colorado River under the terms of the Mexican Water Treaty of 1944, … a national obligation …". 43 U.S.C. § 1571(c). *See also* Reclamation, CRB-Salinity Control Project Yuma Desalting Complex Unit, General Description, http://www.usbr.gov/dataweb/html/yumadesalt.html ("The objectives of the Desalting Complex Unit are to reduce the quantity and improve the quality of saline irrigation drainage water pumped from the shallow aquifer beneath the farmlands of the Wellton-Mohawk Division of the Gila Project. The purpose of improving the quality of this saline drainage water is to make it usable as part of the delivery of Colorado River water to Mexico in accordance with

[4] "Through the pilot project about 30,000 acre-feet of water will be returned to the Colorado River at a cost of $23 million.
The Central Arizona Project (CAP), Southern Nevada Water Authority (SNWA), and
The Metropolitan Water District of Southern California (MWD) are participating in discussions with Reclamation on providing non-federal funding for operations of the YDP during the pilot project. These non-federal parties have tentatively agreed to the following funding percentages: MWD 60%; SNWA 30%; and CAP 10%. The quantity of the blended water, which is returned to the Colorado River, would be credited to the non-federal funding parties as System Efficiency ICS in accordance with the December 2007 Interim Guidelines. This System Efficiency ICS water would be credited to each party's ICS account based upon the portion of funding provided by each party for operations of the YDP." *Id.* at 4.

[5] To address the high salinity of Mexico's treaty deliveries, the two countries negotiated Minute 242. Congress has requested a report from Reclamation on the status of the YDP and alternatives to meeting the requirements of Title I of the Colorado River Basin Salinity Control Act. If this report has been completed, please send a copy to each of us, at the addresses indicated below.

the treaty with Mexico of February 3, 1944, and the International Boundary and Water Commission's Minute No. 242 of August 30, 1973."). Reclamation must assess the implications of delivering Colorado River system water produced by the proposed action to the municipal utilities as ICS rather than to Mexico as a treaty delivery.

6-16

Purpose and Need. Reclamation must also revise the Draft EA to clarify how, if Reclamation does intend to enter into ICS agreements with the municipal utilities, the proposed action alternative with ICS agreements would meet the stated purpose and need. ICS deliveries would suffer the same fatal flaw as the no action alternative, because "Reclamation would lose the ability to maximize water use efficiency in the LCR system," Draft EA at 13, and the alternative would not add 29,000 acre-feet of water to the LCR system. Draft EA at 19. This is such an important part of the proposed action that alternatives that did not discharge water to the river or add water to the Colorado River system during drought were rejected. Draft EA at 19.

6-17

Funding. There are varying figures out there for the cost of operating the YDP. There are also allusions to agreements among Reclamation and the municipal utilities to fund all or a part of the cost of operation during the pilot run. *See, e.g.*, September 9, 2008, Executive Director's Monthly Report to the Colorado River Board of California (stating that through the pilot run "about 30,000 acre-feet of water will be returned to the Colorado River at a cost of $23 million"); October 2, 2008, Regular Meeting of the [CAWCD] Board of Directors (reporting that CAWCD will contribute 10%, or $1.4 million, to the non-federal share of the cost).

Congress has deemed all costs associated with the YDP and associated facilities as nonreimbursable. 43 U.S.C. § 1571(l). Nonreimbursable costs are those that are borne by the federal government because certain purposes of the project are viewed as national in scope. These costs include those allocated to flood control and navigation, as well as the majority of the costs allocated to fish and wildlife enhancement, highway transportation, and recreation. The purpose of the YDP – to comply with an international treaty – is just such a national interest. *Id.* § 1571(a). Other CRBSCA provisions support this designation. *See id.* § 1571(c) (designating bypass flow replacement as a national obligation).

Reclamation must be transparent about the cost of operating the YDP during the pilot run and any financial agreements made with non-federal parties to fund all or a portion of the pilot run.[6] This is necessary not only for transparency's sake, but also because the non-federal funding of this project raises serious questions about the use of a project for purposes other than those for which it was authorized. Private funding also raises grave concerns about the propriety of

6-18

[6] We note that Reclamation also has not been transparent about the non-federal funding of the environmental compliance for the pilot run, including this Draft EA. NEPA regulations do allow applicants or consultants to prepare environmental documents if the agency retains sufficient control of or responsibility for the process. These requirements extend to EAs, for when an applicant prepares the EA the agency must "take responsibility for the scope and content" of the EA. 40 C.F.R. § 1506.5(b). This obligation takes on added importance when comments challenge the accuracy of such information. *See Steamboaters v. Fed. Energy Regulatory Comm'n*, 759 F.2d 1382, 1393 (9th Cir. 1984) (vacating permit after finding that agency did not fulfill independent duty to verify permit applicant's information and respond to public comments).

operating the YDP to benefit only a few stakeholders in the Colorado River basin while the project is one of national interest and that should serve more than just the narrow interests of the municipal utilities.

Indeed, it may be more accurate to characterize the purpose and need statement as the municipal utilities', not Reclamation's:

> Without this real-time information, the municipal utilities would not be able to determine whether the YDP could reliably operate on a long-term basis and what, if any, improvements to the facility may be necessary to ensure the most efficient, cost effective and reliable long-term operation.

6-19 Draft EA at 8. This statement implies the municipal agencies have the responsibility and authority to make such a determination. Please cite and describe the legal authority empowering the municipal agencies to direct this federal action.

Design Deficiencies. According to Draft EA, twelve out of eighteen design deficiencies identified in the early 1990s have been corrected. Draft EA at 8. In 2005, Reclamation had informed Congress that of those eighteen deficiencies, six had been remedied but that "twelve still require resolution – seven of them prior to commencing one-third capacity operations." *See* Letter from P. Lynn Scarlett, Asst. Sec. for Policy, Management and Budget, Dept. of the Interior, to Honorable Pete V. Domenici, Chairman, Subcommittee on Energy and Water Development, Committee on Appropriations, U.S. Senate (Oct. 26, 2005) (Report to the Congress, at 9).

6-20 Reclamation must disclose which design deficiencies have been remedied and which remain. This is particularly so since simple math tells us that at least one design deficiency that requires resolution before one-third operations remains. It is of great concern to us that Reclamation has not disclosed nor corrected the design flaws. In addition to disclosing the remaining design flaws and its plan for dealing with them, especially those that need correction before one-third operations, Reclamation must also address whether and to what extent these flaws, corrected or otherwise, affect YDP operation, its impacts on the environment, and the data Reclamation expects to obtain from the pilot run. Please describe the YDP's six unresolved design deficiencies and their projected and potential impacts on plant operation, including costs and safety.

Affected Environment and Environmental Consequences

In addition to expanding the scope of the Draft EA to evaluate connected and similar actions, Reclamation must expand the scope of its analysis to include all direct, indirect and cumulative effects. *See* 40 C.F.R. § 1508.25(c). Reclamation has omitted discussion of environmental impacts to transboundary resources, climate change, noise, water quality and quantity, air quality and environmental justice and the impacts of hazardous materials and energy use on the environment.

An EA may be used to determine whether an action may have a significant environmental effect and may require an environmental impact statement (EIS). When an EA establishes that a proposed action "may have a significant effect on the … environment," the federal agency must prepare an EIS. *Sierra Club v. Bosworth*, 510 F.3d 1016, 1018 (9th Cir. 2007). When evaluating the significance of an action and its effects, Reclamation must measure the context and intensity of the action. 40 C.F.R. § 1508.27. Context means that the action and its impacts must be considered in geographical context and in a short and long-term context. *Id.* § 1508.27(a). Intensity refers to the severity of the environmental effects, *id.* § 1508.27(b), including both "direct effects," that are "caused by the action and occur at the same time and place," and "indirect effects," that are "later in time or farther removed in distance, but are still reasonably foreseeable." *Id.* § 1508.8(a), (b). The definition of "effects" also includes "cumulative effects," *id.* at § 1508.25(c), which the regulations define as the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions *regardless of what agency (Federal or non-Federal) or person undertakes such other actions*." *Id.* § 1508.7 (emphasis added).

The intensity, or severity of the environmental effects, requires consideration of the degree to which the action affects unique wetlands, ecologically critical areas, historic and cultural resources, or threatened or endangered species; the degree to which these impacts may be controversial, unique, uncertain, or unknown; whether the action is related to other actions with a cumulatively significant impact; and whether the action violates federal law or other requirements for environmental protection. *See id.* § 1508.27(b).

Based on the errors and omissions described below, Reclamation has not supplied a statement of convincing reasons as to why the proposed action will not have a significant impact, *see* 40 C.F.R. § 1508.13, and may not issue a Finding of No Significant Impact ("FONSI") based on this EA.

6-21 **Transboundary Impacts**. We continue to believe Reclamation's approach to transboundary impacts is improper.[7] That some impacts will occur in or around the Ciénega de Santa Clara in
6-22 Mexico does not excuse Reclamation from its obligation to analyze the full extent of impacts from arising from actions taken in *this* country. We note that only a few years ago the Secretary of the Interior recognized the potential for adverse effects and the efforts of Reclamation to assess the extent of these effects. Bureau of Reclamation, 2004 Annual Operating Plan for Colorado River System Reservoirs, at 21 ("Existing data suggests that operation of the YDP would negatively affect the Cienega de Santa Clara, a wetland of approximately 14,000 acres that is within a Biosphere Reserve in the Republic of Mexico. Reclamation's Yuma Area Office has initiated an environmental planning effort that will determine the extent of the effects.").

The Draft EA makes no mention of Executive Order 12114, except to say that it has complied with it. Based on his "independent authority," and "in order to further environmental objectives

[7] *Cf.* Bureau of Reclamation, *Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Actions Final Environmental Impact Statement* at 3.16-1 (2002) (recognizing that "[t]he body of NEPA law directs federal agencies to analyze the reasonably foreseeable consequences of a project or action, regardless of where impacts might occur."), available at http://www.usbr.gov/lc/region/g4000/FEIS/Volume%20I.pdf.

consistent with the foreign policy and national security policy of the United States" the President imposed environmental-study obligations upon federal agencies for actions impacting the "environment outside the United States." Exec. Order 12,114, 44 Fed. Reg. 1957 (Jan. 9, 1979). The Order imposes obligations analogous to those imposed through NEPA and directs agencies to consult with the State Department and CEQ. *Id.* Reclamation must explain the purpose of E.O. 12114, the requirements imposed by the order, and how Reclamation complied with the order.

6-23

While recent legislation may "re-affirm[] the IBWC's longstanding practice of consultation on matters occurring outside the boundary of the U.S. pursuant to the 1944 Water Treaty," Draft EA at 11, IBWC practice is not relevant to determining the scope of Reclamation's NEPA review of the proposed action. Draft EA at 11 ("EA only addresses potential effects of the Pilot Run within the U.S." in accordance with all applicable law, including Section 397 of Public Law 109-432). This statutory provision applies to the projects addressed in the rest of Subtitle J of Title III of Division C of the statute; the YDP is not implicated as an All-American Canal project. Pub. L. No. 109-432, Div. C, § 395-397 (Title III, Subtitle J – All American Canal Projects).

6-24

If the same municipal entities who proposed the proposed action, funded the environmental compliance and may fund the proposed federal project are also funding the proposed monitoring, those arrangements should be disclosed as a connected action. *See* Southern Nevada Water Authority Board of Directors Meeting, 11/20/2008, Approved Minutes, available at http://www.snwa.com/cfml/agenda/minutes.cfml?doc_id=10541&reason=detail_search_results&agenda_org_id=1 (approving agreement among the Metropolitan Water District of Southern California, the Central Arizona Water Conservation District and the Authority to fund environmental monitoring associated with the pilot operation of the Yuma Desalting Plant for an amount not to exceed $94,165). The Draft EA should describe the goals, objectives and methodology of any monitoring plan undertaken in conjunction with the proposed action to help the public understand the breadth of the proposed action. We also recommend additional information regarding the joint effort to reduce or eliminate changes in flows to the Ciénega, as it too is a connected action and is extremely relevant to evaluating the proposed action.

6-25

Ciénega de Santa Clara Literature Review. We also adopt the comments of Dr. Osvel Hinojosa Huerta of Pronatura Noroeste. *See* Comments on the Literature Review of the Ciénega de Santa Clara by the U.S. Bureau of Reclamation, Dr. Osvel Hinojosa Huerta – Pronatura Noroeste (March 15 2009 – updated May 20 2009). We enclose additional analysis by Dr. Edward P. Glenn, Dr. Jaqueline Garcia Hernandez and Maria de Lourdes Mexicano Vargas on the potential adverse effects of the proposed action on the Ciénega (Attachment A).

Climate Change. Reclamation's dismissal of potential climate change impacts – "because the scope of this action is short-term as well as geographically limited" – is unsupported and unsupportable. Draft EA at 24. *See Massachusetts v. EPA*, 549 U.S. 497, 521 (2007) (confirming that climate change is having and will have adverse effects on the environment). The Environmental Protection Agency has issued a proposed finding that carbon dioxide endangers public health and welfare, lending additional weight to the need to weigh the direct, indirect and cumulative emissions of greenhouse gases from YDP operation. *See* Proposed

Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18885 (April 24, 2009).

Since it is reasonably foreseeable that greenhouse gas emissions from the proposed project will contribute to climate change, Reclamation must evaluate the climate change impacts of YDP operation. *See Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 508 F.3d 508, 549-50 (9th Cir. 2007) ("The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."); *Border Power Plant Working Group v. Dep't of Energy*, 260 F.Supp.2d 997 (S.D.Cal. 2003) (requiring NEPA analysis of carbon dioxide emissions from power plants that would export power via transmission lines for proposal to grant rights-of-way for lines); *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003) (violation of NEPA to fail to analyze the CO2 emissions of coal transported by proposed rail line once used by power plants). Potential sources of greenhouse gas emissions include YDP energy consumption and vehicular use.[8]

Reclamation has not taken even the basic step of quantifying potential emissions[9], but its inquiry does not end there. Simply quantifying emissions without analyzing the impact of these emissions on climate change or on the environment is inadequate. Reclamation must assess carbon dioxide and other greenhouse gas emissions attributable to YDP operation, as well as the actual environmental effects associated with climate change. *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 508 F.3d 508, 558 (9th Cir. 2007) ("While NHTSA did the calculations necessary to determine how much extra carbon dioxide would be emitted, it failed completely to discuss in any detail the global warming phenomenon itself, or to explain the benchmark for its determination of insignificance in relation to that environmental danger. … NHTSA's bald conclusion that the mere magnitude of the percentage increase is enough to alleviate its burden of conducting a more thorough investigation cannot carry the day.") (citations omitted). *See also* EPA Asserts Tougher Stance on GHGs in NEPA Review Proceeding, Clean Air Report (July 12, 2007) (reporting that EPA appears to be intensifying its scrutiny of NEPA reviews that fail to consider greenhouse gas (GHG) emissions).

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[8] For sample methodologies for an analysis, *see, e.g.*, Governor's Office of Planning and Research, Technical Advisory, CEQA & CLIMATE CHANGE: Addressing Climate Change through California Environmental Quality Act (CEQA) Review (June 19, 2008), http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf; Ass'n of Environmental Professionals, *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, June 29, 2007, available at http://www.califaep.org/userdocuments/File/AEP_Global_Climate_Change_June_29_Final.pdf; Massachusetts Executive Office of Energy and Environmental Affairs, April 23, 2007, *MEPA Greenhouse Gas Emissions Policy and Protocol*, available at http://www.mass.gov/envir/mepa/pdffiles/misc/GHG%20Policy%20FINAL.pdf.

[9] While Reclamation has not provided the public with any information regarding potential energy use, documents provided by Reclamation to Environmental Defense Fund suggest that the proposed pilot YDP operation will require 38,877 MWh/year. Most power generation available on the Arizona grid releases 1.05 tons carbon per MWh, so the proposed YDP pilot is expected to release more than 40,000 tons carbon into the atmosphere.

Reclamation is also obligated by Secretarial order to address climate change. Secretarial Order 3226, *Evaluating Climate Change Impacts in Management Planning* (January 16, 2009). Secretarial Order 3226 mandates, in Section 4, the following:

> Each bureau and office of DOI shall, in a manner consistent and compatible with their respective missions: Consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting DOI resources.

Although the Department of the Interior has not yet developed climate change-related guidance for Reclamation, this fact does not excuse Reclamation's duties, here, to comply with Secretarial Order 3226.

Reclamation overlooks a measure of significant impact when it fails to analyze the proposed action's contribution to climate change. Significance is measured by both the context and intensity of the action, *id.* § 1508.27, and an action that may violate federal or state law or other requirements for environmental protection, *see id.* § 1508.27(b), may have a significant impact. *See also id.* § 1502.16(c) (environmental effects section shall include discussions of possible conflicts between the proposed action and federal, state, local or tribal plans, policies or controls for the area); *id.* § 1506.2(d) (requiring discussion of any inconsistency with state or local plans or laws and of the extent to which the proposed action will be reconciled with the plan or laws).

Arizona is also one of several states to collaborate in the Western Climate Initiative, "created to identify, evaluate, and implement collective and cooperative ways to reduce greenhouse gases in the region." Western Climate Initiative, http://www.westernclimateinitiative.org/. Arizona, in particular, has adopted greenhouse gas emissions targets. Arizona has adopted the goal of reducing its emissions to 2000 levels by 2020 and to 50 percent below its 2000 levels by 2040. Executive Order 2006-13 (Sept. 8, 2006). Reclamation has failed to examine how the proposed action impacts Arizona's greenhouse gas reduction targets.

6-26 In sum, Reclamation must make a good faith effort to identify and quantify the greenhouse gases produced by the proposed action and its alternatives, analyze impact of these emissions on climate change and the environment, analyze climate change's impact on the proposed action and alternatives, and examine mitigation measures. *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 508 F.3d 508, 549 (finding EA's cumulative impacts analysis inadequate because it failed to "evaluate the 'incremental impact' that these emissions will have on climate change or on the environment more generally in light of other past, present, and reasonably foreseeable actions"). *See also* Council on Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act, 24, 42 (1997) (including documentation and analysis of global warming in the affected environment and effects), available at http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm.

6-27 **Affected Environment**. Reclamation claims that "[r]iver and agricultural conditions in the Yuma area during the proposed Pilot Run are expected to be reasonably the same as in 2008; therefore 2008 can be considered a representative year." Draft EA at 10. What is the basis for this expectation and determination?

Air Quality. Reclamation's analysis of air quality is inadequate, limiting itself to a brief description of the potential impacts of chlorine and anhydrous ammonia to the exclusion of other, more significant factors. With no analysis, Reclamation claims the proposed action will not affect PM_{10}. Draft EA at 25. There is a great likelihood, though, that with little effort Reclamation would find the contrary:

> PM_{10} is a byproduct of fuel combustion and wind erosion of soil and unpaved roads, and is directly emitted into the atmosphere through these processes. Currently, Yuma County is designated as a non-attainment area for PM_{10} by state and federal statutes.

Draft EA at 24. Given Yuma County's non-attainment status and the potential for additional truck and car trips generated by the Proposed Action over unpaved roads – such as those adjacent to the MODE and the Bypass Drain – Reclamation must provide information on the following:

- The current number of car, light truck, and heavy truck trips to and from the YDP, including trips along unpaved roads;
- The projected increase in the number of such trips due to the proposed action (arising from, for example, new staff, new visitors, new vendors, new deliveries, etc.);
- Miles of paved and unpaved roads travelled as part of normal operations and maintenance activities associated with the proposed action;
- Projected increases in PM_{10} emissions from each of these activities;
- Mitigation activities that will be undertaken to avoid non-compliance; and
- A clear, detailed assessment of the ability of such mitigation activities to offset projected PM_{10} emissions and further degradation of local air quality.

6-28

As noted in the Draft EA, PM_{10} can impair human health. Reclamation must assess the proposed action's potential to increase PM_{10} emissions via increased diesel emissions and increased disturbance of unpaved roads. Reclamation also fails to recognize that federal actions can not contribute to air quality violations, worsen air quality problems or delay attainment for six pollutants, including particulate matter, that threaten public health. 42 U.S.C. § 7506. The document fails to provide a reasonable air quality analysis and to perform a general conformity review and must be re-done.

In several locations, Reclamation asserts a need to gather "emissions data" from the YDP, Draft EA at 20, but never specifies the type or extent of emissions that is expects from the proposed action. Reclamation must clarify this statement of need and any expected effects from emissions.

Biological Resources. Reclamation must provide a full assessment of the potential impacts, both beneficial and adverse, associated with discharging 7,300 AF of water at 2,664 ppm TDS into the Gila River Pilot Channel and associated impacts on the Gila in the roughly ten river miles between the MODE 1 Diversion/Return Facility and the confluence with the Colorado, as described above under 'Proposed Action' and below under 'Water Resources.'

6-29

Reclamation artificially limits its discussion of potential effects to biological resources to those related to water quality or quantity in the Colorado River and to those on special status species, overlooking potential effects in the Gila River, effects from energy use, climate change, emissions and hazardous material spills or releases, and effects on all flora and fauna. Reclamation must complete its analysis of effects to wildlife to include all of these resources and impacts.

6-30

Reclamation also mistakenly relies on the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) compliance documents to avoid analysis of the effects of a change in the point of diversion along the Colorado River. Draft EA at 30. Relying solely on the LCR MSCP for environmental assessment is flatly inappropriate for several reasons. As the Draft EA acknowledges, the LCR MSCP analysis was programmatic, Draft EA at 50, and lacked site-specific analysis. In addition, the proposed action was not among the covered activities included within the 1.574 million acre-feet change in point of diversion. *See* Bureau of Reclamation, *Lower Colorado River Multi-Species Conservation Program Final Programmatic Environmental Impact Statement/Environmental Impact Report*, Vol. 1, 1-7 to 1-10 (2004). Lastly, and most importantly, the NEPA analysis for the LCR MSCP was "limited to assessing the impacts of the ESA take authorization being requested for the covered activities and the impacts of the Conservation Plan that is the basis for the incidental take permit." *Id.* at 1-7 to 1-8; *id.* at 1-17 ("this EIS/EIR does not evaluate the environmental effects of the covered activities … or provide NEPA … authorization for future activities").

6-31

Water Resources: Surface Water, Water Quality

Figure 3-1, Water Resources Analysis Area fails to indicate the location of the MODE 1 Diversion/Return Facility and the affected reach of the Gila River Pilot Channel to its confluence with the Colorado River. Reclamation has maintained this flaw from the proposed action description throughout the water resources section as a whole, and is a significant failing of the Draft EA. Reclamation's failure to evaluate these water resource impacts also undermines the its evaluation of biological resources, including listed species, which may be impacted in the affected area.

While the addition of 7,300 acre-feet of MODE water at 2,664 ppm TDS may have a manageable impact on the Colorado River at the NIB, Reclamation fails to provide any information on the impacts of the discharge of this water on the water quality and flora and fauna found in the ten river miles between the discharge point at the MODE 1 Diversion/Return Facility and the Gila's confluence with the Colorado River. According to daily flow data from the USGS station 09520500 "Gila River near Dome," total annual flow of the Gila River near the discharge point in 2007 and in 2008 was less than 7,000 acre-feet each year.

6-32

Reclamation fails to project daily discharge data for the MODE 1 Diversion/Return Facility, and fails to provide daily flow and salinity data for the Gila River at the point it will receive the 7,300 AF of MODE water. Without this information, it is not possible for Reclamation or the reader to determine the likely impacts of the proposed action. Similarly, absent such information, Reclamation can not reasonably claim that the proposed action will not cause any impacts. During 2008, considered "representative" by the draft EA, daily mean discharge on the Gila

River near Dome dropped as low as 0.78 cfs. Reclamation fails to disclose the proposed mean daily discharge from the MODE 1 Diversion/Return Facility. Assuming a constant rate for the 7,300 AF over the 18-month period of the proposed action yields a daily rate of 6.7 cfs. Application of Reclamation's operating assumption that the YDP would operate 83% of the time over the 18 months, Draft EA at App. C, p. 2, with further assumption that the discharge of MODE water through the MODE 1 Diversion/Return Facility is timed to match this operating schedule, yields a five-day discharge of 10.1 cfs, followed by a one-day zero discharge. Figure 1, below, plots daily flow of the Gila River near Dome in 2008, as reported by USGS gage 09520500, against the constant and variable projected daily discharges of MODE water, at 6.7 cfs and 10.1 cfs, respectively. This figure is intended to show the potential magnitude of the MODE discharge relative to the daily flow of the receiving body, but is purely speculative given that daily MODE diversion data was not included in the draft.

6-32

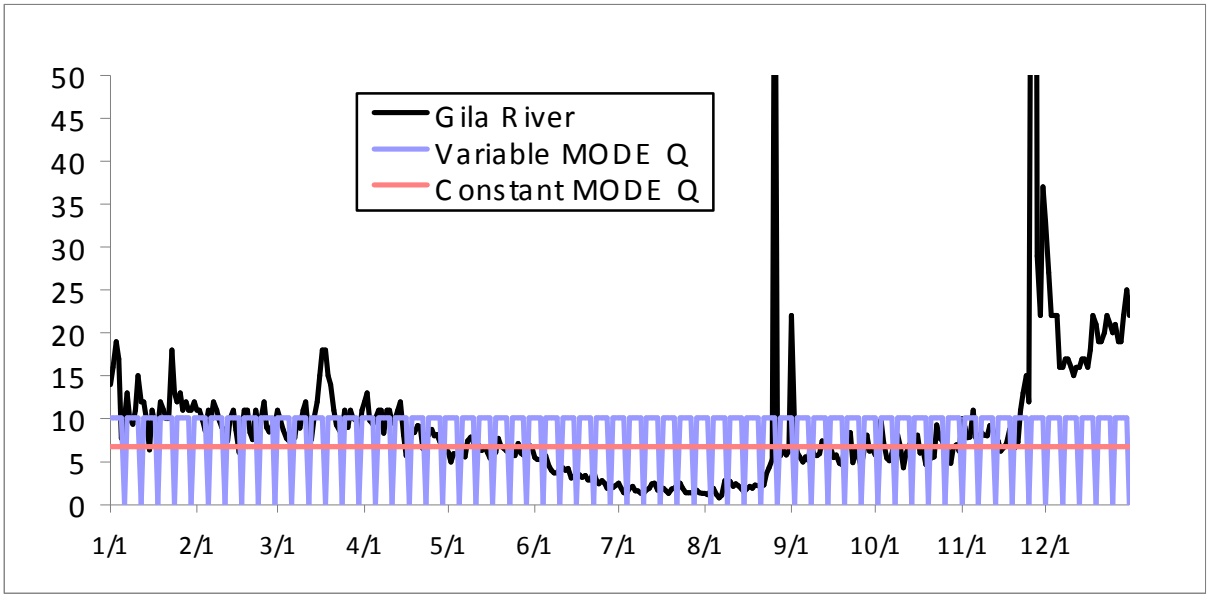

Figure 1. Daily Gila River flows, with projected constant and variable MODE discharge. Source: USGS Gage 09520500 Gila River near Dome.

Presumably, the daily salt loadings to the Gila River would have significant impacts on water quality, especially in the normally low-flow summer months. While the addition of 7,300 acre-feet of water over twelve to eighteen months will not significantly affect the level of the Colorado River at or below its confluence with the Gila, it will have a calculable and significant impact on the level of the Gila River over the ten miles before it joins the Colorado. Reclamation must describe and evaluate these impacts.

6-33

Reclamation states that it "will obtain a permit from ADEQ for discharge of product water into the river," Draft EA at 34, but fails to note whether a permit from ADEQ will be required to discharge MODE water into the Gila River, or whether such a permit has been obtained.

6-34 **Water Resources: Groundwater**. For the demonstration run, ADEQ asserted the need for an aquifer protection permit and after application from Reclamation, issued a temporary permit. Reclamation must clarify, then, why for a pilot run at a higher capacity and for a longer period of time, an aquifer protection permit only "may" be required. Draft EA at 34. Reclamation must also describe impacts to groundwater and requirements of the aquifer protection permit to minimize and mitigate adverse impacts.

Hazardous Materials. Reclamation's discussion and analysis of hazardous materials is inadequate. Reclamation notes that "[d]uring the proposed Pilot Run, the YDP is projected to utilize between 391 and 521 tons of liquid chlorine and between 51 and 127 tons of anhydrous ammonia." Draft EA at 39. Reclamation also notes that sulfuric acid is also used on-site. Draft EA at 18. In fact, on May 5, 2005, 4100 gallons of sulfuric acid were accidentally released from a YDP storage tank, due to a valve failure.[10]

6-35 Reclamation must answer several questions regarding these materials. How will the liquid chlorine and anhydrous ammonia be delivered to the YDP? How is sulfuric acid delivered to the site? How will wastes be transported from site? How frequently are such deliveries made? What is the seismic risk to hazardous and noxious materials storage facilities? What is the risk that an accidental release of any of these hazardous and noxious materials might occur? Even if such an accidental release were handled according to the updated RMP and PSMP, how might odors emanating from such a release affect nearby Indian Trust Assets, and low-income and minority populations? Conceivably, a spill of any of these materials could have adverse impacts on these populations and their commercial ventures.

Given the YDP's reliance on hazardous and noxious materials, the fact that an accidental release has already occurred at the YDP, and the fact that the delivery and presence of the materials will increase markedly due to the proposed action, the draft should provide a thorough analysis and risk assessment, in addition to its description of compliance with federal mandates.

6-36 **Environmental Justice**. Given that potential adverse effects to low-income and minority communities have never been evaluated[11] and that Reclamation relies on faulty analysis elsewhere in the Draft EA, Reclamation's analysis in the Draft EA is inadequate.

> Based on previous analysis for air quality in the Air Quality section of this EA, changes in air quality resulting from the Proposed Action will not result in proportionately [sic] high and adverse effects to the environment or to the health of low-income and minority populations.

Draft EA at 46. As noted previously, Reclamation's air quality analysis is narrow and inadequate. Reclamation fails to analyze the increase in PM_{10} emissions associated with the

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[10] National Response Center Incident Report #757828, http://www.nrc.uscg.mil/reports/rwservlet?standard_web+inc_seq=757828 (last visited May 28, 2009).

[11] The *Final Environmental Statement Colorado River Basin Salinity Control Project Title I* did not consider impacts to these resources.

proposed action. Reclamation also fails to analyze the risks of an accidental release of the hazardous materials to be used for the proposed action, and the potential for such a release to adversely affect low-income and minority populations in the area, such as the Cocopah Tribe. Reclamation needs to perform this analysis adequately.

Noise. The evaluation of the proposed action's impacts to noise levels, like that of much of the rest of the draft EA, is overly-generalized and inadequate. For example:

> Operation of the YDP will result in an increase in the ambient noise immediately surrounding the facility. Noise levels generated by the YDP are less than currently existing noise contributors in the area and will not exceed noise standards.

Draft EA at 47. By what amount will YDP operation increase ambient noise? Reclamation
6-37 notes that "[b]ecause of the use of farming equipment, pumps, vehicle usage and the like, the YDP lies in a 65- decibel (dB) to 80 dB noise corridor." Draft EA at 47. Reclamation then states, "Because of the use of combustion turbines, the noise level of the Yucca Power Plant is greater than the noise generated from the YDP facility." *Id.* While it is encouraging to know that the YDP is not the loudest facility in the area, the relative amount of noise produced does not address the underlying question of exceedance. Reclamation should provide actual data for current noise generated by the YDP and projected increases in decibels due to the proposed action, including noise generated by the additional truck traffic associated with the proposed action. To simply state "The YDP will operate within acceptable ambient noise levels in accordance with applicable noise ordinances or standards, and will not result in significant negative effects due to noise," Draft EA at 48, without providing any basis for such a claim fails to satisfy NEPA and the reader's ability to make a determination.

Energy Usage. The Draft EA contains no information regarding the amount or cost of the energy required to operate the YDP. The power requirements, sources and their costs are important NEPA considerations.

That Reclamation's authorization to operate the YDP also conditions Reclamation's acquisition of power source(s) further mandates a discussion of the energy requirements for the YDP. The CRBSCA directs the Secretary "use sources of electric power supply for the desalting complex that will not diminish the supply of power to preference customers from Federal power systems operated by the Secretary." 43 U.S.C. 1571(b)(2)(A). If the Secretary uses power from the
6-38 Navajo Generating Station, "revenues credited to the Lower Colorado River Basin Development Fund shall not be diminished below those amounts which would have accrued had the power been marketed at the rate determined by the Secretary of Energy for the sale of power from the Navajo Generating Station to utilities and public entities," *id.* § 1571(b)(2)(B), power needs of the Central Arizona Project shall be met first, *id.*, and before obtaining power from the Station, "the Secretary shall complete an analysis of alternative sources of supply." *Id.*

In addition, Reclamation has not explained how the proposed action comports with Section 6 of
6-39 Secretarial Order 3226 (requiring reporting of steps to implement Exec. Order 13423) or Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management." Exec. Order, 72 Fed. Reg. 3919 (Jan. 26, 2007). The Executive Order includes

6-39 requirements to "improve energy efficiency and reduce greenhouse gas emissions" and "reduce the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the bureau or office," among others. Sec. 2, Exec. Order 13423.

Endangered Species Act Compliance

Notable wildlife resources at the Ciénega de Santa Clara include significant populations of two species listed as endangered under the Endangered Species Act. The Yuma Clapper Rail (***Rallus longirostris yumanensis)*** is a marshbird endangered from loss of habitat, primarily due to stream channelization and drying and flooding of marshes, as a consequence of water flow management on the lower Colorado River.[12] While early data estimated 450 to 970 birds in the Delta, including the Ciénega, more recent surveys have estimated 6,629 rails in the Ciénega alone in 2000. *See* O. Hinojosa-Huerta et al., *Distribution and Abundance of the Yuma Clapper Rail (Rallus longirostris yumanensis) in the Colorado River Delta, Mexico*, 49 J. Arid Env'ts 171 (2001). This is almost 6 times the most recent U.S. population estimate,[13] and dwarfs population estimates along the Lower Colorado River main stem in the United States. Bureau of Reclamation, *Lower Colorado River Multi-Species Conservation Program Final App*. I-3 (2004) (estimating from 191 to 325 individuals yearly since 2000). Loss of Yuma clapper rails and their
6-40 habitat at the Ciénega will have very real consequences on the United States populations because recovery of the Yuma clapper rail depends on preservation of the species and its habitat in Mexico.[14] The Fish and Wildlife Service recently reaffirmed the need to protect the Ciénega population when assessing the loss of rail habitat near the Andrade Mesa wetlands:

> Primary conservation actions that would aid in the conservation of the Yuma clapper rail include preservation of breeding and wintering habitats, and the water that supports those habitats in the U.S. and Mexico. As part of this process, the Service would like to work with your office on ways to maintain or replace flows that currently support the Cienaga [sic] de Santa Clara. As habitat for the largest known population of Yuma clapper rails in Mexico, maintaining this habitat will be a key action in the conservation of the species in Mexico.

See Letter from Acting Manager, California-Nevada Operations Office, Fish and Wildlife Service to Regional Director, Lower Colorado Region, Bureau of Reclamation, at 3 (Jan. 11, 2006).

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[12] 50 C.F.R. § 17.11; Yuma clapper rail, available at http://ecos.fws.gov/docs/life_histories/B00P.html (last visited May 28, 2009).

[13] In 1994, the Yuma clapper rail population in the United States was estimated at up to 1,145 individuals. U.S. Fish & Wildlife Service, *Biological and Conference Opinion on Lower Colorado River Operations and Maintenance* 70 (1997).

[14] The Yuma clapper Rail Recovery Plan calls for obtaining agreements with Mexico for management and preservation of the species in order to achieve recovery. The FWS will assess both United States and Mexican populations in any delisting decision. Stanley H. Anderson, *Yuma Clapper Rail Recovery plan* 12 (1983), *available at* http://www.fws.gov/southwest/es/Arizona/Documents/RecoveryPlans/YumaClapperRail.pdf.

The desert pupfish (*Cyprinodon macularius*) is endangered due to a number of threats including habitat modification, channelization, water impoundment and diversion, and groundwater pumping. 51 Fed. Reg. 10,842 (March 31, 1986); Paul C. Marsh & Donald W. Sada, Desert Pupfish Recovery Plan 11 (U.S. Fish & Wildlife Service) (September 1993). There are currently twelve natural populations in the United States and Mexico.[15] In the United States, a natural population of this subspecies exists only in California's Salton Sink, which includes the Salton Sea. Marsh, Desert Pupfish Recovery Plan, *supra*, at 1. In Mexico, however, this subspecies exists in El Doctor, the Ciénega (first discovered during the initial environmental assessments of the YDP), Laguna Salada, and Cerro Prieto wetlands. Marsh, Desert Pupfish Recovery Plan, *supra*, at 5.

Under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 *et seq.*, federal agencies are required to determine whether any proposed activity "may affect" or result in the take of listed or proposed species. If so determined, the lead agencies must consult with the Fish and Wildlife Service (FWS) in order to ensure that their actions do not jeopardize listed species and to obtain incidental take authorization. Operation of the YDP is a discretionary action subject to the consultation provisions and other protections of the ESA. *See generally* Attachment C. We urge
6-41 Reclamation to initiate consultation with FWS early in the scoping process in order to preserve alternatives that are less adverse to listed species and do not conflict with existing efforts to protect and recover listed species.

Section 7 is one of the primary mechanisms established by Congress to accomplish the ESA's goal of species conservation by requiring that all federal agencies consult with the FWS before authorizing, funding, or carrying out any action that "may affect" an endangered or threatened species or adversely modify or destroy critical habitat for such species. 16 U.S.C. § 1536(a)(2). This consultation process provides the means by which agencies assure compliance with the basic substantive mandate of ESA section 7(a)(2) – the duty to "ensure" that their actions do not "jeopardize the continued existence of any [listed] species or result in the destruction or adverse modification of [critical habitat]." *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 790 (9th Cir. 2005) (consultation ensures that agencies meet their substantive duties under the ESA). *See also Babbitt v. Sweet Home Chapter of Cmtys. for a Greater Oregon*, 515 U.S. 687, 692 (1995).

Where an agency action in the United States affects wildlife in another country, provisions of the ESA apply. *See Defenders of Wildlife v. Lujan*, 911 F.2d 117 (8th Cir. 1990), *rev'd on other grounds*, 504 U.S. 555 (1992). The ESA's implementing regulations require that the request to initiate consultation describe the action area – "all areas to be affected directly or indirectly by the federal action and not merely in the immediate area involved in the action." 50 C.F.R. § 402.02. Neither this nor other definitions, including 'cumulative effects' and 'effects of the action,' contain geographic limitations. *Id.* Clearly, the Ciénega would be within the area affected by Reclamation's action, and therefore Reclamation must avoid jeopardizing or taking

[15] Bureau of Reclamation, *Supplemental Biological Assessment on Transboundary Effects in Mexico for Proposed Interim Surplus Criteria* 26 (Jan. 9, 2001).

listed species in the Delta. Moreover, adverse effects to the Ciénega's endangered wildlife will have adverse effects on the U.S. populations.

Lastly, Reclamation makes no mention of any ESA obligations pursuant to Section 8 of the ESA. Reclamation does not evaluate any opportunities for international cooperation in the form of financial assistance, technical assistance or other foreign programs. *See* 16 U.S.C. § 1537.

Migratory Bird Protections

6-42 More than ninety birds that have been recorded at the Ciénega are protected under migratory bird treaties. *See* 50 C.F.R. § 10.13; Hinojosa-Huerta, O., H. Iturribarría-Rojas, Y. Carrillo-Guerrero, M. de la Garza-Treviño, & E. Zamora-Hernández, *Bird Conservation Plan for the Colorado River Delta* 6 (Pronatura Noroeste, Dirección de Conservación Sonora. San Luis Río Colorado, Sonora, México 2004), available at http://www.sonoranjv.org/planning/deltabcp/BCPColoradoDelta.pdf (last visited May 28, 2009). Damage to the Ciénega, such as might be caused by increased salinity, would directly impair migratory birds within the borders of the United States. In fact, since the Ciénega is a major stopover along the Pacific Flyway where the flyway goes through a bottleneck, and the other two stopovers in this bottleneck area are the Salton Sea, which is under serious threat, and the remnants of the Colorado River Delta, impairments to threatened and endangered species at the Ciénega could well affect both agriculture and local ecosystems from the border with Mexico north through Canada to Alaska.

Errata

6-43 p. 5 – revise to read "International Boundary and Water Commission."

6-44 p. 19 – define "SCR."

6-45 Table 2.1 – The sums and context suggest that "One month of pretreatment returned to the Colorado River" and "Filter backwash returned to the Colorado River" should instead both read "returned *to the Bypass Drain.*"

6-46 p. 49 – the Draft EA's description of the MSCP's goals differ from those listed by the MSCP program website and should be made consistent. Excluding MSCP language about "conserving habitat" raises concerns that this program goal is not considered sufficiently important to be included.

Conclusion

Reclamation has not adequately considered and elaborated the possible consequences of the proposed agency action and alternatives when concluding that there will be no significant impact on environmental resources, or even no adverse impact at all. Indeed, Reclamation has poorly defined the alternatives and environmental baseline, has completely ignored potential impacts of the action, and overall, has failed to take a hard look at this action. "Because the very important decision whether to prepare an EIS is based solely on the EA, the EA is fundamental to the

decisionmaking process." *Metcalf v. Daley*, 214 F.3d 1135, 1143 (9th Cir. 2000). As demonstrated above, Reclamation's Draft EA would fail to support a decision not to prepare an EIS. *See Found. for N. Am. Wild Sheep v. Dept. of Agric.*, 681 F.2d 1172, 1178 (9th Cir. 1982) (rejecting EA where it "failed to address certain crucial factors, consideration of which was essential to a truly informed decision whether or not to prepare an EIS."

Sincerely,

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Comments on the Past and Present Vegetation Status of Cienega de Santa Clara and Projected Reductions in Vegetated Area Due to Operation of the Yuma Desalting Plant

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Background

The Cienega de Santa Clara was created by disposal of saline ground water from the Welton-Mohawk Irrigation District in Arizona into a former small marsh area in Mexico via the MODE canal (Glenn et al., 1992, 1995, 1996; Burnett et al., 1993; Zengel et al., 1995). Disposal started in 1977 and continues to the present at a rate of approximately 4.25 m^3/sec, at salinity levels of 2-3 g/l total dissolved salts (TDS). The history, vegetation, hydrology and wildlife of the Cienega de Santa Clara were recently reviewed by the U.S. Bureau of Reclamation for the purpose of projecting the effects of a 12-18 month test run of the Yuma Desalting Plant on the Cienega (U.S. Bureau of Reclamation, 2009). The purpose of this report is to augment the information contained in that report by documenting the development of the vegetation community over time; the current status of the vegetation and threats to the vegetation; and likely effects of operation of the YDP on the vegetation.

Plants of Cienega de Santa Clara

The Cienega supports 24 emergent, terrestrial and submerged plant species (Table 1). An additional seven species, not found in the Cienega, occur in the adjacent El Doctor wetlands. The El Doctor wetlands have lower salinity (1-2 g/l TDS) than the Cienega and support more species (Zengel et al., 1995). The distribution of plants in the Cienega was determined in 1993 at 56 points by high-resolution aerial videography (Figure 1) (Zengel et al., 1995). *Typha domengensis* was the dominant plant throughout the marsh and was present at all but three sample locations. Two of these were open water areas with no emergent vegetation, while the third was an island that contained wet soil but was not flooded. *Phragmites australis* occurred at 20 sites, mainly at the entry point of water in the MODE and along the fault-line plume. *Distichlis* spp. are more salt-tolerant than *Typha* or *Phragmites* and were found in the southern (more saline) part of the Cienega. *Juncus cooperi* was present but not widely distributed in the marsh. Terrestrial species, such as *Tamarix ramosissima*, *Prosopis spp*., and *Atriplex spp.* were in high areas within and around the flooded portion of the marsh. Significantly, *Distichlis palmeri* (an endemic grass species found only in the Upper Gulf of California), apparently grew from seedlings in the Cienega, whereas it grows only from vegetative fragments in the surrounding esteros because of high salinity. *Najas marinas*, a valuable submerged aquatic food plant for waterfowl, grew prolifically in open water areas of the marsh. The species list for the Cienega de Santa Clara has not been updated since 1993 to our knowledge.

Changes in the Size and Vigor of the Vegetated Area of the Cienega Over Time

Two studies have used satellite imagery to track the growth of the Cienega since flooding. A composite of results are in Figure 2. Outlining the perimeter of the Cienega is somewhat subjective and differed between the studies, but both showed a linear increase in the vegetated area up to 1995, followed by a decrease in growth. In 2002 the vegetated area covered 5,970 ha. However, it has decreased since then and is currently 5,046 ha.

In 2006-2007, a large area of marsh vegetation in the southwest corner of the Cienega dried out (Figures 3 and 4). This was attributed to flow diversions within the marsh, due to siltation at the terminus of the MODE canal. The MODE carries sediments blown into the canal during its passage from Arizona to the Cienega, and this sediment has built a delta at the end of the canal, requiring periodic dredging to prevent backflows. Sediment at the end of the dredged section of canal has built a silt dam that currently obstructs flows into the southwest portion of the marsh (Figure 5). Further dredging is planned to restore water to the southwest corner of the marsh. Since it sits in a shallow basin, siltation might eventually change the size and vegetation composition of the Cienega. Lack of flooding could result in conversion of current, emergent-dominated areas into shrublands, likely dominated by *Tamarix ramosissima* and other salt-tolerant shrubs. On the other hand, water not flowing into the southwest corner of the marsh might extend the area of emergent vegetation in the southern end of the marsh. A thorough hydrological study of the Cienega is needed.

Vegetation density since 2000 was tracked by imagery from the MODIS sensors on the Terra satellite. The Normalized Difference Vegetation Index (NDVI) from MODIS sensors provides a measure of vegetation "greenness" (chlorophyll content) at 16-day intervals based on composites of cloud-free, daily overpasses during each interval. Figure 6 (Top Panel) shows annual cycles of NDVI over the whole Cienega, while Figure 6 (Bottom Panel) shows NDVI in the southwest portion that has experienced dry-down. Up to 2005, vegetation vigor was high, and year to year variability in vegetation vigor was low, but over-all vigor has declined since then due to the dry-down in the southwest portion of the marsh (Figures 7).

Flows into the Cienega and Potential Impacts of the Yuma Desalting Plant

Vegetation in the Cienega is mainly dependent on flows in the MODE, since precipitation is very low and the only other water source is local agricultural return flows from the Riito Drain, which contributes 10-15% of the total flows into the Cienega. Flows in the MODE were as high as 8 m^3/sec when the MODE was first built, but are currently about 4.25 m^3/sec (2006-2008) (Figure 8). Note that the 2006 90-day test run of the YDP at 10% capacity was not detectable in the flow record, as normal variability in flows was greater than the test run.

Several studies have concluded that *Typha domengensis* in the Cienega is limited by both salinity and volume of flows (Burnett et al., 1993; Glenn et al., 1995; Tanner et al., 1997). Both greenhouse and field studies show that the upper salinity limit of *T. domingensis* is about 6 g/l TDS, and that growth decreases linearly between 0 and 6 g/l. Evaporanspiration (ET) of *T. domengensis* in the Cienega is about 1.4 m/yr. Transpiration rates decrease with salinity, but stand density decreases as well, resulting in greater direct evaporation of water, so ET is not expected to change greatly with salinity. Hence simple linear modeling can be used to predict the effects of operation of the YDP on the Cienega. Selenium is an additional concern that will be impacted by operation of the YDP (Garcia-Hernandez et al., 2000).

According to Bureau of Reclamation (2009), the test run at one-third capacity will remove 37,980 acre-ft for feed water to the YDP and an additional 7,300 acre-ft for blending with product water to deliver to the river. This amounts to 42% of the bypass flow of 106,897 acre-ft. Approximately 12,700 acre-ft of brine (ca. 8 g/l TDCS) will go to the Cienega as well. However, this water will not benefit the vegetation as it is beyond the tolerance limit of *T. domengensis*. The Cienega also receives water from local sources in Mexico. We modelled a conservative case in which 33% of the MODE water is passed through the YDP and the resulting brine is discharged into the Cienega (Figure 9). Overall salinity levels in the Cienega and concentration of selenium will increase by approximately 8% over current levels by our model, but up to 20% according to Bureau of Reclamation (2009). Based on 33% diversion of water from the MODE to the YDP and the river, the vegetated area will decrease to 3,360 ha. Figure 10 shows the likely areas to be effected by flow reductions, based on observations during the 1993 and 2006-2007 dry-downs.

Long-term effects of the test run are difficult to evaluate. Emergent vegetation returned after a one-year dry down in 1993 (Zengel et al., 1995). Dormant tubers were able to resprout when water was returned. However, the southwest portion of the Cienega has already been dry for two years and it is unknown whether *Typha* will return if this area is not reflooded for another 12-18 months. It could conceivably convert to shrublands, mainly *T. ramosissima*, as are found all around the Cienega. Therefore, it is possible that the test run could cause permanent damage to a portion of the marsh habitat.

Table 1. Plants documented in Cienega de Santa Clara. E = emergent; T = terrestrial; S = submerged aquatic vegetation.

Family ***Species***	**Common Name**
AIZOACEAE	
Sessuvium verrucosum	Seaside Purslane (T)
ASTERACEAE	
Pluchea sericea	Arrowweed (T)
BORAGINACEAE	
Heliotropum curassavicum	Alkalai Heliotrope (T)
CHENPOPDIACEAE	
Allenrolfia occidentalis	Iodine Bush (T)
Atriplex canescens	Four-wing Saltbush (T)
Atriplex lentiformis	Quail Bush (T)
Nitrophila occidentalis	Alkalai Weed (T)
Salicornia subterminalis	Glasswort (E, T)
Suaeda moquinii	Sea Blite (E, T)
CONVOLVULACEAE	
Cressa truxillensis	Cressa (T)
CYPERACEAE	
Scirpus americanus	Bulrush (E)
Scirpus maritimus	Saltmarsh Bulrush (E)
FABACEAE (Leguminosae)	
Prosopis glandulosa* var. *torreyana	Western Honey Mesquite (T)
Prosopis pubescens	Screwbean Mesquite (T)
JUNCACEAE	
Juncus cooperi	Spiny Rush (E)
NAIADACEAE	
Najas marinas	Spiny Niad (S)
POACEAE (Graminaee)	
Distichlis palmeri	Palmer's Salt Grass (E)
Distichlis spicata	Salt Grass (E,T)
Leptochloa uninervia	Mexican Sprangletop (T)
Phragmites australis	Common Reed (E)
Sporobolus airoides	Alkali Sacaton (E,T)
POTAMOGETONACEAE	
Ruppia maritime	Widgeon Grass (S)
SAURACEAE	
Anemopsis californica	Yerba Mansa (T)
SOLANACEAE	
Lycium brevipes* var. *brevipes	Wolfberry (T)
TAMARACEAE	
Tamarix ramosissima	Saltcedar (T)
TYPACEAE	
Typha domengensis	Southern Cattail (E)

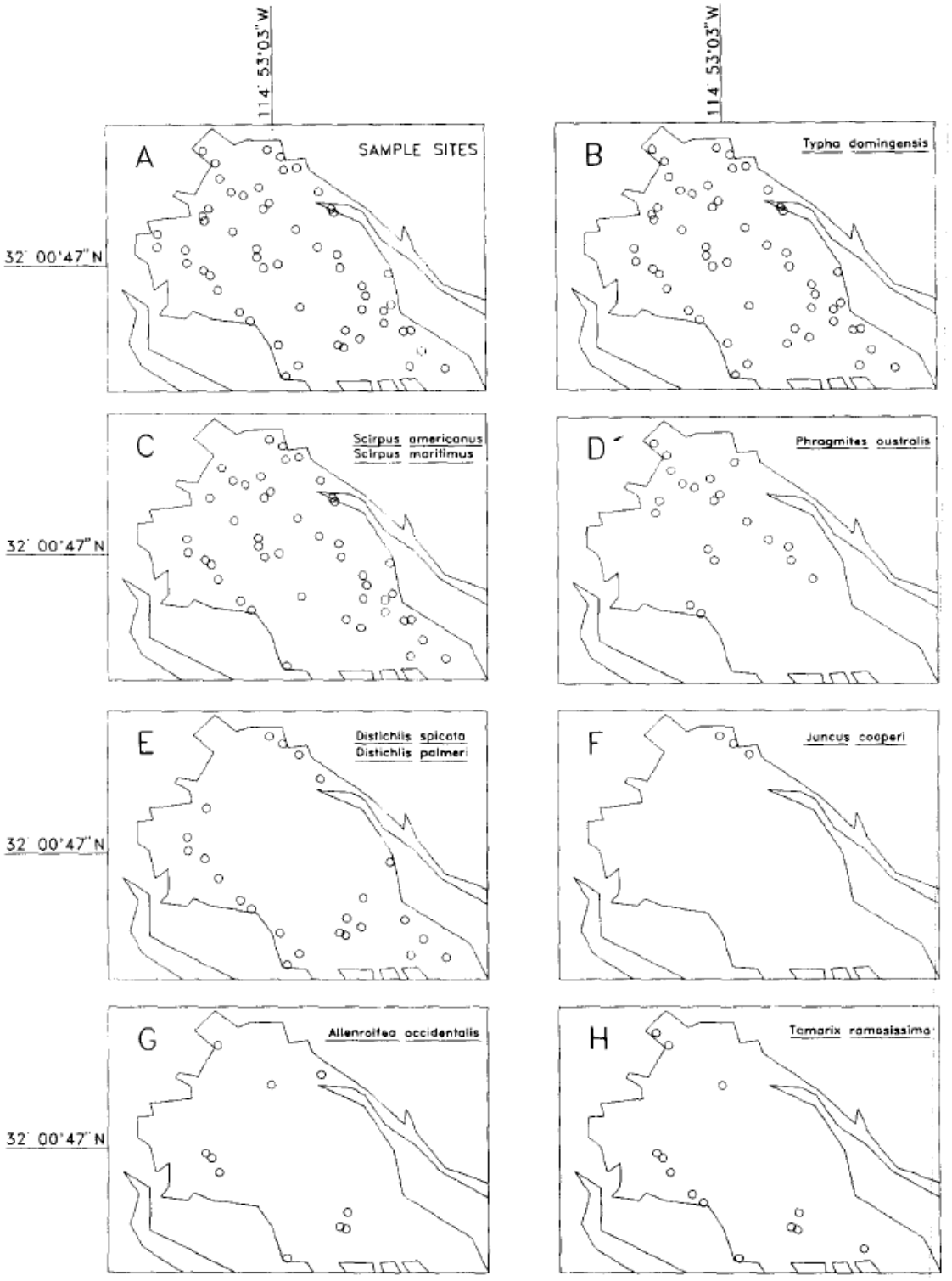


Figure 1. Distribution of major species at 56 points in the Cienega (from Zengel et al., 1995)

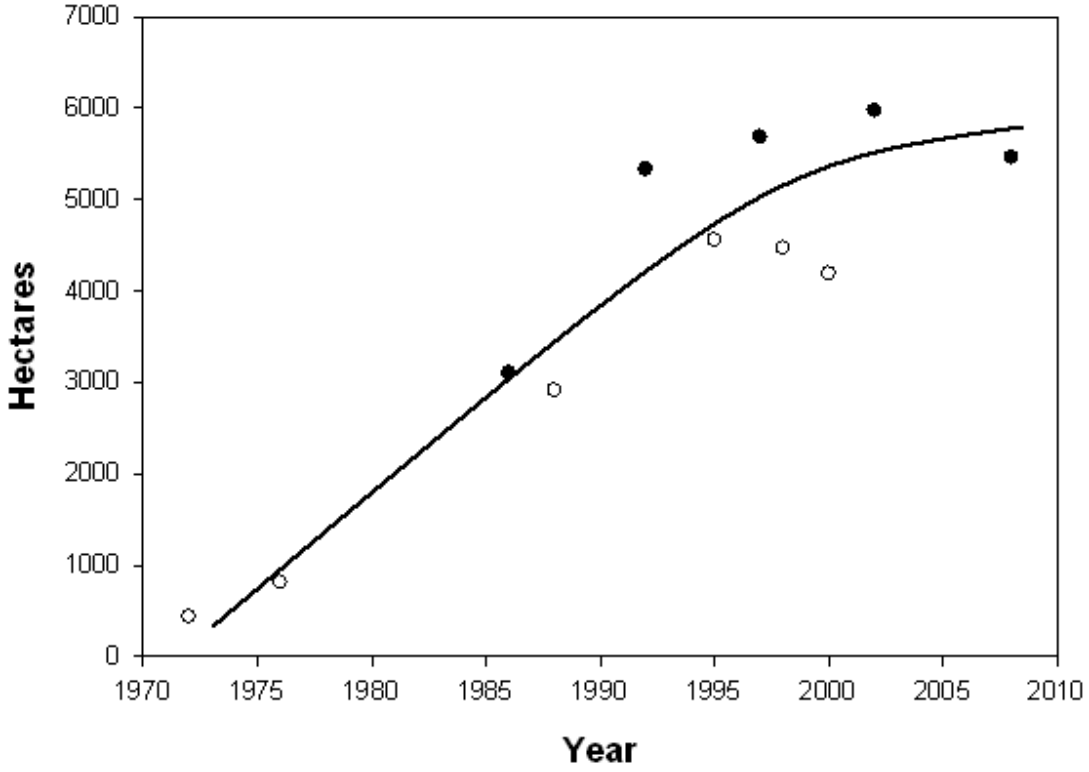


Figure 2. Change in the area of the Cienega from 1972 - 2008 determined from Landsat Thematic Mapper and Quickbird images. Flows in the MODE started in 1977 into a small, pre-existing marsh fed by the Riito Drain in Mexico. Open circles are from Sanchez et al. (2000). Closed circles are from Glenn (unpublished).

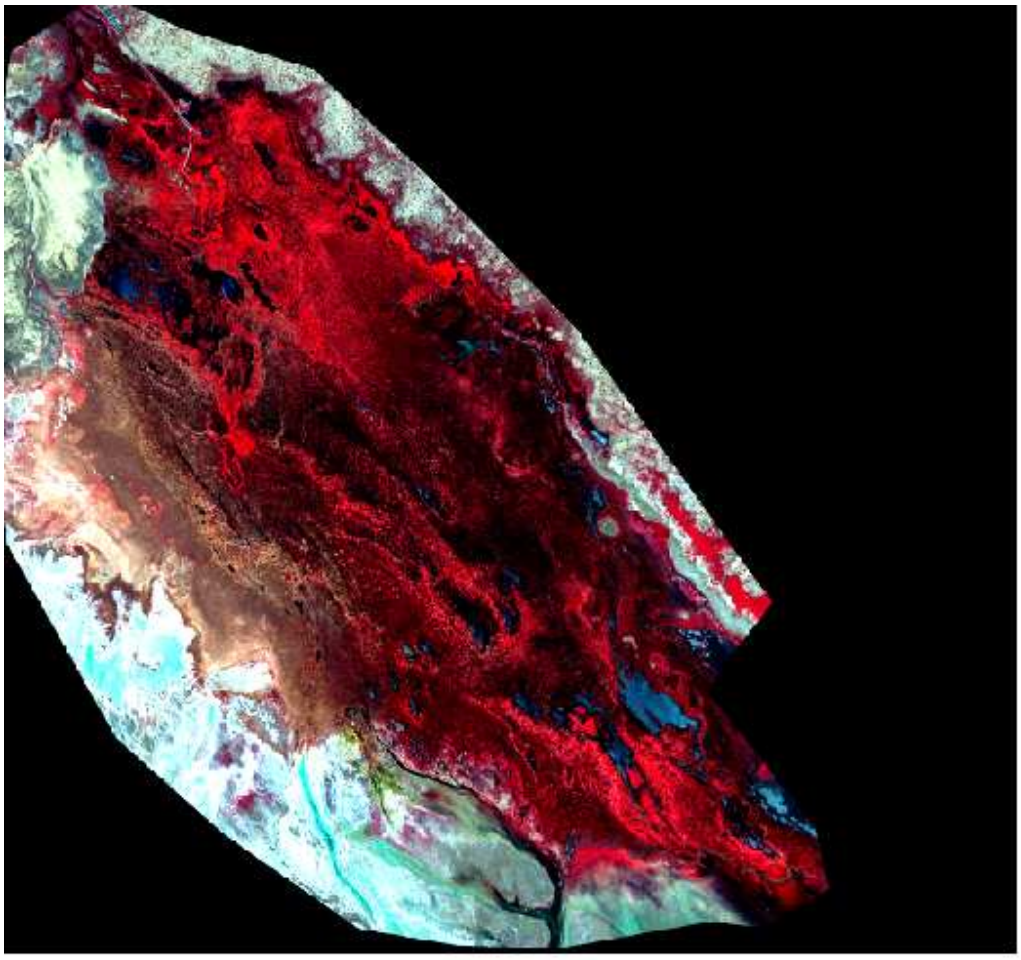
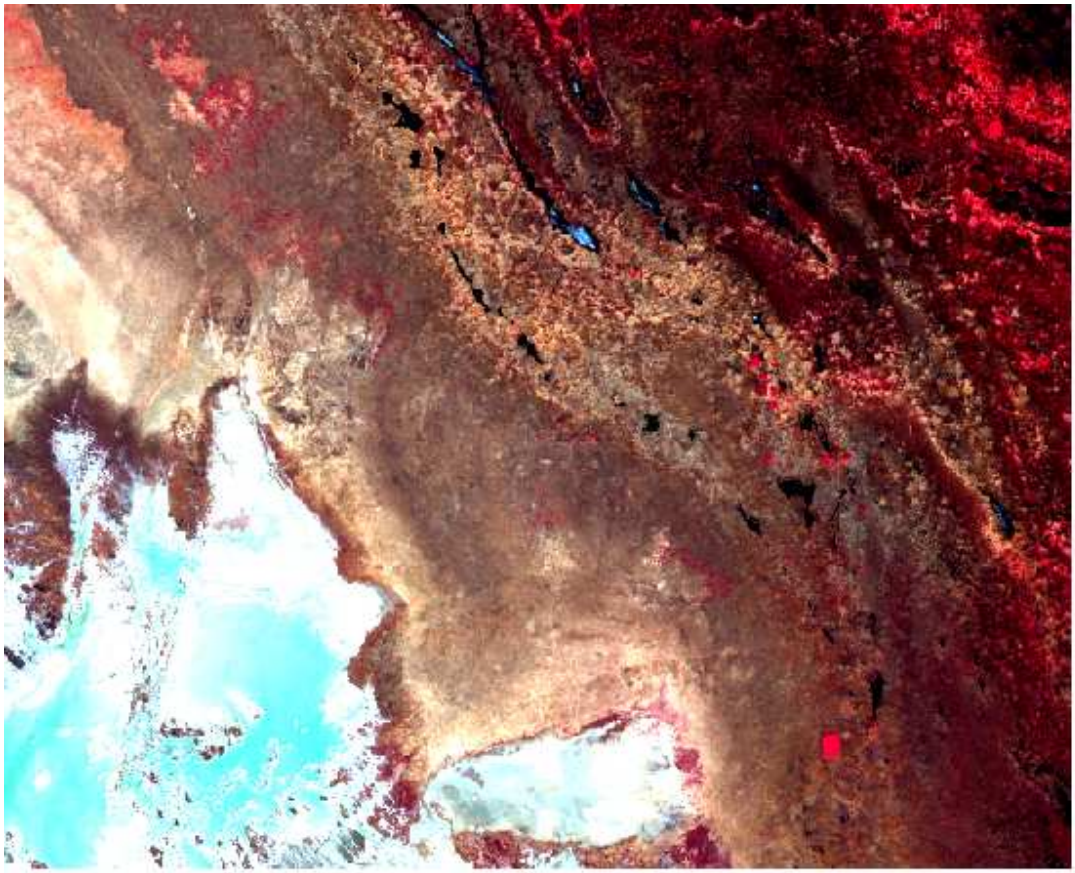


Figure 3. Cienega de Santa Clara from a 2008 Quickbird image. Green vegetation is shown as false-color red from the NIR band. The vegetation footprint covers 5,046 ha. Note the dry portion at the southwest edge.



Dry South Cienega, Sept. 8, 2008

Figure 4. Close-up of the dry portion of the Cienega. The dry area is about 940 ha.

Figure 5. Terminus of the MODE canal in the Cienega, showed dredged material, and the silt dam that has built up at the end of the canal. The silt dam currently blocks the flow of water into the southwest corner of the Cienega.

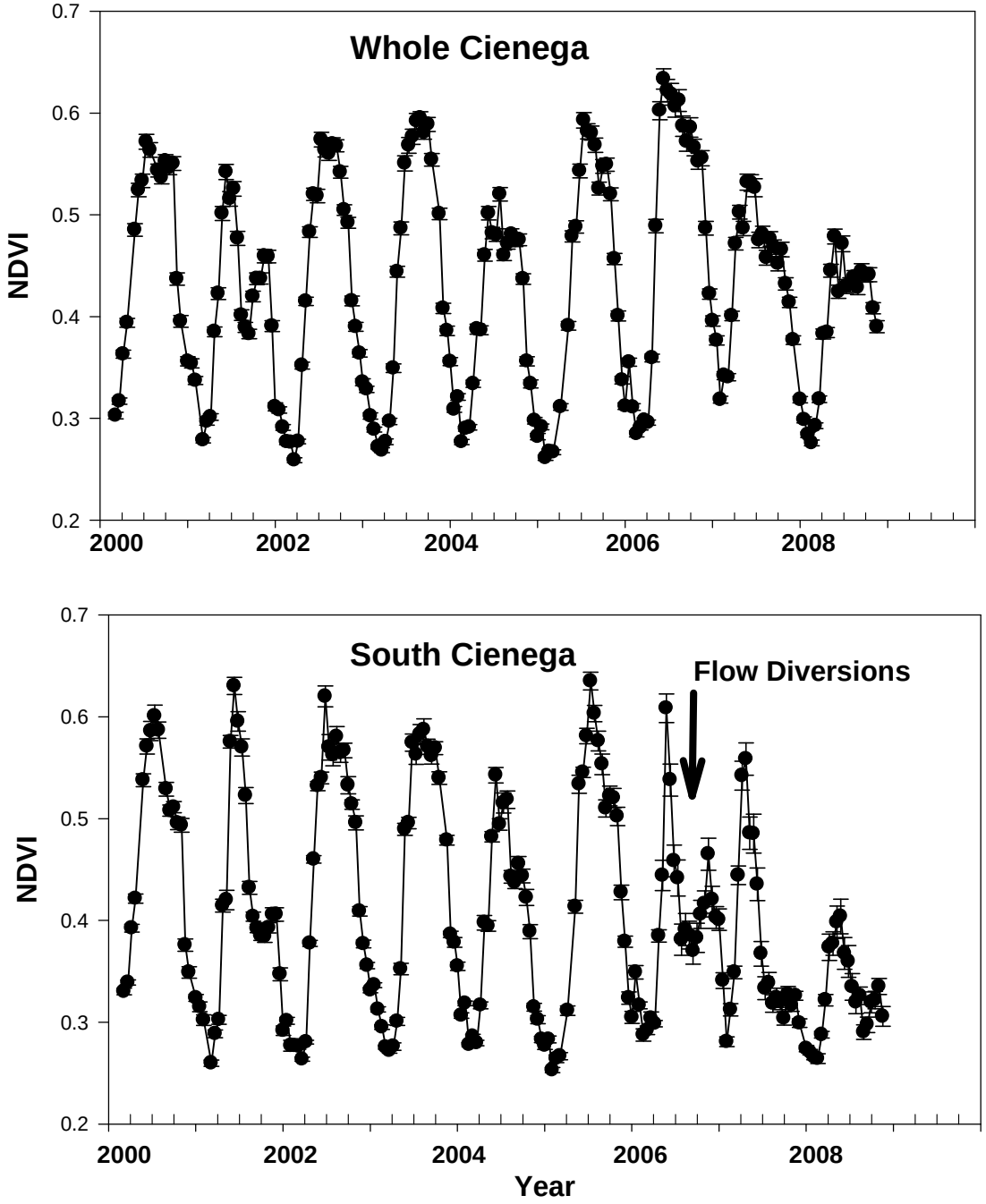


Figure 6. Annual NDVI patterns in the Cienega as detected by MODIS sensors on the Terra satellite. While vegetation density was stable from 2000 to 2005, note the effects of the 2006-2007 diversions on the whole Cienega and on the southwest edge.

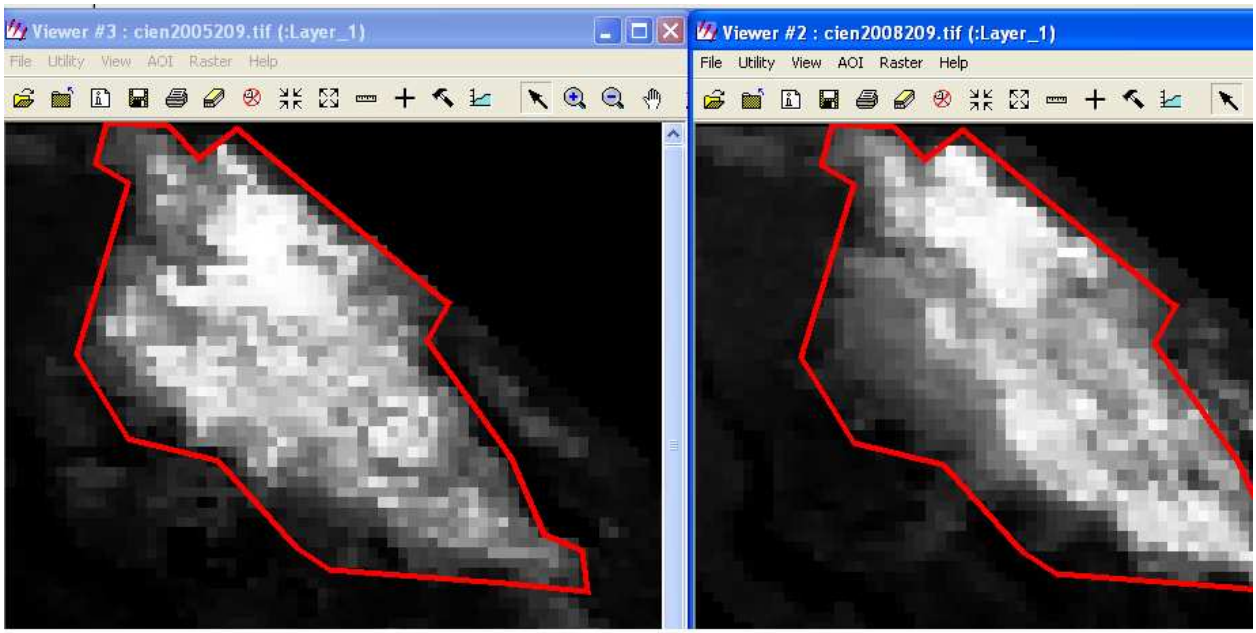


Figure 7. Comparison of NDVI values for the Cienega de Santa Clara in July, 2005 and July, 2008. Brighter pixels indicate higher NDVI.Note the decrease in NDVI due to drying of the southwest corner of the marsh.

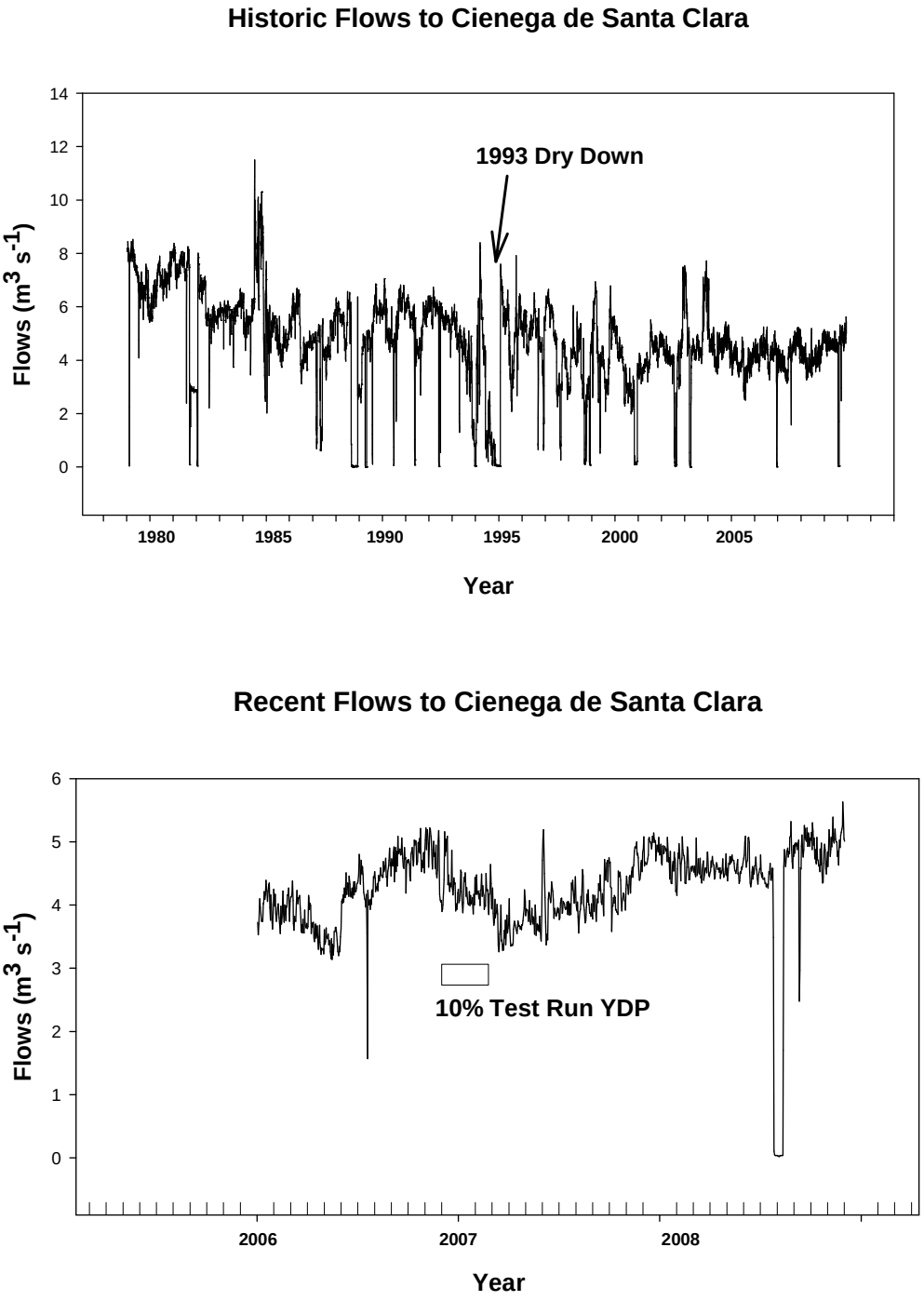


Figure 8. Historic (Top Panel) and recent (Bottom Panel) flows in the MODE canal at the Southerly International Boundary. Note that during the 10% test run, there was no significant difference in flows due to high variability in flows before and after the test run.

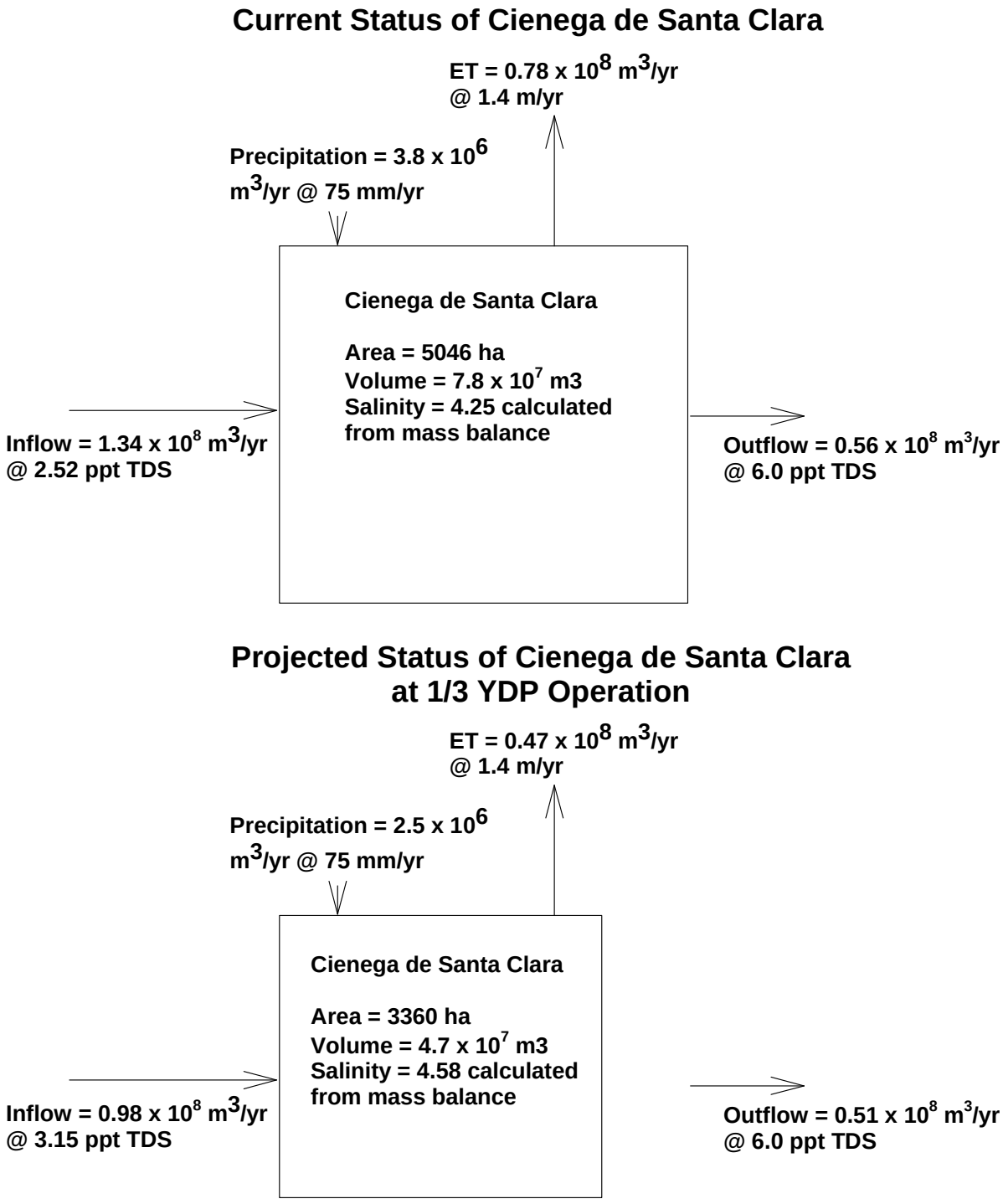
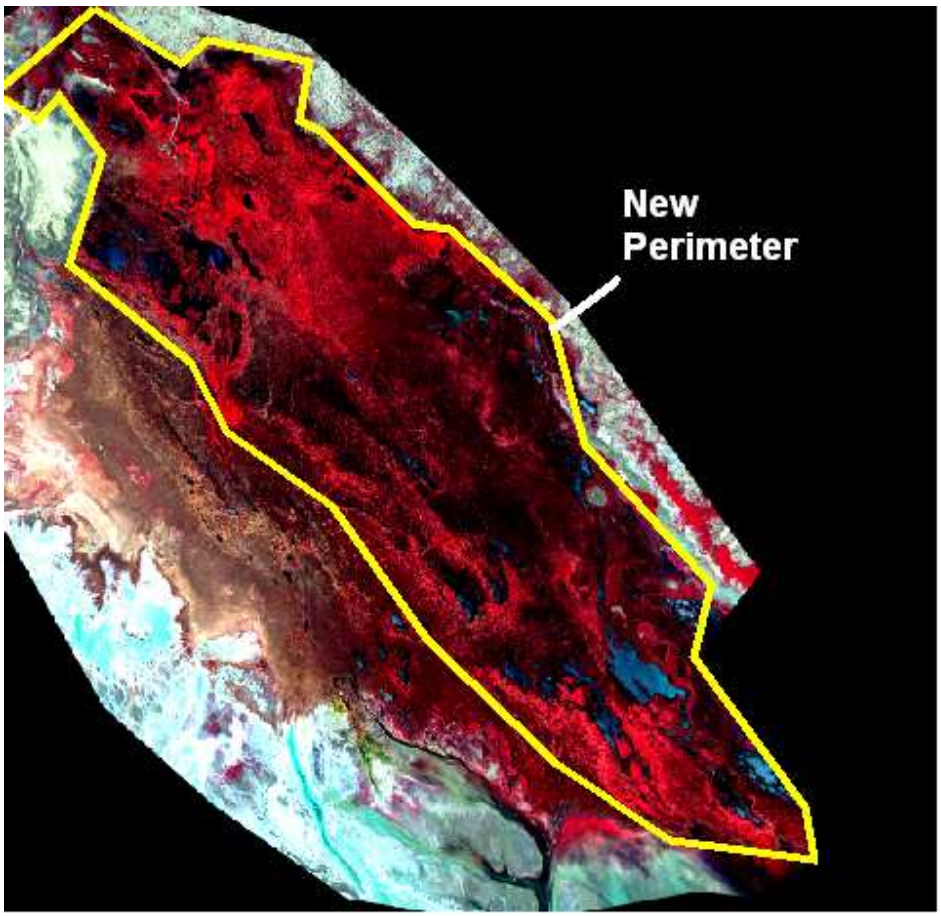


Figure 9. Current status of the Cienega and projected status following one-third operation of the YDP, based on models by Burnett et al. (1993), Glenn et al. (1995), and Zengel et al. (1995).



**Projected Vegetated Area of Cienega de Santa Clara
Due to 1/3 Reduction in Inflows**

Figure 10. Projected area of the Cienega following diversion of 33% of the MODE flow to the YDP, based on observation during the 1993 and 2006-2007 dry-downs.

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Defenders of Wildlife, et al. Comment Letter Response Table

Comment #	Response
6-1	In response to this and other comments received on the Draft EA, the Final EA includes Section 1.7, Connected Actions, and Section 3.12, Effects of Connected Actions. See General Comment Response Four.
6-2	As noted in Section 1.7 of the Final EA, the development of ICS credits is not part of the Purpose and Need for the Proposed Action, but rather is an opportunity that is created by the Proposed Action. See General Comment Response Five.
6-3	The Final EA has been revised to include additional information about the permitting requirements and how these requirements address potential effects.
6-4	The Final EA has been revised to include additional information about legal requirements and how Reclamation's compliance addresses mitigation of impacts.
6-5	For the objectives of Pilot Run, please refer to Section 1.4 of the Environment Assessment. Data collected during the run will include, but not be limited to: pretreatment on-stream factor, reverse osmosis on-stream factor, volume of product water produced, salinity of product water (expressed as TDS), volume of raw MODE water, salinity of raw MODE water (expressed as TDS), salinity of pretreated water (expressed as TDS), reverse osmosis salt rejection, concentrate volume, concentrate salinity (expressed as TDS), energy used, total water recovered, energy used per unit of energy, power factors by load, scheduled outages, unscheduled outages, preventative equipment maintenance, unscheduled equipment maintenance, chemical composition of feed water, chemical composition of concentrate, flux, flux ratio, dosages, cost of chemicals, cost of power, cost of labor, other costs, total costs, costs per unit of production, water temperatures, pressure and pressure differentials, water balance, and salt balance.
6-6	The text of the EA has been changed to accurately reflect the purpose and need of the 2007 Demonstration Run, as stated in Categorical Exclusion Checklist YAO-CEC-07-001. The Proposed Action discussed in this document (the 365-day Pilot Run) is a separate federal action, though it will benefit from information gathered during the 2007 Demonstration Run. Any possible future operation of the YDP would be a federal action in its own right, and would then require an appropriate environmental review based upon the purpose and need for that action. At this time, no future operation is planned or proposed.

6-7	The uses are the same as uses for all LCR water which Reclamation manages under the Law of the River. Reclamation, as well as the broader stakeholder community interested in Colorado River management, must understand operational reliability, suitability of treatment processes, baseline operating costs, and any possible environmental consequences for operating the YDP. Data gathered from the YDP Pilot Run will be good information about the operation of the YDP, one of the alternatives to replace or recover the Bypass Drain flow.
6-8	Data derived from operation of the YDP can be utilized for multiple purposes, including Bypass flow recovery or replacement. However, the purpose and need for this Proposed Action is accurately stated in Section 1.4 of the EA, and differs from that of the 2007 Demonstration Run.
6-9	See General Comment Response Four.
6-10	See General Comment Response Four.
6-11	Section 2.2, Proposed Action, has been revised to include maps, tables, clarifying text, and other pertinent information which enable the reader to understand not only the flow of water but the process which it is subjected to at the YDP, and the resulting discharges and locations of discharges into the Bypass Drain and the Colorado River.
6-12	The text has been clarified to describe the infrastructure used to discharge the product water. Information generated by the 2007 Demonstration Run may be accessed at http://www.usbr.gov/lc/yuma/facilities/ydp/YDPdemrun07.pdf
6-13	See General Comment Response Five.
6-14	See General Comment Response Five. In addition, the Final EA has been updated to include Section 1.7, Connected Actions and Section 3.12, Effects of Connected Actions.
6-15	See General Comment Response Five.
6-16	Deliveries to Mexico under the 1944 Water Treaty and implementing protocols will not be affected by the Proposed Action. See also General Comment Responses One and Five.
6-17	The discussion of ICS has been clarified in Section 1.7 of EA. See also General Comment Responses Four and Five.
6-18	As noted in Section 1.7.1 of the Final EA, the Central Arizona Water Conservation District, Metropolitan Water District of Southern California, and the Southern Nevada Water Authority have collectively indicated an interest in providing funding for the proposed Pilot Run in exchange for one-time ICS credits for the water conserved as result of the Pilot Run (29,000 AF). However, Reclamation has not yet entered into an operational agreement for the proposed operation of the YDP and will only consider entering into such an agreement after completion of the ongoing

	environmental analysis. In addition, Reclamation has continued its policy of transparency related to the Proposed Action by responding appropriately to numerous public comments and requests for information under the Freedom of Information Act.
6-19	The text has been changed to correct this error.
6-20	Four design deficiencies are being partially or fully addressed prior to the Proposed Pilot Run: the MODE 2 blend system is being replaced; stainless steel shafts are being installed on selected RO pumps; the chlorine handling and processing system is being upgraded; and a temporary ammonia system is being installed. The design deficiencies which are not being addressed at present would not adversely impact the Proposed Action nor the environment should the Pilot Run occur and include: replacement of RO pumps; continued replacement of control block valves and actuators; installation of a permanent ammonia system; replacement of a segment of an energy recovery unit feed line; replacement silt density index equipment; further modification of the chlorine system; and a new coating on the solids contact reactor.
6-21	See Section 1.6, International Considerations and General Comment Response Two.
6-22	See Section 1.6, International Considerations and General Comment Response Two.
6-23	See General Comment Response Two.
6-24	See Section 1.6, International Considerations.
6-25	Please refer to the Joint Report, included in Appendix C. Details on specific work teams, subsequent work products, as well as distribution of information are being developed by a bi-national team. Dr. Karl Flessa of the University of Arizona is leading the U.S. effort.
6-26	The Final EA includes an enhanced section on climate change and a more detailed air quality analysis. Please see Sections 3.3 (Air Quality) and 3.10 (Climate Change).
6-27	The text has been changed to utilize the average flows from 1995-2008.
6-28	Section 3.3, Air Quality, has been updated to include analyses of PM_{10}. The results of those analyses determined that project emissions were far below the de minimus standard. Thus, a conformity analysis is not required.
6-29	MODE water is returned to the Gila River immediately upstream (approximately 400 yards) from the confluence of the Gila and Colorado Rivers, as is depicted in Figure 2-1.
6-30	Section 3.4, Biological Resources, has been revised to clarify the analysis of impacts to biological resources in the project area.
6-31	The commentor is correct that the MSCP analysis provides ESA coverage for possible effects to covered species from change in

	point of diversion of up to 1.574 million AF. The creation of ICS credits from the proposed action, for later delivery by the three municipal utilities, is a flow-related covered activity as defined in the MSCP ["…changes to points of diversion, new points of diversion, interstate water banking, waster marketing, water transfers, inadvertent overruns, or any other actions as made possible form any future agreements and/or measures taken by the … contract holders" (MSCP, Final HCP, page 2-6)]. However, the Proposed Action does not rely on the MSCP for NEPA compliance for environmental impacts from changes in flow on the river. The reduction in flow in the river (from reduced releases from Lake Mead) is addressed in Section 3.4 of the EA (see also response 2-1). Moreover, in addition to the analysis in the Final EA, the storage and later delivery of ICS credits of up to 2.1 million AF was described in the 2007 Final Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operation for Lake Powell and Lake Mead. This specific ICS benefit, for a one-time ICS credit of 29,000 AF to the three municipal utilities, is consistent with, and falls within the analysis in the EIS in terms of reservoir storage, river operations, and water deliveries
6-32	The actual discharge point into the Gila River is approximately 400 yards upstream of the confluence of the Gila and Colorado Rivers. Please see Figure 2-1 in the EA.
6-33	A permit for the discharge of MODE drainage water is not required and has not been requested.
6-34	Reclamation submitted an application for an APP. Reclamation did so voluntarily, as neither the CWA nor any other federal law requires this permit.
6-35	Section 3.6, Hazardous Materials, has been expanded to better describe possible impacts and mitigation measures.
6-36	As noted in comment response 6-28, Section 3.3, Air Quality analysis has been expanded, and substantiates the previous conclusions made in Section 3.8, Environmental Justice, that there would be no disproportionately high and adverse human health or environmental effects impacts on minority or low-income populations in the U.S.
6-37	Section 3.9, Noise, has been revised to include more specific information and analysis.
6-38	Spot-market power will be utilized for the Proposed Action, if selected. This power will be purchased from the Western Area Power Administration, as directed in YDP operational documents and contracts, and is consistent with the CRBSCA.
6-39	Reclamation has expanded the Air Quality, Climate Change, and Hazardous Material analyses. The operational data collected

	during the Proposed Action could contribute to more efficient operation of the YDP facility. With respect to Secretarial Order 3226, Section 3.10, Climate Change, has been updated. With respect to Executive Order 13423, outside of the Proposed Action, Reclamation and the municipal utilities are proposing to conduct a research project to investigate potential energy savings associated with alternate RO methods. See also Comment Response 6-7.
6-40	The Proposed Action will have no effect on Yuma Clapper Rail populations in the U.S. To the degree that the overall status of the species may be affected by potential population declines in Mexico, such information will assist in creating the baseline for future Section 7 consultation for discretionary federal actions in the U.S. Additionally, see General Comment Response Three.
6-41	See General Comment Response Three, and the USFWS memorandum dated July 13, 2009, which is contained in Appendix C.
6-42	See Section 1.6, International Considerations and General Comment Response One.
6-43	Change made as requested.
6-44	"SCR" is defined on page ii and on page 17.
6-45	Change made as requested.
6-46	The text has been updated to reflect goals as stated in the MSCP HCP Volume II.
Various comments in the attachment provided with this comment letter	Information provided in this attachment was considered in revisions to Appendix E, the Cienega Literature Review.

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May 26, 2009

Mr. Sean Torpey
Yuma Area Office
U.S. Bureau of Reclamation
7301 Calle Agua Salada
Yuma, AZ 85364

via email: storpey@usbr.gov

Dear Mr. Torpey:

This letter contains comments from the Environmental Defense Fund (EDF) and ProNatura Noroeste (PNN) regarding the United States Bureau of Reclamation's (USBR) Draft Environmental Assessment for the Yuma Desalting Plant Pilot Run. EDF spent much of 2007-8 in discussions with USBR and the funding parties regarding operation of the YDP with an alternative water source, and earlier participated in crafting the consensus-based report "Balancing Water Needs on the Lower Colorado River: Recommendations of the Yuma Desalting Plant/Ciénega de Santa Clara Workgroup. (2005). EDF staffs the U.S. lead for the Environmental Working Group established in the International Boundary and Water Commission's Joint Cooperative Process for the Colorado River. PNN is a Mexican non-profit environmental organization, which has been working on the conservation and restoration of the Colorado River Delta since 1997, including the creation of a Water Trust for the allocation of water for the environment. One of PNN's priority sites is the Ciénega de Santa Clara, where we have been conducting monitoring, conservation, environmental education, and community outreach activities in the last 10 years. Along with EDF, PNN is a member of the Core Group and the Environmental Working Group in the IBWC's Binational Colorado River Process.

As is widely recognized, the once vast ecological resources of the Lower Colorado River and the Colorado Delta have been greatly diminished by decades of developed water use

for irrigation and growing cities. What remains is but a fraction of those original resources and thus protecting what remains is all the more critical.[1]

One of the most biologically (and economically) valuable of these remaining resources is the Ciénega de Santa Clara. As discussed in more detail below, the biological vitality and viability of the Ciénega would be seriously harmed by the proposed action. As further explained below, while the Ciénega itself is located in Mexico, the proposed action would significantly affect migratory species that move between Mexico and the U.S. In addition, we believe that NEPA does not prohibit, and in fact encourages and even mandates consideration of the effects of a proposed action carried out entirely in the U.S. on the environment even beyond the U.S. border.

PNN, in its capacity as a member of the board of the Water Trust of the Colorado River Delta, and EDF, in its capacity as member of the advisory board of the Water Trust of the Colorado River Delta, have committed to help mitigate the ecological impacts of the pilot YDP operation via a contribution to the water supply for the Ciénega de Santa Clara of 10,000 acre-feet of water of no greater than 1200 ppm TDS during the period of the pilot, contingent on similar contributions from the governments of the United States and Mexico. This is a voluntary mitigation effort, and we are pleased to contribute to a solution that prevents harm to such a valuable resource. However, EDF and PNN do not agree that USBR is required neither to evaluate nor to mitigate the impacts of the YDP in Mexico.

Our comments are also offered to encourage the Bureau of Reclamation to fully comply with the decision-making considerations required by the National Environmental Policy Act. Environmental Defense Fund recognizes that there is pressure from water users on USBR to quickly ramp up the pilot operation of YDP. However, we believe that USBR must carefully consider and fulfill its obligations under NEPA and other relevant statutes before deciding whether or not to proceed with the pilot.

Reclamation should prepare a full Environmental Impact Statement

7-1

Because operation of the YDP for an eighteen-month test with 365 days at 30% capacity constitutes a major federal action with the potential to significantly affect the human environment, the National Environmental Policy Act requires that Reclamation prepare full Environmental Impact Statement. The proposed pilot operation of the YDP presents a significant risk to a world-class wetland (a unique geographic area) that harbors the world's largest population of the Yuma Clapper Rail (an endangered species under U.S. law) and one of the largest populations of the desert pupfish (an endangered species under U.S. law) as well as large populations of birds that migrate between Mexico, the U.S. and Canada. EDF and PNN believe that Reclamation's examination of the potential effects of the proposed YDP pilot on migratory species and on the habitat

[1] See generally Zamora et al., Conservation Priorities in the Colorado River Delta, Mexico and the United States. Sonoran Institute, 2005.

7-1 of these species in the Ciénega de Santa Clara is fully authorized by NEPA, other federal statutes and relevant Executive Orders. The conduct being analyzed (i.e. the pilot operation of YDP with MODE water) occurs completely within the U.S., and there are impacts of this operation within the U.S. itself (i.e the potential impacts are not exclusively outside the boundaries of the U.S.). Moreover, the action at issue is completely discretionary. Analysis of the potential effects on the Ciénega will promote, rather than interfere with, binational cooperation with Mexico and with the operation of the 1944 U.S.- Mexico water treaty.

7-2 We also note that the U.S. Fish and Wildlife Service, in reviewing information provided by BOR on the potential impacts of the All American Canal lining on the Mesa Andrade wetlands (which is also habitat for the Yuma Clapper Rail and other migratory species of concern) noted that because habitat for this species was so well-preserved at the Ciénega de Santa Clara, the effects of the AAC lining on the Mesa Andrade habitat were not significant.[2] Similarly, the Recovery Plan for the desert pupfish notes the Ciénega as one of the largest native remaining populations, and moreover in describing the first priority action to "secure natural populations and their habitats" notes that protected area status might be extended to the Ciénega in Mexico (the recovery plan pre-dates Mexico's designation of the Ciénega within the boundary of the Biosphere Reserve of the Colorado River Delta and Upper Gulf of California).[3]

7-3 Finally, USBR notes that the proposed YDP pilot program is being conducted to evaluate future investment and commitment to the operation of the YDP. Guidance from the Council on Environmental Quality on major federal actions requiring the preparation of Environmental Impact Statements (1502.4) states "When preparing statements on broad actions., agencies may find it useful to evaluate the proposal(s)…By stage of technological development including federal or federally assisted research, development or demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment. *Statements shall be prepared on such programs and shall be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives"* (emphasis added).

Reclamation's analysis of the impacts of operating the Yuma Desalting Plant must consider impacts in Mexico

7-4 USBR's interpretation of law evident in the statement that "in accordance with all applicable law, including, for example, NEPA, the 1944 Water Treaty, Section 397 of P.L 109-432, and Executive Order 12114, this EA only addresses potential effects of the

[2] The FWS also noted that "As habitat for the largest known population of Yuma clapper rails in Mexico, maintaining this habitat will be a key action of the conservation of the species in Mexico." January 11, 2006 memo from U.S. Fish and Wildlife Service Regarding Endangered Species Act Considerations in Mexico.
[3] USFWS, 1993. Desert Pupfish Recovery Plan.

7 - 4 Pilot Run within the U.S." is problematic in that the cited laws in no way exempt the proposed YDP operations from transboundary impacts review.

NEPA

NEPA requires agencies to include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States. Such effects are best identified during the scoping stage, and should be analyzed to the best of the agency's ability using reasonably available information. Council on Environmental Quality Guidance on NEPA Analyses for Transboundary Impacts (July 1, 1997). The CEQ noted that both NEPA and CEQ regulations require agencies to analyze the environmental effects of their U.S. conduct without limitation to "boundaries." As the guidance states, "the entire body of NEPA law directs federal agencies to analyze the effects of proposed actions to the extent they are reasonably foreseeable consequences of the proposed action, regardless of where those impacts might occur." *Id.*

Public Law 109-432

USBR incorrectly cites section 397 of P.L. 109-432 as having applicability to the proposed action. Section 397 of P.L. 109-432 is a subsection contained within Subtitle J – All American Canal Projects, and cannot possibly apply to the Yuma Desalting Plant. Such a broad interpretation would require that any works constructed, acquired, or used within the territorial limits of the United States that have impacts across *any* border, including in Canada, would be subject exclusively to the "Treaty between the United States of America and Mexico relating to the utilization of waters of the Colorado." We have no doubt that section 397 of P.L. 109-432 is limited to the All American Canal Projects defined in Subtitle J, specifically the All American Canal Lining Project and the Regulated Water Storage Facility.

Endangered Species Act

USBR does not appear to have consulted with the United States Fish and Wildlife Service (FWS) regarding the proposed pilot operation of the YDP. Under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 *et seq.*, federal agencies are required to determine whether any proposed activity "may affect" or result in the take of listed or proposed species. If so determined, the lead agencies must consult with the Fish and Wildlife Service (FWS) in order to ensure that their actions do not jeopardize listed species and to obtain incidental take authorization. Given the certain harm to two federally listed species (the Yuma Clapper Rail and desert pupfish) due to the proposed federal pilot operation of the YDP, ESA requires consultation.

Purpose and Need

7 - 5 We do not agree that the pilot operation of the YDP is the best project to address water supply issues in the Lower Colorado River basin. USBR has already demonstrated the feasibility of water conservation through the Demonstration Program for System Conservation, which for the past several years has successfully resulted in water conserved from agricultural uses in both Arizona and California. The Demonstration Program for

System Conservation has resulted in conserved water at a cost of less than $200 per acre-foot.

7-5 Moreover, the same water supply agencies that are contributing funds for the proposed YDP pilot in (the Central Arizona Water Conservancy District, the Metropolitan Water District of Southern California, and the Southern Nevada Water Authority, hereafter "Funding Parties") in exchange for Intentionally Created Surplus (ICS) credits have a number of other opportunities to create ICS credits including conservation ICS.

USBR fails to reveal the cost of the proposed pilot YDP operation in the Draft EA. However, documents provided by USBR to EDF suggest the following costs:[4]

Labor @ $289,791/month	$5,216,238
Materials	$349.200
Power	$2,488,106-$3,304,516
7-6 TOTAL COSTS:	$8,053,544-8,869,954

Thus, without taking into account the original cost of building the Yuma Desalting Plant, or the repair of 12 of 18 design flaws corrected over the past several years, the proposed pilot YDP operation will produce water at a cost of $277-306/acre-foot. Even without the inclusion of capital costs or environmental mitigation, YDP water is considerably more expensive than water obtained through documented market-based leases in recent years.

Water Resources

The Draft EA does not adequately discuss the impact on water quality of discharging about 7000 acre-feet MODE water at 2664 TDS into the Lower Gila River. The discharge point (MODE 1 diversion – return facility) appears to be approximately 10 miles above the confluence with the Colorado River (on the Gila River "21 miles north of
7-7 the NIB" [page 15]). Mean flow on the Gila River at Drain number 1 near Yuma, Arizona for 2000-2008 is 7.7 cfs or 5575 acre-feet per year.[5] Thus USBR's proposed action will effectively more than double the flow in the Lower Gila River, and increase the salinity in that reach by an undisclosed amount. USBR's characterization of the water that will be discharged to the Colorado River as "blended" is misleading, as the treated water from the YDP will be discharged to the River at or below the plant's location at less than a mile up-river from NIB.

[4] USBR, 2008. YDP Pilot Run: results of preliminary planning estimate of water production volumes and costs associated with 12 month pilot run. July 25, 2008.
[5] USGS, 2009. Data record for USGS 09529000 GILA DRAIN NO. 1 NEAR YUMA, AZ

7-8 The Draft EA does not adequately discuss the impact on water quality of discharging effluent from the proposed pilot YDP operation into the MODE. MODE flows consist of drainage water pumped from the Wellton-Mohawk Irrigation and Drainage District (WMIDD), and while the annual total volume averages 106,897 acre-feet, inconsistencies in WMIDD's pumping rate lead to daily average flows ranging from 0.0 cfs (for periods of more than 15 days at a time) to 260 cfs. While presumably the YDP cannot operate when MODE flows are 0.0 cfs, it appears there may be frequent operations when MODE flows upstream from the YDP are sufficient to operate the plant as proposed but will leave MODE flows below the plant (before the addition of effluent) completely depleted. The addition of YDP effluent to the MODE during these periods will result in salinity spikes in the MODE water of up to 7230 ppm TDS.

7-9 The Draft EA fails to address the concentration of selenium in the effluent from the proposed pilot YDP operation. Selenium is a documented constituent of MODE flows and expected to be concentrated in the effluent. Increasing selenium flowing to the Ciénega de Santa Clara may have effects on wildlife, including endangered species, as selenium is a known toxin that causes deformities in wildlife.

7-10 Finally, the Draft EA does not adequately discuss the water quality impacts of discharging to the MODE chemicals residual to the desalination process including chloramines, ammonia, anti-scalant, tri-halomethanes, ferric sulfate, limes, and sulfuric acid. The addition of these constituents to MODE flows, which are the primary source of water for the Ciénega de Santa Clara, suggests that additional information should be included in the Environmental Assessment regarding how they affect wildlife and wetlands habitat.

7-11 We also note that the Environmental Assessment contains a mistake in table 2-1. One month of pretreatment will be returned to the MODE, not the Colorado River as indicated. Similarly, filter backwash will be returned to the MODE rather than the Colorado River as indicated.

Biological Resources including Threatened and Endangered Species

The Draft EA's analysis of the impacts of the proposed pilot YDP operation on biological resources is also inadequate specifically in terms of impacts to habitat at the Ciénega de Santa Clara in Mexico (see comments above). In addition, we offer the following comments and corrections to the literature review provided in Appendix C to the Draft EA.

7-C1 <u>Review inadequate and incomplete.</u>
The literature review mentions on page 1 that there are contradictions in the results of the reviewed documents. This is repeated throughout the text. This is a significant shortcoming by the review team, since they were not able to identify and understand that the different studies and documents do not have the same effort and scientific robustness,

and that many of the older reports on the Ciénega were field notes or technical reports with few days of field work. It is not justifiable that the reviewers considered those reports with the same weight as peer-reviewed scientific publications. It is important in this type of analysis that the authors conduct an assessment and value of the reviewed information.

7-C2

The literature review covers a significant number of documents. However, it does not consider articles and technical reports in Spanish (except two). This is critical given that the Ciénega de Santa Clara is in Mexico, and that the environmental agencies in Mexico conduct significant efforts studying and monitoring the area. In this sense, one of the most important documents to consider is the Management and Conservation Plan of the Upper Gulf of California and Colorado River Delta Biosphere Reserve, which is an official document of the Mexican Federal Government, published by the Commission on Natural Protected Areas. The Plan includes important information about the Ciénega, the regulations that are in place for its protection, and the management guidelines to maintain habitat value at the wetland.

Relationship between MODE flows and Ciénega size and health is well documented.

The literature review states that MODE flows are measured at the SIB, but are not measured at the entrance of the Ciénega, and therefore there is uncertainty about the flows entering the Ciénega (page 5). This is technically correct, but the literature review fails to mention that the MODE canal is lined, and that there are no inputs to or outputs from the MODE canal in Mexico other than the canal's terminus at the Ciénega.

7-C3

At various points the literature review mentions that the MODE flows and salinities during the pilot run will be within historic ranges, in a language that suggests that this implies no significant impacts by the pilot run of YDP. However, it does not mention that these historic variations are the result of problems with the MODE canal, resulting in a reduction of water to the Ciénega , and causing severe impacts on the wetland.[6]

7-C4

Further discussion of the relationship of water flows and salinity with the size and habitat quality in the Ciénega (pages 12-13) is incorrect, specifically the conclusion that there is no clear path for the evaluation of a central hypothesis regarding the impact of the YDP Pilot Run.

7-C5

Based on existing information, including a U.S. federal study by the USGS[7] not cited by in the literature review as well as studies by the University of Arizona,[8] there is no doubt of the causality and the direct relationship between the quantity and quality of MODE flows and the extent and habitat quality in the Ciénega. There is explicit

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[6] Zengel et al. 1995. Cienega de Santa Clara: a remnant wetland in the Rio Colorado delta (Mexico): vegetation distribution and the effects of water flow reduction. Ecological Engineering 4 (1995) 19-36.

[7] Sanchez, R.D., E. Burnett, and F. Croxen, 2000. Mapping *Typha Domingensis* in the Cienega de Santa Clara using Satellite Images, Global Positioning System, and Spectrometry. Open-file Report 00-314, prepared for the U.S. Geological Survey.

[8] Op cit note 5, Glenn, et al., 1996. Effects of water management on the wetlands of the Colorado River delta, Mexico. Conservation Biology, 10:1175-1186.

evidence that a documented reduction in MODE flows in 1993 resulted in a documented reduction in the size of the Ciénega.[9]

Yuma Clapper Rail discussion is inadequate

7-C6 In the section on the Yuma Clapper Rail (page 16), the literature review includes a reference from the USFWS 5-Year Review for the Yuma Clapper Rail, stating that there are significant differences in the level of protection and management afforded to the Clapper Rail in the U.S. and Mexico. This is not correct. The most important area for the subspecies, located in the Ciénega de Santa Clara, has one of the highest protection levels in Mexico (Core Zone of a Biosphere Reserve). Moreover, the species is federally protected in Mexico by the NOM-059, which provides that these birds and their habitat are protected and can not be taken. Mexico lists the Yuma Clapper Rain as a threatened species on the basis of the population status of the subspecies in the Ciénega de Santa Clara, particularly the abundance of around 6,000 individuals, with the consideration that its conservation completely depends upon the flows reaching the Ciénega.

The FWS 5-Year review for the Yuma Clapper Rail also:

- states on multiple occasions the importance of the Ciénega de Santa Clara for the subspecies;
- states that the status of the subspecies in Mexico is known, and that it is the largest population;
- states that the conservation of the Yuma Clapper Rail depends largely on the conservation of the Ciénega;
- states that this requires a guaranteed flow for the Ciénega;
- states that this should be done jointly by Mexico and the US.

From the FWS 5-Year review for the Yuma Clapper Rail:[10]

The delisting criteria for evaluating the species' status in Mexico and providing for annual surveys in the United States have been met. Page 6.

The delisting criterion for having written agreements to protect clapper rail habitat in the United States and Mexico has been partially met through the development and implementation of the management plans, and other planning documents such as Resource Management Plans by Bureau of Land Management for their lands on the LCR and the protective designation of the Ciénega within the Upper Gulf of California/Colorado River Delta Biosphere Reserve in Mexico. Pages 6 and 7.

The largest population of the clapper rail is found at the Ciénega de Santa Clara in Mexico (Hinojosa Huerta et al. 2000, Hinojosa Huerta et al. 2003), a large wetland located in the state of Sonora east of the Colorado River channel that was re-created when saline drain water

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[9] Op cit, note 5.

[10] FWS (2006). 5-Year review. Species reviewed: Yuma clapper rail / Rallus longirostris yumanensis. May 30 2006.

from the Yuma area was sent into Mexico via a drainage canal beginning in the 1980s. The estimated population at the Ciénega has varied due to changes in habitat quality from a high of 6,300 in 1999 with a 23% decline through 2002 to 4,850 in 2003. During the 1960s and 1970s, significant Yuma clapper rail populations inhabited the Colorado River delta wetlands in Mexico. Some of these, particularly along the Rio Hardy, are being restored and the number of clapper rails is increasing (Hinojosa Huerta et al. 2003). While the birds in Mexico are not listed under the Endangered Species Act (they are listed as threatened by Mexico under their endangered species act), the stability of this population is important for the subspecies as a whole because this population, at 2-6 times the United States population, is the largest component of the total population and, if migration from this area to the United States does occur, these birds may be the source population for clapper rail populations throughout the range. Page 8.

Habitat protection for the Ciénega de Santa Clara remains a significant threat to the clapper rail because the Ciénega's water supply is entirely dependent on drain flows from the United States water, which could be cut at any time. The land base of the Ciénega is protected in the Upper Gulf of California and Colorado River Delta Biosphere Reserve. And, plans for the management and enhancement of the wildlife value of the Ciénega are included in the management of the Reserve and through the recent Bird Conservation Plan for the Colorado River Delta, Baja California and Sonora, Mexico (Hinojosa Huerta et al. 2004). However, with the recent five-year drought lowering the water levels in Lake Mead and potentially affecting water deliveries to Arizona that would reduce the amount of water in the LCR, there is considerable interest from Arizona water users in reducing the amount of Arizona's potential return flow water that currently goes to the Ciénega (which reduces the amount of Arizona return flow credit since the water does not return to the LCR). Options to increase return flow credit include modifying the operation of the Yuma Desalting Plant, leasing of water from land-fallowing agreements, additional groundwater pumping to replace water currently diverted to the Ciénega , and others. Some of these options would reduce the amount of water reaching the Ciénega , resulting in a significant loss of marshlands that support the clapper rail. Page 14.

The FWS should be actively involved in the Bypass Flow Restoration or Replacement Program to work toward a secure, dedicated water source for the Ciénega de Santa Clara. The AESO will have the lead for this action. Page 18.

These statements leave no doubt that U.S. federal government recognizes the importance of the Ciénega de Santa Clara for the conservation of the Yuma Clapper Rail, and recognizes the importance of maintaining the flows that support the Ciénega .

There is ample, recent information that makes clear the Ciénega de Santa Clara is the most important wetland for the Yuma Clapper Rail, and that the population estimates are known. Statements in the literature review that total population of the Yuma Clapper Rail in the Ciénega is unknown and that studies show great variation are incorrect (page 16). The comparison of unpublished documents based on a one-day visit to detailed studies conducted over multiple years and resulting in scientific publications is not a standard scientific approach, and suggests either incompetence or a strong bias in the literature review.

7-C7 In particular, the literature review should give more emphasis to a significant binational study, conducted by the USFWS and SEMARNAT in fulfillment of the Recovery Plan for the subspecies, which explicitly determines the status, abundance and distribution of the Yuma Clapper Rail in Mexico.[11] This study was implemented by the University of Arizona, with funding from the USFWS. It was conducted following the survey protocols of the USFWS, and resulted in the first robust estimate of the population of the Yuma Clapper Rail in the Ciénega de Santa Clara.[12] Based on this evidence, the population of Yuma Clapper Rails at the Ciénega de Santa Clara is approximately 6,000 individuals, approximately 75% of the known population of the subspecies.[13]

7-C8 The literature review fails to discuss the most recent scientific publication about the subspecies in the Ciénega that shows the population trend of the subspecies and the population estimate for 2006.[14] This study summarizes 8 years of monitoring in the Ciénega, conducted as a joint project between CONANP, USFWS, Sonoran Joint Venture, University of Arizona, Pronatura and others. The average density of Yuma Clapper Rails at the Ciénega during 2006 was 1.03 rails per ha (95% C.I. 0.81 – 1.29), with a population estimate of 5,974 individuals (95% C.I. 4,698 – 7,482).[15]

7-C9 The discussion of habitat preferences for the Yuma Clapper Rail is inadequate (page 17). Again, the literature review ignores the date, focus, and duration of studies, and omits several significant studies. For example, it is not appropriate to give equal consideration in the comparison of Tomlinson and Todd[16] (a very early document, when the basic biology of the subspecies was not yet well known), Rosenberg et al.[17] (a general book on birds of the Lower Colorado River), and Piest and Campoy[18] (a report of one field visit to the Ciénega de Santa Clara) with studies of Conway and Nadeau[19] (a report of a multi-year research specifically designed to evaluate habitat characteristics of Yuma Clapper

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[11] USFWS. 1983. Yuma Clapper Rail Recovery Plan. U.S. Fish and Wildlife Service. Albuquerque, New Mexico.

[12] Hinojosa-Huerta, O., S. DeStefano, and W.W. Shaw. 2001. Distribution and abundance of the Yuma clapper rail (*Rallus longirostris yumanensis*) in the Colorado River delta, Mexico. Journal of Arid Environments 49:171–182

[13] Ibid.

[14] Hinojosa-Huerta, O., J.J. Rivera-Díaz, H. Iturribarría-Rojas, and A. Calvo-Fonseca, 2008. Population Trends of Yuma Clapper Rails in the Colorado River Delta, México. Studies in Avian Biology 37:69–73.

[15] Ibid.

[16] Tomlinson, R.E., and R.L. Todd. 1973. Distribution of two western clapper rail races as determined by responses to taped calls. Condor 75:177-183.

[17] Rosenberg, et al., 1991. Birds of the lower Colorado River valley. The University of Arizona Press. Tucson, AZ. 416 pp.

[18] Piest, L. and Campoy, J. 1999. Report of Yuma clapper rail surveys at the Cienega de Santa Clara, Sonora, 1998. Report to Arizona Game and Fish Department, Yuma, AZ and the Upper Gulf of California and Colorado River Delta Biosphere Reserve – INE/SEMARNAP Mexico.

[19] Conway, C.J., and C.P. Nadeau, 2005. Effectiveness of call-broadcast surveys for monitoring marshbirds. Auk 122:26-35

Rails). The literature review fails to consider the work of Eddleman[20] and Conway et al.[21] which used telemetry studies to document the habitat preferences of Yuma Clapper Rails. Eddleman and Conway[22] updated habitat information for Yuma Clapper Rail in a later study as well.

The literature review makes incorrect conclusions about Yuma Clapper Rail habitat (page 18). The sentence "Nesting success is likely not a limiting factor for the Yuma Clapper Rail" should be corrected to read "Nesting success is likely not a limiting factor for the Yuma Clapper Rail, when habitat conditions for the subspecies are ideal."[23]

Statement about expected impacts on Yuma Clapper Rail is incorrect

7-C10 The literature review incorrectly concludes that the effects of the proposed pilot operation of the YDP on the population of the Yuma Clapper Rail in the Ciénega can not be predicted, with a weak indication that there might be some negative impacts (page 19).

7-C11 Existing information on the relationship of MODE flows to the size of the wetland and health of the vegetation, and the relationship between the abundance of rails and the habitat characteristics (presented in the literature review), makes it abundantly clear that the proposed pilot operation of the YDP will impact the population of Yuma Clapper Rails in the Ciénega. The impact will very likely be short term and could be reversed, assuming that flows are re-established after the pilot run operation and are maintained in the long term.

Discussion of other species at the Ciénega de Santa Clara is inadequate

7-C12 The literature review (page 20) fails to mention multiple publications that show the abundance of waterbirds in the Ciénega , particularly Morrison et al.,[24] Mellink and Palacios,[25] Mellink et al.,[26,27] Hinojosa-Huerta et al.[28,29] and Gómez-Sapiens and Soto-

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[20] Eddleman, W.R. 1989. Biology of the Yuma clapper rail in the southwestern U.S. and northwestern Mexico. Final Rep. Intra-Agency Agreement No. 4-AA-30-02060, U.S. Bur. Of Reclamation, Yuma Proj. Office, Yuma, Ariz. 127pp.

[21] Conway, C.J., W.R. Eddleman, S.H. Anderson, and L.H. Hanebury. 1993. Seasonal changes in Yuma clapper rail vocalization rate and habitat use. J. Wildl. Manage. 57:282-290.

[22] Eddleman, W.R. and C.J. Conway. 1998. Clapper Rail (*Rallus longirostris*). In The Birds of North America (A. Poole and F. Gill, eds.), 340. The Birds of North America, Inc., Philadelphia.

[23] Ibid.

[24] Morrison, R.I.G., R.K. Ross, and M.M. Torres. 1992. Aerial surveys of Neartic shorebirds wintering in Mexico: some preliminary results. Progress Note, Canadian Wildlife Service.

[25] Mellink, E. and E. Palacios. 1993. Notes on breeding coastal waterbirds in northwestern Sonora. Western Birds 24:29-37.

[26] Mellink, E., E. Palacios, and S. Gonzalez, 1996. Notes on the nesting birds of the Cienega de Santa Clara salt flat, northwestern Sonora, Mexico. Western Birds 27:202-203.

[27] Mellink, E., E. Palacios, and S. Gonzalez. 1997. Non-breeding waterbirds of the Delta of the Río Colorado, Mexico. Journal of Field Ornithology 68:113-123.

[28] Hinojosa-Huerta, O., Y. Carrillo-Guerrero, S. DeStefano, W. Shaw, and C. Valdés-Casillas. 2004. Waterbird communities and associated wetlands of the Colorado River Delta, Mexico. Studies in Avian Biology 27: 52-60.

Montoya.[30] These publications document the diversity and abundance of waterbirds in the Ciénega , including the presence of at least 150,000 shorebirds and 30,000 ducks and geese every winter. The reviewers also fail to mention that this information was the basis for the recognition and protection of the Ciénega as a Wetland of International Importance by the Ramsar Convention, as a site of the Western Hemisphere Shorebird Reserves Network, as an Important Bird Area, and as a Biosphere Reserve within the United Nations.

7-C13 The literature review's statement that there is a deficiency of information on population dynamics of the numerous bird communities at the Ciénega (page 20) is incorrect. As mentioned above, important information has been published in several papers. Other information has been collected and integrated in databases which are not yet published. The literature review would give a more complete understanding the status of species of the Ciénega were it to include information in the process of being analyzed and published.

7-C14 <u>Projected impacts at the Ciénega de Santa Clara must be qualified</u>
Section III.G of the literature review concludes that the potential effects of the proposed pilot operation of the Yuma Desalting Plant could be significant but highly reversible. This statement is probably correct, but should be qualified to state that reversibility requires a guarantee that a 100% of the MODE flows will be reaching the Ciénega immediately after the pilot run, and will remain constant thereafter.

7-C15 <u>Status of the Ciénega de Santa Clara is well documented</u>
Section III. H of the literature review incorrectly states that there is not enough information of the current status of the Ciénega . There is ample published information about the status of the Ciénega including flows and water quality,[31] vegetation,[32] Yuma Clapper Rail,[33] and migratory waterbirds.[34]

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[29] Hinojosa-Huerta O., J. García-Hernández, Y. Carrillo-Guerrero, and E. Zamora-Hernández. 2007. Hovering over the Alto Golfo: the status and conservation of birds from the Rio Colorado to the Gran Desierto. Pp 383-407. En: Dry Borders: Great Natural Reserves of the Sonoran Desert. Felger RS, Broyles B, (eds). Salt Lake City, Utah. University of Utah Press.

[30] Gómez-Sapiens, M. and E. Soto-Montoya. 2006. Programa de Monitoreo de Aves Playeras en Humedales Prioritarios de la Reserva de la Biosfera Alto Golfo de California y Delta del Río Colorado. Informe Final de la Comisión Nacional de Áreas Naturales Protegidas (CONANP).

[31] Flessa, K.W. and J. García-Hernández, 2007. Water Quality Monitoring Program for the Cienega de Santa Clara. University of Arizona Project, Final Report No. Y450277. Tucson, Arizona and Sonora, Mexico.

[32] Glenn, E.P. 2008. Current Status and Projected Reduction in Vegetated Area of Cienega de Santa Clara Due to One-Third Operation of the Yuma Desalting Plant. University of Arizona, Tucson, AZ.

[33] Hinojosa-Huerta, O., J.J. Rivera-Díaz, H. Iturribarría-Rojas, and A. Calvo-Fonseca, 2008. Population Trends of Yuma Clapper Rails in the Colorado River Delta, México. Studies in Avian Biology 37:69–73.

[34] Gómez-Sapiens, M. and E. Soto-Montoya. 2006. Programa de Monitoreo de Aves Playeras en Humedales Prioritarios de la Reserva de la Biosfera Alto Golfo de California y Delta del Río Colorado. Informe Final de la Comisión Nacional de Áreas Naturales Protegidas (CONANP).

Sufficient information exists to predict impact of proposed pilot YDP operation on the Ciénega de Santa Clara

7-C16

Finally, the assertion that causal linkages between the proposed pilot YDP operation and the impacts at the Ciénega cannot be established is incorrect. There is no question that the MODE flows provide over 90% of the flows that maintain the Ciénega.[35] There is no question that the wetland size and marsh vegetation communities in the Ciénega depend upon the MODE flows.[36] There is no question that the Ciénega supports a large population of Yuma Clapper Rails.[37] There is no question that the population of Yuma Clapper Rails depends upon the health of the marsh vegetation communities and aquatic habitats in the Ciénega.[38]

Thank you for the opportunity to comment. We are available to discuss this comments at your convenience.

Sincerely,

Jennifer Pitt
Senior Resource Analyst
Environmental Defense Fund

Osvel Hinojosa
Director of Wetlands Conservation
ProNatura Noroeste

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[35] Flessa, K.W. and J. García-Hernández, 2007. Water Quality Monitoring Program for the Cienega de Santa Clara. University of Arizona Project, Final Report No. Y450277. Tucson, Arizona and Sonora, Mexico.

[36] Zengel et al. 1995. Cienega de Santa Clara: a remnant wetland in the Rio Colorado delta (Mexico): vegetation distribution and the effects of water flow reduction. Ecological Engineering 4 (1995) 19-36.

[37] Hinojosa-Huerta, O., S. DeStefano, and W.W. Shaw. 2001. Distribution and abundance of the Yuma clapper rail (*Rallus longirostris yumanensis*) in the Colorado River delta, Mexico. Journal of Arid Environments 49:171–182. Hinojosa-Huerta, O., J.J. Rivera-Díaz, H. Iturribarría-Rojas, and A. Calvo-Fonseca, 2008. Population Trends of Yuma Clapper Rails in the Colorado River Delta, México. Studies in Avian Biology 37:69–73.

[38] FWS (2006). 5-Year review. Species reviewed: Yuma clapper rail / Rallus longirostris yumanensis. May 30 2006.

Environmental Defense Fund/Pro Natura Noroeste Comment Letter Response Table

Comment #	Response
7-1	See General Comment Response Two.
7-2	See Comment Response 5-17, and General Comment Responses Two and Three.
7-3	As noted in Section 1.4 of the EA, the Proposed Action would provide technical information regarding operation of the YDP. Development of this additional information is needed to help inform future decision making regarding potential future longer-term operation of the YDP. Reclamation has not committed to or made any decisions regarding long-term operation of the YDP in any way which would restrict decision making regarding YDP operation; any future consideration of YDP operation will occur in full compliance with appropriate laws. See also Comment Responses 6-5, 6-6, and 6-7.
7-4	See Section 1.6, International Considerations and General Comment Response Two.
7-5	As noted in Section 1.4 of the EA, the Purpose and Need for the project is not to address water supply issues in the LCR Basin, nor does it serve to consider alternatives to develop ICS credits. ICS credits that have been proposed are a connected action to the YDP Pilot Run and not the purpose of the proposed Pilot Run. See also General Comment Response Four.
7-6	See comment response 6-18.
7-7	See comment response 6-32. The text in Section 2.2, Proposed Action, has been clarified with regards to how MODE water will be conveyed to the Gila River approximately 400 yards upstream of its confluence with the Colorado River.
7-8	The Final EA includes additional discussion of salinity and volume of MODE/Bypass Drain flows in Section 3.5. Additionally, discussions with surrounding water districts have been conducted to ensure that during the timeframe for the Proposed Action, there will be sufficient flow in the MODE for the operation of the YDP, as well as for sufficient quantities of MODE water in the Bypass Drain.
7-9	The desalinization process does not add selenium to the water (either the product water or the concentrate stream). The Cienega de Santa Clara Literature Review contained in Appendix E further addresses the topic of selenium.
7-10	The chemicals mentioned by the commentor may be present in the concentrate stream; however, due to volatilization and dilution, they are not expected to be present at detectable levels at the SIB.
7-11	Table 2-1 has been deleted in the Final EA. Sections 2.2 and Figure 2-4 are revised.

7-C1	The intent of the Literature Review was to prepare a review document about the current environment of the Cienega and issues related to the EA for the Pilot Run of the YDP. Consequently, the finished report was principally focused on broader factors and aspects related to the area and literature about the current, present-day conditions of the Cienega. The Literature Review was intended to provide an objective analysis; the Review does not discredit or attach value to each article or source of information that was provided or obtained. Contradictory information generally indicates differences in observations and conclusions based on assessments and interpretations of data that were obtained. These differences and contradictions are indications that various studies have different methods and approaches that may be guiding the scientific tenets and conclusions of these particular studies. Contradictions were mentioned to illustrate the lack of consensus within specific issues or studies or differences in observations and concepts regarding the Cienega. It is certainly understandable that different studies and documents do not have the same effort and scientific robustness. All basic published reports and tenable scientific and technical reports from our files were considered with equal weight because those materials were useful regarding one aspect, or another, in describing the environment of the Cienega or the potential impact of flow or water quality variations. The equal weight consideration was within a balanced, objective overview in a preliminary scientific evaluation of these reports and studies. An element of significant importance to potential users of the study was to mention the observations of the differences noted within the cadre of studies that were assessed by the study team.
7-C2	Reclamation made various data calls to collect as much data as was available from groups and individuals closest to the topic of the Cienega, the review was limited to articles that were either provided or that were available electronically. Of course, many articles may exist that were not provided. Language has been added to the Literature Review to clarify the extent, purpose, and limitations of the document (see Appendix E). Any additional documents or reports that were missed, provided those materials meet the standards for review that were used by the team, have been added to the bibliographic listing. Nonetheless, the Literature Review does achieve its goal of forming the basis for future research and cooperative actions.
7-C3	The study team recognizes that there have been historic outages of the Bypass Drain. These outages restricted flows to the Cienega and have impacted the marsh as described in the Literature Review. Nevertheless, the comment is only partially relevant within the larger scope of potential changes in flow to the Cienega that are consequent to issues related to the Pilot Run. Such flow restrictions have generally been related to the operation of the Wellton-Mohawk drainage wells, or to maintenance of related conveyance structures and are not solely due to operational

	problems with the MODE. Further, the Literature Review does mention the study by Zengel et al. (1995) regarding a suspension of flow to the Cienega due to problems with the MODE. However, the Literature Review team mentioned that the study by Zengel et al. (1995) was performed "in conditions that were not similar to the conditions that would prevail under the Pilot Run…" Reclamation further notes that this issue has been addressed by the program of joint cooperative actions described in the Joint Report which was finalized after the issuance of the Draft EA (see the Joint Report in Appendix C). Changes have been made to the Literature Review in light of the program of nine joint cooperative actions identified in the Joint Report.
7-C4	The expressed concern of the commenter is that our discussion of the relationship of water flow and salinity and consequent size and habitat quality of the wetland is incorrect. Reclamation reviewed several studies related to water quantity and the impact of salinity on Typha such as Zengel et al. (1995), Glenn et al. (1995), Burnett et al. (1997), Flessa and Garcia-Hernandez (2007), and others. The impact of changes in water quality on the growth and vigor of Typha was documented, but the sensitivity of the Cienega to these various factors was largely not assessed. The view of sensitivity stated in the Literature Review is captured in the concept of resilience. However, no studies were found that had evaluated the resilience of the marsh to changes in water quantity or quality. Consequently, some uncertainty is present about the incorrectness of statements in the Literature Review report about water flows and salinity in relation to the size and habitat quality of the Cienega.
7-C5	The U.S. and Mexico, through the IBWC, reached agreement on a program of joint cooperative actions related to the proposed Pilot Run of the YDP. These cooperative actions are described in the Joint Report. (see Appendix C). The actions described in the Joint Report, taken voluntarily in the interests of international comity, address the reduction in flow and increase in salinity associated with the proposed YDP Pilot Run within the previously published Cienega Literature Review. Accordingly, the Literature Review has been updated and revised in light of the joint cooperative actions identified in the Joint Report. Text within the previous Draft of the Literature Review was included because the temporal-impact issue regarding changes in inflow to the Cienega poses questions that cannot be answered, particularly regarding the sensitivity of the marsh to changes in water quantity and quality. The Literature Review team believes this to be the case given data and model limitations and, therefore, cannot conclude the extent to which changes in inflow will or will not have an adverse effect or impact Cienega. The Literature Review team found that causal linkages between an imposed change and resulting impact are not well understood, nor are the consequences of changes or linkages of responses within the wetland

	ecosystem. For example, there is evidence regarding the relationship between the quantity and quality of inflows to the Cienega and status of the marsh, but that evidence is insufficient regarding the temporal aspect of causality and permanence in affecting the status (growth, stature, and vigor) of the marsh consequent to changes in inflows and changes in salinity. Sufficient data supporting the evidence regarding this issue were not presented in the literature. To evaluate a central hypothesis requires a model that sufficiently integrates known information to confirm present conditions and evaluate temporal changes in the marsh consequent to presumed changes in water quantity and quality. Language has been added to the Literature Review to clarify this description to readers and changes have been made to the document in light of the program of joint cooperative actions.
7-C6	The statement noted by the commenter is a direct quote from a USFWS document. The Literature Review did not qualify this statement, merely presented it as a statement from a Federal agency. The Biosphere Reserve and NOM-059 are mentioned in the Literature Review. The intent of this section of the Literature Review was to describe the protection status of the YCR. Available data on YCR populations and their habitat in the Cienega in relation to potential effects from the Pilot Run are summarized in the Literature Review. Discussion, documentation, or inclusion of literature related to the diffusion of effects outside of the Cienega was not within the scope or purpose of the Literature Review document. Language has been added to the Literature Review to clarify as such to readers.
7-C7	The scope and purpose of the Literature Review was to objectively present an overview of available data. All reviewed data were presented without emphasis or implication of value. Contradictions were mentioned to illustrate the lack of consensus within specific issues. Assessment and qualification of the value of data from different sources were beyond the desired scope of the document (to present an objective overview of the available information); language has been added to the Literature Review to clarify as such to readers. Data summaries regarding population estimates of YCRs in the Cienega have been removed to avoid interpretations that these are Reclamation's conclusions regarding YCR populations and/or the completeness of assessments of YCR populations within the Cienega.
7-C8	The Literature Review was the result of a thorough search for documents regarding the Cienega and associated water, vegetation, and fish and wildlife resources. The Literature Review should not be considered to be an exhaustive account of the existing literature as certain documents could not be located or were unavailable, were not evident as relevant to the topic, or were not found in the course of the investigative process. See also, comment response 7-C2. Data summaries regarding population estimates of YCRs in the Cienega have been removed to avoid interpretations that these summarize our

	conclusions regarding YCR populations and/or a complete assessment of YCR populations within the Cienega. Researchers engaged in future studies are encouraged to attempt to seek out all pertinent information on specific topics to be examined. Language has been added to the Literature Review to clarify the extent, purpose, and limitations of the document to readers.
7-C9	The comment addresses the habitat preferences of the Yuma Clapper Rail. The scope and purpose of the Literature Review was to present an objective overview of available data. These data were presented without emphasis or implication of value. Assessment and qualification of the value of data from different sources were beyond the scope of the Literature Review (to present a thorough search for documents regarding the Cienega and associated water, vegetation, and fish and wildlife issues). The Literature Review should not be considered an exhaustive account of the existing literature as certain documents could not be located or were unavailable, were not evident as relevant to the topic, or were not found in the course of the investigative process. See also comment response 7-C2. Future studies should attempt to seek out all pertinent information on specific topics to be examined. Language has been added to the Literature Review to clarify as such as well as the extent, purpose, and limitations of the document to readers.
7-C10	The comment addresses the impact to the YCR from the operation of YDP. Subsequent to the issuance of the Draft EA (which is the subject of this comment), a program of joint cooperative actions described in the Joint Report in Appendix C were agreed to by the United States and Mexico to address the reduction in flow to the Bypass Drain related to the proposed Pilot Run of the YDP. See also, comment response 7-C5 and response to General Comment One.
7-C11	The comment indicates that the projected impacts to the wetland habitat should be qualified. Subsequent to the issuance of the Draft EA to which this comment addresses a program of joint cooperative actions related to the proposed Pilot Run of the YDP was reached. These cooperative actions are described in the Joint Report in Appendix C. Accordingly, the Literature Review has been updated and revised in light of the joint cooperative actions identified in the Joint Report. See also response to General Comment One and comment response 7-C2. Nevertheless, impacts to the Cienega need to be *quantified* in order for the sensitivity of various habitat factors within the Cienega to be determined in relation to various potential changes that could occur within the wetland ecosystem. For example, when the Cienega was deprived of inflow for a substantial period of time and incurred a significant dry-down, from which the marsh completely revived, no comprehensive plan of study was mounted by investigators knowledgeable of the field conditions at the Cienega to determine the extent of the impacts and response of the marsh in the wetting-up

	recovery, *or* impacts to the YCR throughout the process. There were no assessments with quantifiable estimates or results. And although it is agreed that the wetland size and marsh vegetation communities depend on the MODE flows, no definitive study has been completed to determine the sensitivity of the marsh ecosystem to changes in flow volumes and salinity; yet there are models that give some indications. Consequently, there is support for the statement in the original text of the Literature Review that information is lacking regarding the current status of the Cienega. From a scientific viewpoint, projected impacts at the Cienega are challenging to quantify, let alone qualify, because they are not well documented; projected impacts can only be surmised because consequential causal linkages are not understood. The joint cooperative actions described within the Joint Report offer a prime opportunity to survey and monitor the wetland to determine how the marsh ecosystem functions and thereby provide the needed information.
7-C12	The Literature Review was a result of a thorough search for documents regarding the Cienega and associated water, vegetation, and fish and wildlife issues. It is not considered to be an exhaustive account of the existing literature as certain documents could not be located or were unavailable, were not evident as relevant to the topic, or were not found in the course of the investigative process. Future studies should attempt to seek out all pertinent information on specific topics to be examined. Language has been added to the Literature Review to clarify the extent, purpose, and limitations of the document to readers.
7-C13	The Literature Review was a result of a thorough search for documents regarding the Cienega and associated water, vegetation, and fish and wildlife issues. It is not considered to be an exhaustive account of the existing literature as certain documents could not be located or were unavailable, were not evident as relevant to the topic, or were not found in the course of the investigative process. Data that are unpublished and/or in the process of analysis cannot be presented in the Literature Review if those data are not publicly available. Certain aspects of the population dynamics of bird communities at the Cienega were found to be apparently well known. Nevertheless, the Literature Review also found that critical information regarding the population dynamics was not available or not assessed. Some of the information regarding bird-population dynamics was published in other books related to those specific topics, but not specifically in published literature related to the Cienega. Future studies should attempt to seek out all pertinent information on specific topics to be examined and compile that information in concise discussions regarding each issue or aspect. Language has been added to the Literature Review to clarify the extent, purpose, and limitations of the document to readers.
7-C14	The potential impacts to the Cienega must be quantified if the sensitivity of the marsh is to be determined in regards to various changes that can occur within the wetland ecosystem. For instance, when the Cienega did

	not receive inflow for a substantial period of time and incurred a significant dry-down, from which the marsh completely revived, no comprehensive plan of study was mounted by investigators knowledgeable of the field conditions at the Cienega to determine the extent of the impacts and response of the marsh in the wetting-up recovery, or impacts to the Yuma clapper rail throughout the process. There was no assessment with quantifiable estimates or results. And although it is agreed that the wetland size and marsh vegetation communities depend on the Bypass Drain flows, no definitive study has been completed to determine the sensitivity of the marsh to changes in flows and salinity, yet there are models that give some indications. Consequently, there is support for the statement that information is lacking regarding the current status of the Cienega. From a scientific viewpoint, projected impacts at the Cienega are challenging to quantify, let alone qualify, because they are not well documented; projected impacts can only be surmised because consequential causal linkages are not understood. The joint cooperative actions offer a prime opportunity to survey and monitor the wetland to determine how the marsh ecosystem functions, and thereby provide the needed information.
7-C15	In a broad overview, there may seem to be ample information regarding the current status of the Cienega. Nevertheless, scientific information forming the basis of our report gives a different picture regarding the status of information. For example, when the Cienega did not receive inflow for a substantial period of time and incurred a significant dry-down, from which the marsh completely revived, no comprehensive plan of study was mounted by investigators knowledgeable of the field conditions at the Cienega to determine the extent of the impacts and response of the marsh in the wetting-up recovery or impacts to the YCR throughout the process. Although it is agreed that the YCRs depend on the marsh, there has been no established study that shows the extent or degree to which the YCR depends on it. Not known is the stasis population of the rail in comparison with the saturation population density, or what the dynamic interactions are in the rail population when faced with stress. And although it is agreed that the wetland size and marsh vegetation communities depend on the Bypass Drain flows, no definitive study has been completed to determine the sensitivity of the marsh to changes in flows and salinity, yet there are models that give some indications. From a scientific viewpoint, projected impacts at the Cienega are challenging to quantify, let alone qualify, because they are not well documented; projected impacts can only be surmised because consequential causal linkages are not understood. The joint cooperative actions described within the Joint Report offer a prime opportunity to survey and monitor the wetland to determine how the marsh ecosystem functions and thereby provide the needed information.
7-C16	In a broad overview, the causal linkages may seem easily understood.

	Scientific information forming the basis of the draft Literature Review revealed a different picture than that of the commenter regarding causal linkages between the proposed Pilot Run and impacts to the Cienega. For example, when the Cienega did not receive inflow for a substantial period of time and incurred a significant dry-down, from which the marsh completely revived, no comprehensive plan of study was mounted by investigators knowledgeable of the field conditions at the Cienega to determine the extent of the impacts and response of the marsh in the wetting-up recovery or impacts to the YCR throughout the process. Although it is agreed that the YCR depends on the marsh, there has been no established study that shows the extent or degree to which the YCR depends on the Cienega. Not known is the stasis population of the rail in comparison with the saturation population density, or what the dynamic interactions are in the rail population when faced with stress. Also agreed is that the wetland size and marsh vegetation communities depend on the Bypass Drain flows, but no definitive study has been completed to determine the sensitivity of the marsh to changes in flows and salinity, yet there are models that give some indications. Consequently, dependable causal linkages cannot be established because no information is available at present that would allow such linkages to be established, or clearly understood. From a scientific viewpoint, projected impacts at the Cienega are challenging to quantify, let alone qualify, because they are not well documented; projected impacts can only be surmised because consequential causal linkages are not understood. The joint cooperative actions described within the Joint Report offer a prime opportunity to survey and monitor the wetland to determine how the marsh ecosystem functions and thereby provide the needed information.

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English Translation

PUBLIC COMMENT PERIOD FOR THE YUMA DESALTING PLANT PILOT RUN ENVIRONMENTAL ASSESSMENT IN ARIZONA, UNITED STATES, CONDUCTED BY THE UNITED STATES GOVERNMENT

ANALYSIS AND OPINION BY THE ENVIRONMENTAL SECTOR IN THE FEDERAL GOVERNMENT OF THE UNITED MEXICAN STATES

MAY 28, 2009

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Translated: HG:sa **June 16, 2009**
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I. INTRODUCTION

On October 16, 2008, the Mexican Section of the International Boundary and Water Commission called for a binational meeting to be held on November 14 in order to review the project presented by the United States Bureau of Reclamation, which consists of the pilot operation of the Yuma Desalting Plant (YDP) in Yuma, Arizona. The YDP Pilot Run will last for 18 months and could continue in the medium and long term.

The operation of the plant, although a pilot project, is of great significance to Mexico given its geographic location (Colorado River region) and in particular, because of its proximity to the Cienega de Santa Clara in the state of Sonora. The direct relationship between the Cienega (Biosphere Reserve and RAMSAR site) and the Yuma Desalting Plant lends intelf to a natural concern by the government of Mexico. Mexico's concern is that the operation of said plant will increase the area's salinity levels, destabilizing the balance between the ecosystem and its resources.

The Cienega de Santa Clara is located in the Sonoran Colorado River Delta, inside the Upper Gulf of California and Colorado River Delta Biosphere Reserve. The Cienega covers 18,000 hectares of marshes, lagoons, and muddy areas. It is recognized as a Wetland of International Importance by the Ramsar Convention, a fundamental area for bird conservation and a Western Hemisphere Shorebird Reserve Network site. It is also now recognized as a Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The Cienega is also one of the most important wetlands in Mexico and it is part of the North American Waterfowl *Conservation* [Management] Plan.

Each winter, the Cienega provides habitat for migratory aquatic birds, specifically for 150,000 shorebirds and 40,000 ducks and geese. In addition, the wetlands maintain 75% of the total population of the Yuma clapper rail, a federally protected species in Mexico (threatened) and in the United States (endangered). The Cienega also provides habitat for 23 other species of birds with protected status in Mexico, including the black rail, the bald eagle, the peregrine falcon, and the Virginia rail, as well as the endangered desert pupfish, endemic to the region and the only native freshwater fish that is still subsisting in the Colorado River Delta.

This document contains the observations and comments on the *Draft Yuma Desalting Plant Pilot Run Environmental Assessment* by the National Institute of Ecology (INE), the National Water Commission (CONAGUA), the Mexican Institute of Water Technology (IMTA), the National Commission for Natural Protected Areas (CONANP) and the Department of Wildlife (DGVS) –who are also participants in the IBWC Environmental Workgroup.

The **purpose of this document is** to make clear the opinions and recommendations of Mexico at the federal level, with the aim of continuing under better terms any projects that link the wellbeing of the Cienega with aspects of sustainable water use, particularly if the predictions of future **drought** for the region and the world are taken into consideration.

Thus, the current effort focuses on the need to sustainably reconcile the conservation and protection of sites such as the Cienega de Santa Clara, which is an asset to the world and for all the world, while coming up with forward-thinking strategies for future sustainable use of water itself.

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II. GENERAL ISSUES REGARDING THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE YUMA DESALTING PLANT PILOT RUN

The environmental assessment prepared by the Bureau of Reclamation has the goal of "evaluat[ing] potential effects associated with short-term and limited scale operation of the Yuma Desalting Plant (YDP) primarily for data gathering purposes[1]".

The analysis performed included background on the topic, as well as a justification for the operation of the YDP based on the current situation in the United States, which includes drought conditions, population growth and the continual demand for water for municipal, environmental and recreational use in the Lower Colorado River basin. The evaluation determined that some issues will not be affected by the operation of the plant; therefore, the analyses focused on the issues of:

- Air Quality
- Biological Resources
- Water Resources
- Hazardous Materials
- Indian Trust Assets
- Environmental Justice
- Noise

Additionally, in the section International Considerations, it specifies that the environmental assessment "**only addresses potential effects of the Pilot Run within the U.S.**[2]" It also states that Appendix C "Cienega de Santa Clara Literature Review" is included as a **purely voluntary assessment** of potential environmental effects that could result from the YDP Pilot Run.

Regarding the impacts of the plant operation, the evaluation concludes that the expected changes in MODE discharges could temporarily increase salinity and selenium, and reduce the flow of water towards the Cienega. Section 3.10.2 summarized the effects by topic, stating that for:

- Air Quality, the emissions from the pilot run would not contribute to an exceedance of the air quality standard.
- Biological Resources, the plant pilot run for a short duration would not result in loss of habitat and impacts on biological resources in the area.
- Water Resources, the operation [of the plant] would not interfere with the obligations to deliver water to Mexico as per the 1944 Treaty.
- Hazardous Materials, complying with the federal, state, and local regulations will reduce the likelihood of potential effects related to the use of [chemical] substances in the pretreatment process during operation of the plant. Similarly, implementation of management and mitigation measures will reduce the cumulative effects.
- Indian Trust Assets, no effects are anticipated.
- Environmental Justice, the pilot run would not cause disproportionate cumulative effects on minority or low-income populations.
- Noise, there would not be cumulative effects in the area.

1 U.S. Department of the Interior (May, 2009) Draft Environmental Assessment Yuma Desalting Plant Pilot Run. p.5.

2 U.S. Department of the Interior (May, 2009) Draft Environmental Assessment Yuma Desalting Plant Pilot Run. p.11.

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Additionally, it should be noted that without the operation of the plant, the flows that reached the Cienega wetlands through the Wellton-Mohawk Bypass Drain between 2004 and 2008 averaged approximately 107,000 acre-feet per year, at a salinity of approximately 2,664 parts per million. By operating the plant, the flows to the Cienega wetlands would be reduced to approximately 77,000 acre-feet, with an increase in salinity to 3,204 ppm.

Regarding this last paragraph, this document provides a modest revision to the impacts detected in the Cienega, with the intent of contributing expert opinions and knowledge on the topic and to continue working jointly through the IBWC binational issue groups.

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III. COMMENTS FROM THE MEXICAN GOVERNMENT'S ENVIRONMENTAL SECTOR ON THE YUMA DESALTING PLANT PILOT RUN ENVIRONMENTAL ASSESSMENT, BY PARTICIPATING AGENCY

National Water Commission (CONAGUA)[3]

CONAGUA expresses that the document is an environmental assessment of the effects that the Yuma Desalting Plant (YDP) Pilot Run will have, clearly stating that only impacts within the United States were analyzed. Within this scope, no potentially adverse effects will occur and therefore, according to U.S. law, **an Environmental Impact Study is not required**.

The document states that Appendix C "Cienega de Santa Clara Literature Review" is included as a purely voluntary assessment of potential environmental effects that could result from the YDP Pilot Run; therefore, it is concluded that no environmental impact study will be conducted in the future.

It emphasizes that any commitments made by the United States Bureau of Reclamation with regard to the Bypass Drain or the Cienega are undertaken purely in the interest of international courtesy and would not constitute any obligation beyond the duration of the proposed YDP Pilot Run; this was agreed to under the auspices of the International Boundary and Water Commission.

8-1 The National Water Commission insists on the need for an Environmental Impact Study focusing on the effects that the YDP Pilot Run will have on the Cienega de Santa Clara, and under the realm of binational cooperation, it would be preferable to prepare it jointly with the participating institutions.

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[3] The National Water Commission's opinion was previously sent to the IBWC Mexican Section, who in turn forwarded in to the United States Bureau of Reclamation. It is included again in this document as an integral part of the opinions issued by the decentralized agencies of SEMARNAT who are involved in this issue.

National Institute of Ecology (INE)

A fundamental issue in the Yuma Desalting Plant (YDP) Pilot Run Environmental Assessment provided is the area of consideration, which is exclusively limited to the impact on U.S. territory. In this regard, it states:

> "...in accordance with all applicable law [...], this EA only addresses potential effects of the Pilot Run within the U.S."

Considering this territorial approach, the general conclusion in the Assessment is that there will be no impact on the biodiversity and the water quality (surface and groundwater) as a result of the implementation of the Pilot Run.

While under the agreements of the Treaty between the United States of America and the United Mexican States for the Utilization of International Waters (1944 Water Treaty), and IBWC Minute 242 for the "Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River" (August 1973) said evaluation is not required, it is important to remember that both the United States and Mexico are parties to the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, also called the **Ramsar Convention**[4];

8-2 One of the fundamental commitments in this agreement is to preserve the ecological character of the wetlands of international importance.

In the text of the Ramsar Convention the Contracting Parties consider "the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna, especially waterfowl;" furthermore, they recognize "that waterfowl in their seasonal migrations may transcend frontiers and so should be regarded as an international resource." In addition, they express "being confident that the conservation of wetlands and their flora and fauna can be ensured by combining far-sighted national policies with co-ordinated international action." In consideration of the foregoing, they agree in Article 2(6) that "*Each Contracting Party shall consider its international responsibilities for the conservation, management and wise use of migratory stocks of waterfowl, [...]*."

In that sense, and considering that the Cienega de Santa Clara is included as part of said Convention, classified as Ramsar Wetland #814 within the Colorado River Delta Wetlands, the effects of the YDP Pilot Run on the general functioning of Cienega de Santa Clara needs to be evaluated based on the reduced [water] volumes and the water quality that it receives.

For this reason, it is important that the YDP Pilot Run Environmental Assessment consider the effects on this wetland beyond the scope of the Cienega de Santa Clara Literature Review, which was done to address this and included as Appendix C. Likewise, it is suggested that the Mexican Section's comments on the Literature Review be taken into consideration for the [final] Environmental Assessment.

[4] The Ramsar Convention became effective December 18, 1986 in the United States and August 29, 1986 in Mexico.

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In addition, section 1.6 International Considerations in the Environmental Assessment addresses "*the potential effects of the YDP operation on* the amount of water that flows into the MODE Drain and eventually flows into the Cienega de Santa Clara (Cienega) in Mexico."[TN1] Nevertheless, at no time is the existing connectivity between this body of water in Mexico and the Upper Gulf of California considered.

8-3

Another fact that is not considered is that the Cienega is located in a **Biosphere Reserve**, precisely because of the biological diversity that it sustains and the species that are found there. Also, it does not mention that this wetland is last remaining wetland of considerable size in the region, and is, therefore one of –or even the most important– of the Colorado River Delta wetlands.

Legal Issues

On page 11, it states that:

> "In accordance with all applicable law, including, for example, NEPA, the 1944 Water Treaty, Section 397 of Public Law 109-432, and Executive Order 12114, this EA only addresses potential effects of the Pilot Run within the US".

However, the operation of the plant would go against a series of instruments of international cooperation, of which the following stand out:

8-4

- Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area (La Paz Agreement).

- North American Agreement on Environmental Cooperation Between the Government of Canada, the Government of the United Mexican States and the Government of the United States of America.

- U.S.-Mexico Border 2012 Environmental Program.

Considering the previous agreements, the general legal principal *Pacta sunt servanda,* is a fundamental part of International Law, since the coexistence of International Law and National Law is based on said general principal. According to the Vienna Convention on the Law of Treaties, the Parties are bound to keep their international commitments in good faith. To this obligation, it must be added that invoking domestic law as justification for a failure to perform International Law is prohibited[5], because if this were possible, there would not be any legal certainty for the other signatory Parties of an instrument of international law.

TN1 – Translator's Note - Wherever possible, direct citations were taken from corresponding document. However, often concepts from either the Environmental Assessment or the Literature Review were synthesized into one statement in Spanish that (usually) reflected the general sentiment originally expressed. In these cases, every attempt was made to use wording similar to the English original, although there may not be an exact parallel, particularly if no page or section reference was provided.

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The Parties cannot repeal an instrument of international law through any mechanism other than those in that same instrument or, alternatively, in the Vienna Convention on the Law of Treaties, which stipulates a specific list of reasons and methods for rescinding an internationally assumed obligation. Non-performance by a Party that knowingly strays from the provisions of a treaty when it is applicable to the specific case, assumes not only the supposition of poor faith regarding the obligation stipulated in Article 26 of the Vienna Convention, but it further implies, tacitly, having illegally rendered a standard of international law ineffective, based on the above explanation.

The previous scenario would incur international liability and its consequences, regardless of the severity of the non-performance, the institution or official that ceased to observe the international standard.

8-4 Meanwhile, the Constitution of the United States declares that only international treaties will require ratification by two-thirds of the Senate, whereas Executive Agreements do not need Senate approval to become effective. The distinction between the recently cited types of agreements is solely for purposes internal to the United States. At the level of International Law, as was previously mentioned, any international agreement that the parties have voluntarily entered into is binding, regardless of its national designation Vienna Convention on the Law of Treaties, ratified by the United States Senate on April 30, 1974).

Provisions that may be contradicted

The environmental impacts of the Yuma Desalting Plant Pilot Run on the Cienega de Santa Clara would represent a breach of the United States Government's environmental commitments with the Government of the United Mexican States.

Articles 1, 2, 3, 4, 5 and 15 (See Table 1 - Applicable Articles)[TN2] of the **Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area** (La Paz Agreement) would be contradicted since the referenced articles establish several commitments, such as:

- cooperating in the border area on the basis of equality, reciprocity and mutual benefit;
- adopting measures to prevent, reduce and eliminate sources of pollution;
- facilitating the entry of equipment and personnel related to this Agreement and undertake consultations relating to the measurement and analysis of polluting elements; subject to the consultation processes that must be carried out according to national legislation.

Moreover, said Agreement establishes the basis for cooperation related to environmental protection, improvement and conservation.

Thus, actions [taken] in unfair conditions and without a spirit of reciprocity between the parties, which do not provide mutual benefit; which are contrary to protecting, improving and preserving the environment; and measures that increase the sources of contamination in the context of environmental protection in the border region, represent a breach of the Agreement.

TN2 – Translator's Note – No table was provided.

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Moreover, Articles 1 and 6 (See Table 1 - Applicable Articles) of the **North American Agreement on Environmental Cooperation Between the Government of Canada, the Government of the United Mexican States and the Government of the United States of America**, consider both cooperation for protection of the environment based on sustainable development and the reinforcement of cooperative actions for conservation and protection of biodiversity.

It is also stipulated as an obligation of the signatory Parties to ensure that persons have access to proceedings for the enforcement of [the Party's] environmental laws and regulations. The contamination in the Cienega resulting from the waste generated by the Yuma Desalting Plant goes against nature conservation for future generations and puts the survival of endemic flora and fauna at risk.

8-4 Lastly, if the plant is re-activated, failure to comply with objectives 1, 4, and 6 of the U.S.-Mexico Border 2012 Environmental Program (See Table 1 - Applicable Articles) would be clear, as would a failure to comply with that program's mission, since said objectives stipulate the reduction in water contamination, improvements to public health and environmental efforts, and prevention of contamination. The impacts from the plant's reactivation do not represent protection for the environment nor for public health in the border region that is consistent with sustainable development. Said Program is an acquired commitment, with specific dates and goals, the foundation of which originates from the La Paz Agreement.

While the spirit of the La Paz Agreement suggests that notification should be sent when a project on one side of the border could cause impacts in the other country, "there is no routine procedure for this communication to take place, nor a structure mechanism for analysis and mitigation of the transboundary environmental impact."[TN3]

In this regard, it should be noted that midway through the 90s through the Commission for Environmental Cooperation (CEC), a draft transboundary agreement was prepared that would provide a transparent process to address issues with potential transboundary environmental impact between the United States and Canada and between the United States and Mexico. Apparently, the latter two countries never reached an agreement, consequently resulting in both parties sharing the responsibility for the current controversies surrounding transboundary impacts for projects in the region.

Impacts on Flora and Fauna

In the section concerning the Affected Environment, in subsection 3.4.1.1 Terrestrial Setting for Vegetation and Wildlife ([electronic] p. 33), it states that:

> 8-5 "The riparian areas of the Colorado River provide valuable stopover habitat for migratory birds, as well as a host of mammals and reptiles. Upland vegetation, and to some extent agricultural areas, can provide habitat for other mammals".

However, it does not mention that the primary wetland used by migratory birds and other vertebrates in precisely the Cienega de Santa Clara.

TN3 – This quote does not actually appear in the La Paz Agreement.

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The document states that:

> "A total of six Federally-listed candidate, threatened, or endangered species were identified and include the following: brown pelican (*Pelecanus occidentalis*), razorback sucker (*Xyrauchen texanus*), Sonoran pronghorn (*Antilocapra americana sonoriensis*), southwestern willow flycatcher (*Empidonax traillliextimus*), Yuma clapper rail (*Rallus longirostris yumanensis*), and yellow-billed cuckoo (*Coccyzus americanus*). The bald eagle (*Haliaeetus leucocephalus*) is no longer federally listed, but remains protected under the Bald and Golden Eagle Protection Act, and is included in this section.
>
> Only three wildlife species that are federally and state listed are known or have the potential to occur along Reach 7. These species are the Yuma clapper rail (*Rallus longirostris yumanensis*), the Southwestern willow flycatcher (*Empidonax traillii extimus*), and the yellow-billed cuckoo (*Coccyzus americanus*)".

However, it does not mention that the Cienega is the habitat for:

- approximately 300 species of resident and migratory birds; and
- at least 13 protected species (either by U.S. federal law, California State law or Mexican legislation) including:

8-5

Species	**Mexico**	**United States**	**California**
Yuma Clapper Rail	T	R	T
California Black Rail	R	-	T
Large-billed Savannah Sparrow	SP	-	SP
Least Bittern	-	-	SP
Gull-billed Tern	-	-	SP
Virginia Rail	SP	-	-
Burrowing owl*	-	-	-
Peregrine Falcon	SP	R	R
Willow Flycatcher	-	R	R
Sharp-shinned Hawk	SP	-	SP
Loggerhead Shrike	-	-	SP
Gila Woodpecker	-	-	SP

T = Threatened **R** = Risk of extinction **SP** = Special protection
*Rare and Little common

In Section 3.4.3 Management and Mitigation Measures, it states that

> "No flora or fauna in the U.S. will be adversely affected by the Proposed Action, therefore no management or mitigation measures will be necessary"

However, this completely omits and does not consider the impacts on all the species mentioned previously.

Lastly, we want to mention that there was no formal study done focusing on the Cienega, which is directly affected by the operation of the YDP.

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Said study should focus on analyzing the specific impacts on the Cienega in order to determine the impact of the YDP operation on the animal and plant communities there. This needs to be done because the available studies do not contain results that are applicable to the current and future situation in the Cienega should the YDP commence operations.

Although a study is mentioned that could be related to the impact on the Cienega from the YDP Pilot Run, conducted by the Bureau of Reclamation (Reclamation)'s Technical Service Center (TSC), [according to which] it is logical to assume that the conditions will not be significantly different from the previous conditions[6] .

8-C1 Also, if you consider that the Cienega's ecosystem has been a wetland that has regenerated itself with water that has been received from the MODE Drain until now, it is not possible to know to what extent the operation of the YDP could affect the system, and whether its constant impact could go so far as to provoke the deterioration of the ecosystem itself to the point where it would no longer be able to recover.

8-C2 In addition, the impact of the changes in flows and solute concentrations on not only the Cienega, but also at its mouth to the Upper Gulf of California, has not been considered, since the waters in these water bodies are connected both on the surface and underground, affecting diverse marine species such as mollusks, fish, and marine mammals.

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6 This is if the prior conditions are viewed as annual averages or in whatever intervals they looked at, but a detailed analysis over time was not performed. The impact of the YDP operation will have a constant impact on the Cienega. It is still unknown whether the ecosystem and the populations sustained by it can withstand this impact.

Mexican Institute of Water Technology (IMTA)

The purpose of the YDP Pilot Run is, essentially, to obtain the real costs of operation, any additional corrective actions, and the response of the plant to long-term daily operation, and obtain data about effluent and emissions processes to provide a basis to analyze potential environmental consequences of the plant (YDP) operation.

If the proposal to implement the pilot run is accepted, the water quantity reaching the Cienega de Santa Clara would be reduced, and there would be an increase in salinity. In both cases (decrease in flow and increase in salinity), this would affect and alter the conditions in the Cienega's ecosystem.

The EA is used to determine if the resulting impact is not significant (the document refers to this as FONSI), and is therefore appropriate. If the impact is significant (FONSI)[*sic*], then the implementation of the Pilot Run is not appropriate; this means that the impact found is significant, and **an Environmental Impact Statement is required prior to deciding to implement the Pilot Run and operate the plant.**

8-6 The document mentions that there will not be significant adverse effects with the operation of the proposed Pilot Run; however, they are only described for United States territory, and [the
8-7 fact that] mitigation measures could be implemented should the need arise. These measures are not described in the document.

8-C3 Appendix C is included in the EA document, referring to the literature review that looked at studies of the Cienega de Santa Clara. Some of the studies refer to selenium concentration in the system, which appears to show low concentration levels. However, it indicates that a monitoring program is needed to evaluate the impact on the food chain. Additionally, information about primary vegetation and fauna is provided. The primary aquatic vegetation is *Thypa* (Cattail), as well as nearly 24 [other] species that are important to the maintenance of the [eco]system. Typha, according to the literature, is relatively resilient and the indications are that impacts to the marsh from the Yuma Desalting Plant Pilot Run are likely to be temporary and recoverable. However, no new investigations or evaluations have been done that support these topics.

8-8 In light of the above it is recommended that an **Environmental Impact Study be performed** prior to the Yuma Desalting Plant Pilot Run at one-third capacity during an 18-month period, since the potential impacts that could be seen on the Cienega de Santa Clara have not been evaluated and **there is not enough valid data to determine that the system's vegetation, flora and fauna will not be affected.** Moreover, if there is an impact, it would be necessary to
8-9 know how long it would take the ecosystem to recover and what type of mitigation, recovery or compensation measures should be implemented. In addition, a joint, coordinated monitoring program needs to be conducted in order to have the scientific and technical data that would support any decisions and measures to preserve the Cienega de Santa Clara.

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Secretariat of the Environment and Natural Resources, Department of Wildlife (SEMARNAT)

The Department of Wildlife has registered a Management Unit (MU) for Wildlife Conservation,[7] adjacent to the Cienega de Santa Clara area, called Ejido Luis Encinas Johnson (registration #: SEMARNAT-UMA-EX-0342-SON), for management and exploitation of aquatic birds, doves and pheasants, which include:

Anas acuta	Northern Pintail
Anas americana	American Wigeon
Anas clypeata	Northern Shoveler
Anas crecca	Common Teal
Anas cyanoptera	Cinnamon Teal
Anas discors	Blue-winged Teal
Anas platyrhynchos	Mallard
Anas strepera	Gadwall
Anser albifrons	Greater White-fronted Goose
Aythya americana	Redhead
Branta bernicla	Brant Goose
Branta canadensis	Canada Goose
Bucephala albeola	Bufflehead
Callipepla gambelii	Gambel's Quail
Chen caerulescens	Snow Goose
Fulica americana	American Coot
Gallinago gallinago	Common Snipe
Phasianus colchicus	Common Pheasant
Zenaida asiatica	White-winged Dove
Zenaida macroura	Mourning Dove

This MU is located in the Municipality of San Luis Rio Colorado and has a surface area of 5,458 hectares. During the 2006-2007 and 2007-2008 seasons, approximately 2,126 specimens were exploited.

The Cienega de Santa Clara provides an alternative form of development for human settlements in the region. Residents have implemented a management [plan] to improve the ecological conditions in said wetlands, which results in benefits to the resident and migratory aquatic bird populations that use these wetlands systems during their seasonal migrations along the Pacific Flyway, and benefits to the nearby human residents as well.

8-10 The Department of Wildlife recommends that a permanent monitoring program be established for YDP discharges toward the Cienega de Santa Clara, so that any significant impact on the wildlife species that reside in said wetlands can be detected and reported in a timely manner.

7 MU's are the Units that protect and conserve wildlife through fauna and flora management plans in order to produce breeding stock, for ecotourism, as a source for germplasm, environmental education, recreational hunting, conservation, etc.

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If this were to happen, a communiqué would need to be issued to reduce the discharge, since some species that develop in the Cienega and its area of influence have varying degrees of salinity tolerance, and a sudden, constant increase can affect their populations in a negative and definitive way, even if there were a return to the area's current salinity levels.

8-C4 Similarly, some indicator species need to be identified, by means of which the short term effects of the increased salinity can be monitored, considering that microorganisms and insects are good indicators because of their rapid development.

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National Commission for Natural Protected Areas (CONANP)

Yuma Desalting Plant Pilot Run Environmental Assessment

The document provided by the Bureau of Reclamation (Reclamation) is, in general terms, the Yuma Desalting Plant Pilot Run Environmental Impact Study for the environment in and around the plant in the cities of Yuma and the Yuma Agricultural Valley in the state of Arizona.

In addition, the document includes international consideration in Section 1.6, which states that the operation of the YDP would reduce the amount of water that flows into the MODE Drain and eventually into the Cienega de Santa Clara in Mexico.

In this regard, it mentions that matters related to the Cienega are foreign policy issues that Reclamation will address through the U.S. Section of the International Boundary and Water Commission (IBWC), the diplomatic body responsible for addressing Colorado River matters, pursuant to the 1944 Water Treaty and in particular, Minutes 242 and 306.

Accordingly, Reclamation states that it will provide available information from this EA and its Appendices, to facilitate effective consultation, and defer to the IBWC regarding the diplomatic process that will be required to address this matter.

Given that the environmental assessment for the YDP operation is only applicable to U.S. territory, Reclamation included Appendix C, which includes the Cienega de Santa Clara Literature Review. This review evaluates the level of knowledge and conservation of the Cienega, and the potential effects of the YDP pilot run.

The following is an analysis of said Appendix.

Cienega de Santa Clara Literature Review

The following paragraphs provide the observations and comments on the document prepared by Reclamation regarding the available information for the Cienega de Santa Clara, located in the Colorado River Delta floodplain in the state of Sonora, Mexico.

The Cienega de Santa Clara is located in a depression that used to be an active channel of the Colorado River Delta known as "Riito salado," which, during river flood flows had contact with the floodplain adjacent to one of the Delta channels and the Santa Clara Slough. This channel was replaced by agricultural discharge drains from the San Luis Valley, and later flooded by MODE discharge. Currently, it has around 12,000 hectares, out of which 4,000-4,500 are lagoons and canals that are covered or lined with cattails and in some areas reeds, rush and halophyte species, and the rest consists of a very shallow evaporative surface with no vegetation where there is contact with seawater during high tides.

Overall, the document, made up of four sections, presents a technical analysis of the information aimed at identifying the relationship between the MODE discharges, the conditions in the Cienega and the potential changes to this relationship as a result of the Yuma Desalting Plant Pilot Run.

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While it cannot be considered an Environmental Impact Study of the YDP operation on the Cienega's ecosystem, the document describes the potential effects from the plant operations on four elements or parameters using existing information (data from Reclamation's own water monitoring) and predictions that are mostly based on narrowly conclusive or biased assumptions and conclusions.

8-C5 Firstly, the review of the 180 peer-reviewed or non-peer-reviewed documents reflects an important body of information about the site; however, many of the citations are not necessarily related to the Cienega, or a good number of them were **not** consulted, or, if available, they were not analyzed in detail.

The technical analysis concludes that:

- The water chemistry and the Cienega hydrology during the Pilot Run will be within the historical range.
- The expected changes in MODE discharges could temporarily increase salinity and reduce the flow towards the Cienega.
- In spite of the fact that there have been reductions in the water levels, surface area and salinity of the Cienega during events that reduce or completely stop the flow, the ecosystem has re-established itself; with this, it is assumed that in spite of the temporary impact, there will be a gradual recovery.

Insofar as the analysis of the relationship between the proposed discharge from the Desalting Plant and the water quality and quantity going to the Cienega, it is concluded that:

- The salinity will stay within the historical range for the MODE discharge.
- An increase in the levels of selenium concentration, which could pose a biological problem for the Cienega, is not expected.
- The nature of the wetlands dynamic in the Cienega cannot be reproduced in models that predict changes for different time scales if these time periods include changes in quantity and salinity.
- It is accepted that an increase in the salinity in the Cienega waters could have a negative impact on the condition, growth, germination and evapotranspiration rate, yet it does not link it with the operation of the YDP.
- 8-C6 *It is difficult to predict how changes in salinity, flow, water level, quality of habitat and wetland surface area will affect the wildlife in the Cienega, especially with regard to the populations of Yuma clapper rail, Desert Pupfish, and other wildlife species.* (Suggested re-write to say: "Changes in salinity, flow, water level, quality of habitat and wetland surface area are not conclusive, and accordingly, their effects on the wildlife in the Cienega, especially with regard to the populations of Yuma clapper rail, Desert Pupfish, and other wildlife species are not conclusive."[TN4]
- 8-C7 In spite of having significant data, monitoring the conditions in the Cienega during the pilot run of the YDP is critical to establishing water management parameters for the Cienega.

8-C6 TN4 – This is an example of where there is no direct correlation to a single statement in the English original. I believe the intent of the “re-write” is to change the emphasis from the impacts being difficult to predict to the idea that current data is inconclusive (and thus predictions *could* be made if there were more data.)

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8-C8 Considering the above, it can be concluded that the review of information was analyzed and processed, without performing a field verification or applying a formal method for identifying, measuring or predicting the environmental impacts over different intervals, in such a way that considers the YDP pilot run, although temporary, will not have negative effects on the Cienega's ecosystem. This is based on a biased interpretation, justified by lacking, contradictory and inconsistent data from the analyzed studies.

8-C9 In spite of the fact that several published studies document changes in the Cienega's conditions (level, discharge, salinity) and the effects on several wildlife species, these were minimized or partially utilized, concluding that a study or monitoring was needed, or just that it was difficult to establish or quantify.

Based on all of the above, the ecological importance of the Cienega must be highlighted, given that:

8-C10
- It represents one of the few remaining wetlands with permanent water flow in the Colorado River Delta region and the Irrigation District that maintains acceptable habitat conditions for resident and migratory wildlife.
- It is considered a brackish wetland with the largest coverage of cattails in the Delta and possible in all of the Lower Colorado River and the Sonoran Desert.
- It brings together an interconnected corridor of Delta wetlands.
- Because of its size, condition, biodiversity and the environmental services it provides, the Cienega forms part of the Upper Gulf of California and Colorado River Delta Biosphere Reserve, created in 1993, part of Ramsar Site 804 "Colorado River Delta Wetlands," as well as an international site within the Western Hemisphere Shorebird Reserve Network, and an important site belonging to North American Waterfowl Management Plan.
- It provides services and resources to the surrounding communities that engage in recreational economic activities (ecotourism, recreational fishing, wetlands activities, commercial fishing).
- The current conditions are representative of a balanced ecosystem with adequate parameters for human activity and wildlife.

Finally, considering the environmental importance of the ecosystem and the impact it has on biodiversity, the following is recommended:

8-11
- Request a full evaluation of the environmental impact of the Yuma Desalting Plant operation.

8-12
- Find out the opinions of other agencies such as USFWS, AZDEQ and AZGFD, as well as the non-governmental organizations (NGOs) and the State Government of Sonora.
- Include new literature and local reports.

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IV. GENERAL CONCLUSIONS BY THE ENVIRONMENTAL SECTOR

The operation of the Yuma Desalting Plant is a project that, given its location and the fact that is it linked to a resource shared between Mexico and the United States, it has a transboundary environmental impact that can and must be addressed in a binational manner.

In this sense, the position of the environmental sector has been clear from the beginning, stating that the aim is not to stop the Plant from operation, rather through dialogue and cooperation between the two sides, to **find a joint solution for the loss of water** that the Cienega de Santa Clara will undergo and the for resulting environmental impact.

In general, the comments made on the Yuma Desalting Plant Pilot Run Environmental Assessment by the different SEMARNAT agencies agree on the following:

- The document indicates that there will not be significant adverse effects in the United States with the operation of the Pilot Run, and it states that, should there be any, mitigation measures would be implemented; however, these measures are not described in the document.
- With respect to the impact on wildlife, even though it indicates that the riparian area of the Colorado River are a habitat of enormous value to migratory birds and other mammals and reptiles, it does not mention that the Cienega de Santa Clara is the most important wetland used by migratory birds and other vertebrates as a result of the environmental deterioration in said region.
- The environmental assessment does not acknowledge that the Cienega de Santa Clara is an alternative for human development in the region. Residents have implemented a management [plan] to improve the ecological conditions, which results in benefits to the resident and migratory aquatic bird populations and to the residents themselves. Thus, it should be noted that the Cienega provides resources in the form of recreational economic activities including ecotourism, recreational fishing, wetlands activities, and commercial fishing, among others.

Mexico's environmental sector insists that **an Environmental Impact Study is necessary**, which focus on the effects that the Yuma Desalting Plant Pilot Run will have on the Cienega de Santa Clara, given that potential impacts **have not been evaluated** and there is not enough valid data. The information that as being used as the basis to evaluate the current status [of the Cienega] is not up to date and does not include important Mexican studies and research on the Cienega.

Lastly, it is important to highlight yet again the significance of the Cienega de Santa Clara, not only to Mexico, but for the border region and for the world. The Cienega represents one of the few remaining wetlands with permanent water flow in the Colorado River Delta region that maintains acceptable habitat conditions for resident and migratory wildlife and brings together an interconnected corridor of Delta wetlands.

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IBWC-Mexico Comment Letter Response Table

Comment #	Response
8-1	See General Comment Response Two.
8-2	See General Comment Responses One, Two and Three.
8-3	This EA does not address hydrologic connections within Mexico's sovereign boundaries. See also General Comment Response Two.
8-4	See General Comment Responses One and Two. Also, see Section 1.6 of the EA.
8-5	See General Comment Responses Two and Three.
8-6	See General Comment Response Two.
8-7	In accordance with NEPA, the EA appropriately describes any necessary mitigation measures. See also General Comment Responses One and Two.
8-8	See General Comment Response Two.
8-9	See General Comment Response One.
8-10	A permanent monitoring program to determine any effects to the Cienega would indeed be beneficial. However, although the comment addresses the issue of monitoring, which is discussed in several places in the Literature Review, actions of this sort are diplomatic and policy issues, which are beyond the scope of discussion in this comment/response forum. See also General Comment Response One.
8-11	See General Comment Response Two.
8-12	See comment response 2-3 and General Comment Response Three.
8-C1	Comment noted. Subsequent to the issuance of the Draft EA to which this comment addresses, the U.S. and Mexico, through the IBWC, reached agreement on a program of joint cooperative actions related to the proposed Pilot Run of the YDP. These cooperative actions are described in the Joint Report (see Appendix C). Nevertheless, the comment poses a question regarding the bigger picture in regards to potential future long-term operation of the YDP. Future research at the Cienega should make all attempts to address long term effects of flow changes to the biological constituents of the marsh. The substance of this comment has been properly mentioned in the Literature Review to suggest as such to readers (see Appendix E).
8-C2	The ecosystem at the mouth of the Upper Gulf of California is indeed important and potentially affected by any number of changes in water flows, total dissolved solids, chemical additions, or other alterations outside the control of Reclamation. Although it is recognized as an important issue, no published data regarding water, faunal, or floral dynamics of the Upper Gulf of California were discovered in the course of the investigative process. This is not to suggest such data may not exist, and future research should perform more exhaustive searches for and analysis of information pertaining to specific areas of interest of study than those performed in the course of the Literature Review.

	Language has been incorporated into the Literature Review to recognize the connection between the Cienega and the Upper Gulf of California (see Appendix C).
8-C3	This comment appropriately qualifies information provided in the Literature Review. The last sentence of the comment is accurate and explains an important point that needs to be made clear to readers of the Literature Review. A statement has been added to the report that states; "No subsequent investigations or evaluations have been done that support the topics presented in this document" (see Appendix C).
8-C4	This comment correctly points out that monitoring of indicator species, once identified, is an acceptable and feasible method to detect short-term effects from flow changes. The substance of the comment has been included in a qualification of the monitoring suggestion statements provided in the Literature Review (see Appendix C).
8-C5	The Literature Review was a result of a thorough search for documents regarding the Cienega and associated water, vegetation, and fish and wildlife issues. It is not considered to be an exhaustive account of the existing literature as certain documents could not be located or were unavailable, were not evident as relevant to the topic, or were not found in the course of the investigative process. Available data were summarized to provide a foundation for the benefit of subsequent research. The comment has been addressed in the purpose and scope statement of the report to clarify this point to readers (see Appendix C).
8-C6	The suggested rewritten language in this comment is an accurate and concise expression of the substance intended in mentioned text. However, the substantive suggestion of the comment in that predictions are possible when adequate data are available is duly noted and has been incorporated into the Literature Review (see Appendix E).
8-C7	The comment correctly states that field verification or application of formal methods (interpreted as modeling and/or hypothesis evaluation) was not conducted in the course of the Literature Review; such actions were not within the scope or purpose of the document. However, a bi-national, cooperative monitoring program is identified in the Joint Report (see Appendix C).
8-C8	The Literature Review was not intended to make conclusions as the comment asserts. To the extent that the comment addresses monitoring, a bi-national, cooperative monitoring program is identified in the Joint Report.
8-C9	The interpretation presented in the Literature Review was based on an objective examination of published information or file reports. All basic published reports and tenable scientific and technical reports from our files were considered with equal weight, because those materials were useful regarding one aspect, or another, in describing the environment of the Cienega or the potential impact of the proposed Pilot Run operation of YDP. The Literature Review was objective yet not intended to discredit or value each article or source of information that was provided

	or obtained. We have found that variation in documented information generally indicates differences in observations and conclusions based on assessments and interpretations of data that were obtained. These differences are indications that various studies may have different objectives and intentions that may be guiding the scientific tenets and conclusions of these particular studies. We have no conclusive information upon which to understand the credible basis for saying the document failed to consider, or had "minimized or partially utilized" information in assessing the condition of the Cienega, while "concluding that a study or monitoring was needed, or just that it was difficult to establish or quantify." Dependable causal linkages cannot be established because insufficient information is available at present that would allow such linkages to be established or clearly understood.
8-C10	Comment noted.

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IRRIGATION & ELECTRICAL DISTRICTS ASSOCIATION OF ARIZONA

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ASSISTANT SECRETARY-TREASURER

E-MAILED ONLY

June 1, 2009

Mr. Sean Torpey
Environment Planning and Compliance Group Manager
Bureau of Reclamation
Yuma Area Office
7301 Calle Agua Salada
Yuma, Arizona 85364

Re: Draft Environmental Assessment for Yuma Desalting Plant Pilot Run

Dear Mr. Torpey:

We are writing to support the preferred alternative of conducting the pilot project outlined in the Draft Environmental Assessment. Mindful of the express direction that Reclamation received in the Omnibus Appropriation Act for fiscal year 2009, we believe that this pilot project is an appropriate response to that directive and an excellent way to demonstrate the new ways that salinity issues can be addressed and resolved in cooperation among the Basin States and, ultimately, the Republic of Mexico. One of the great benefits of Congress approving the Multi-Species Conservation Plan is the certainty that approval provided to allow the Basin States, especially Arizona, to extend problem solving in the salinity control arena.

9-1

We urge Reclamation to complete this environmental review as quickly as possible so that the agency and its cooperators can move forward with this important temporary operation of YDP.

9-2

Sincerely,

/s/

Robert S. Lynch
Counsel and Assistant Secretary/Treasurer

RSL:psr
cc: IEDA Presidents/Chairmen and Managers

Irrigation and Electrical Districts Association of Arizona Comment Letter Response Table

Comment #	Response
9-1	Comment noted. Reclamation recognizes the committee's interest in the YDP as described in the Explanatory Statement accompanying the *Omnibus Appropriations Act* of 2009 (P.L. 111-8). This NEPA process will facilitate the goals described by the committee.
9-2	Comment noted.

COMMENTS ON
« YDP PILOT RUN DRAFT ENVIRONMENTAL ASSESSMENT »

JAQUELINE GARCIA-HERNANDEZ
CIAD
jaqueline@ciad.mx
MAY 28, 2009

1. OTHER CIENEGA INFLOWS (page 22):

In order to improve the "total estimated Cienega flows" (page 22) I provide a table with recent flow data measured at the confluence of Riito and Santa Clara drains (32° 06´ 19.9" LAT N, 114° 56´ 52.3" LONG W).
Average Riito and Santa Clara drains inflows are 0.17 cms which is 4,015 AFY @ 3,313 TDS.
This will result in 77,017 AF from the MODE + 4,015 AF from Mex drains = 81,032 AFY @ 3,209 ppm.

10-C1

day of sampling	Riito+ santa clara drains (cms)
15-Mar-08	0.17
26-Abr-08	0.13
24-May-08	0.10
25-Jul-08	0.15
06-Sep-08	0.30
04-Oct-08	0.16
08-Nov-08	0.04
06-Dic-08	0.20
07-Feb-09	0.24
MEAN FLOWS	0.17
AFY	4015
TDS (2006-2009)	3313

TDS calculations:

4,015 AFY @ 3,313 ppm, dissolved in 81,032 AFY results in 164 ppm
(3,313*4015)/81032
77,017 AFY @ 3204 ppm dissolved in 81,032 AYF results in 3045 ppm
(3,204*77017)/81032
164 + 3045 = 3,209 ppm

The "other cienega inflows" calculated by the Bureau are higher in volume (even at their lower estimate) than our calculations with actual flow data from Riito and Santa Clara drains. TDS does not change too much from the MODE outflow considering the Mexican drains.

2. MODE FLOWS AT THE TERMINUS (page 78)

day of sampling	MODE AT THE TERMINUS (cms)	MODE MEAS. BY IBWC	Difference
15-Mar-08	4.80	4.46	0.3
26-Abr-08	3.20	4.46	1.2
24-May-08	4.90	4.38	0.5
25-Jul-08	0.00	0.11	0.1
06-Sep-08	5.90	4.94	1
04-Oct-08	5.80	5.17	0.63
08-Nov-08	5.60	5.10	0.5
06-Dic-08	6.30		
07-Feb-09	4.41		
MEAN	4.55	4.4 (mean from daily data)	0.6

10-C2

The flows at the terminus measured with a flow meter at three points (left center and right) of the canal and calculated with the area of the canal, had an average difference of 0.6 cms to the IBWC data. The station where we measure flows is on the highway to El Golfo where the MODE crosses to the Cienega, closer to the Cienega the water backs up and is difficult to read it. On average, flows were very similar to the ones measured by IBWC. According to CILA (and our own field surveys), there are no major inputs or outputs at the MODE from the SIB to the Cienega, with the exception of evaporation that can be calculated, I support the recommendation made by the monitoring group that met in San Diego, to use IBWC inflow data as a good estimate of volume and salinity of what is entering the Cienega, continue measuring flows at the highway station and if possible put a measuring device at the terminus of the extension of the MODE, inside the CIENEGA.

3. ON SELENIUM ISSUES

I´m a little confused here, in the 2007 report, we only measured selenium during the trial, not before or after, here is what was reported then:

10-C3

Selenium

Selenium is a naturally occurring toxin in Colorado River water. Selenium concentrations were measured from water samples taken on March 21, 2007, three weeks after the beginning of the YDP trial run. Salinity and selenium often behave similarly in water: selenium is dissolved in water and concentrates in brine or evaporation ponds. Selenium was higher at the inflows than in the vegetated zone. There was no significant difference in selenium levels between the two points of inflow. The inflow mean, 2.2 ppb is somewhat higher than the U.S. Department of Interior threshold for the protection of fish and wildlife species (Table 5). Inside the CSC, the average selenium value was 0.9 ppb, with higher concentrations found close to the points of inflow and lower concentrations towards the south (Table 5). Natural processes such as sedimentation and accumulation by plants might account for the lower selenium concentrations in the CSC. According to a

1997 survey, selenium values in the CSC were higher: the concentration was 0.10 ppm in cattails, 1.3 ppm in sediment and 3.4 ppm in fish (García-Hernández et al., 2000).
Table 5. Concentrations of total selenium (ppb) from water samples collected March 21, 2007

Station	*Water T °C*	*Se (ppb)*
Standard	*2.0[1]*	
6 – MODE inflow	*20.3*	*2.3*
7 -- Riito	*19.9*	*2.1*
Mean	*2.2*	
13 -- Vegetated	*18.7*	*1.4*
2 -- Rim	*17.7*	*0.52*
15 -- Vegetated	*17.7*	*0.86*
Mean	*0.9*	

[1] Toxicity threshold: USDOI. 2001. National Irrigation Water Quality Program. USGS, USBOR, USBIA, USFWS.

10-C3 cont.

So I´m not sure where this data is:

Selenium data from the Bypass Drain are limited to eight samples collected at the time of the 10 percent capacity test run (Demonstration Run) of the YDP during 2007 (Flessa and García-Hernández 2007). Flessa and García-Hernández (2007) monitored "water quality at 16 stations, including the Cienega inflows (MODE and Riito), the marsh rim, and the vegetated core of the wetland. The Riito Drain was measured at points close to its entrance into the Cienega. The MODE was sampled under the last bridge before entering the Cienega." (Note that these locations were in Mexico.) The samples consisted of three prior to the Demonstration Run, four during the Demonstration Run, and one following the Demonstration Run. The selenium concentration was slightly lower (average 1.9 µg/L) during the test, compared to an average of 2.1 µg/L in the non-test samples. The difference could reflect removal of selenium during pre-treatment at the YDP, seasonal differences, adsorption, or other factors during the two periods.

About the last paragraph in the Literature Review:

The existing information indicates that it does not seem likely that selenium levels would increase to levels that might present a biological problem in the Cienega during the Pilot Run. However, monitoring programs and comprehensive surveys would be needed to confirm this.

Comments:

Just considering the change in volume, from 106,897 AFY to 77,017 AFY, this would mean an increase concentration of selenium from 2.3 to 3.1 ppb in MODE water. Considering Riito+Sta. Clara drains flow and their Se concentrations, total inflow will still have 3.1 ppb selenium, this is a 0.9 ppb or 40% increase from conditions of March 2007. Inside the wetland a 40% increase will result in 1.2 ppb. Using the current

bioaccumulation factor (1,444) between water and sediments, we would have 1.7 ppm mean selenium in sediments (30% increase from current conditions). In biota is harder to calculate using a bioaccumulation factor, since fish collected were not sediment feeders or birds were not fish eating birds, but we could roughly estimate a 30% increase from current mean concentrations, which would result in a mean of 4.4 ppm in fish and 7.3 ppm in marsh bird eggs. Hatchability was affected in about 6%, in black-necked stilts (*Himantopus mexicanus*) from Tulare (Lake Basin, CA, USA) with concentrations in eggs as low as 4.2 to 9.7 ppm (Skorupa, 1998), and in the Salton Sea, with average concentrations in eggs of 6 ppm (Setmire, 1993). Se concentrations in eggs from the Cienega could potentially reach Tulare or Salton sea concentrations.

Therefore, I disagree with the following statement "*The existing information indicates that it does not seem likely that selenium levels would increase to levels that might present a biological problem in the Cienega during the Pilot Run…"* . Because Se levels in the Cienega are already at the threshold of toxicity (i.e. mean marsh wren egg concentration is 5.6 ppm) and an increase could start causing hatchability decreases in birds. I don't think that with the operation of the plant, the effects will be at the level of teratogenesis (embryo deformities) or bird mortalities, but we will probably see a lesser hatchability in breeding birds.

Literature:

Skorupa, J.P. 1998. Selenium poisoning of fish and wildlife in nature: lessons from twelve real-world examples. In: W.T. Frankenberger, Jr. and R.A. Engeberg, eds., Environmnetal chemistry of selenium. Marcel Dekker, Inc., New York. P. 315-354.

10-C4

Setmire, J.G., R.A. Shroeder, J.N. Densmore, S.L. Goodbred, D.J. Audet and W.R. Radtke. 1993. Detailed study of water quality, bottom sediment and biota associated with irrigation drainage in the Salton Sea area, California, 1988-90. U.S. Geological Survey Water-Resources Inv. Rept. 93-4014.

García-Hernández, J., Y. V. Sapozhnikova, et al. (2006). "Concentration of contaminants in breeding bird eggs from the Colorado River delta, Mexico." Environmental Toxicology and Chemistry **25**(6).

4. INFLOWS AND ACREAGE (Page 11)

Calculations should be made considering a 24% decrease in inflows (from 106,897 AF to 81,032 AF). I think that there is sufficient information to estimate the reduction in wetland area resulting from this flow reduction.

5. TYPHA AND SALTS

10-C5

Using IBWC-CILA measurements of EC at the Wellton-Mohawk Conveyance Channel and monthly TDS measurements inside the Cienega, we found a linear regression with Rsquare = 0.41, Pvalue = 0.0007, and the formula:
TDS inside the wetland = 0.8933 + 0.98(TDS Wellton)
Using this model, an inflow of 3,200 ppm will result in 3,700 ppm TDS inside the wetland, this is approximately 3,200 ppm salinity, which is greater than the 3,000 ppm where cattail has a reduced stature and vigor.

10-C6

6. PUPFISH

It is no longer the most numerous species…

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From: Torpey, Sean R
To: Kennett, Elizabeth L;
Subject: FW: comment on proposed operation of.....
Date: Wednesday, June 10, 2009 2:30:47 PM

From: jack kretzer [mailto:fourlegs183@yahoo.com]
Sent: Monday, June 01, 2009 2:03 PM
To: Torpey, Sean R
Subject: comment on proposed operation of.....

the desalanization plant.

i apologize for not responding sooner, but i have a concern about the demand on the power system for the yuma community.

11-1 since the plant is scheduled to run continuously, does aps have capacity to provide additional power without additional cost to the residental and commercial users of the yuma community.

11-2 similarly, in the summer months there is an increased demand for cooling. does the aps system have existing reserves to operate with the additional plant load/demand.

11-3 given the proximity of the desalting plant to the co-generation plant why not use

power from this source to relieve the
11-3 community of possible increased power
cost?

jack k.

"

I never did give them hell. I just told the truth, and they thought it was hell.

Harry S Truman, *in Look, Apr. 3, 1956*

Letter from Jacqueline Garcia-Hernandez
Comment Letter Response Table

Comment #	Response
10-C1	The commenter offers additional data to clarify other Cienega inflows. The provision of additional insight to the wetland inflows data is greatly appreciated. However, information such as this should be further developed through the bi-national monitoring program. Especially important is the monitoring of inflows such as this on a continuous basis so that a representative time series of average monthly flows can be developed. Language has been incorporated into the Literature Review to convey as such to readers.
10-C2	In the compilation of data for the report, IBWC inflow data were used regarding the volume and salinity of flows crossing the SIB. Some of the noted differences may have been in the conversion of values from data given in the electronic files provided by IBWC. Reclamation is in concurrence with the recommendation that IBWC inflow data be used as a good estimate of the volume and salinity of flows crossing the SIB and entering the Cienega from the United States. Nevertheless, monitoring during the implementation of the joint cooperative actions identified in the Joint Report will allow a determination of losses along the MODE (Bypass Drain) so that the Bypass Drain discharges at the SIB, and Bypass Drain inflows to the wetland can be assessed and the losses, and their significance, can be verified. Language has been incorporated into the Literature Review to convey as such to readers
10-C3	The nature of the differences in the Literature Review have been investigated and corrections have been made.
10-C4	The additional literature on selenium and wildlife provided in the comment will be added to the bibliographic listing that is part of the Literature Review document.
10-C5	The approach expressed in the comment provides a statistical model of salinity in the marsh based on measured salinity of the Wellton-Mohawk conveyance channel. An assessment of the parameters provided in the comment indicates the following: The regression produced an r^2 of 0.41 with a P value of 0.0007. These values indicate that certain confidence may be given to the regression because the fitted line explains 41 percent of the variability observed in the estimated values of marsh salinity taken as a function of concurrent observed values of conveyance channel salinity. Without a graphic plot of these data, the regression relationship seems to be developed from a coordinate group comprising a large number of coordinate pairs. In other words, the data form a data cloud through which a regression line was fitted. However, because the value for the r^2 may be considered somewhat low, at best this model would provide cursory information regarding the expected range in the average value of salinity in the marsh but would not provide sufficient

	information to be conclusive about estimated actual values.
10-C6	The text of the Literature Review has been corrected accordingly.

From: Torpey, Sean R
To: Kennett, Elizabeth L;
Subject: FW: comment on proposed operation of.....
Date: Wednesday, June 10, 2009 2:30:47 PM

From: jack kretzer [mailto:fourlegs183@yahoo.com]
Sent: Monday, June 01, 2009 2:03 PM
To: Torpey, Sean R
Subject: comment on proposed operation of.....

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cost?

jack k.

"

I never did give them hell. I just told the truth, and they thought it was hell.

Harry S Truman, *in Look, Apr. 3, 1956*

Jack Kretzer Comment Letter Response Table

Comment #	Response
11-1	Spot-market power will be utilized for the Proposed Action, if selected. This power will be purchased from the Western Area Power Administration and will not affect residential and commercial users in the Yuma community.
11-2	This power will be purchased from the Western Area Power Administration. Appropriate consultations have been conducted with this agency to confirm sufficient generating and transmission capacity for the Proposed Action.
11-3	The co-generation plant is wholly owned and operated by APS. As noted above, power will be purchased from the Western Area Power Administration, as directed in YDP operational documents and contracts.

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Central Arizona Water Conservation District
Metropolitan Water District of Southern California
Southern Nevada Water Authority

June 1, 2009

Mr. Sean Torpey
Environmental Planning and Compliance Group Manager
Bureau of Reclamation
Yuma Area Office
7301 Calle Agua Salada
Yuma, AZ 85364

Via email: storpey@usbr.gov

Re: Draft Environmental Assessment, Yuma Desalting Plant Pilot Run

Dear Mr. Torpey:

We are writing on behalf of the Central Arizona Water Conservation District (CAWCD), the Metropolitan Water District of Southern California (MWD) and the Southern Nevada Water Authority (SNWA) (hereinafter collectively referred to as the "Municipal Utilities"), to provide our comments on the Draft Environmental Assessment (EA), Yuma Desalting Plant (YDP) Pilot Run. The Bureau of Reclamation, Yuma Area Office, prepared this EA to evaluate potential effects associated with short-term and limited scale operation of the YDP primarily for data gathering purposes.

As more fully described in the EA, Reclamation proposes to operate the YDP at one-third capacity of the original design for 365 operating days. Such operating days are expected to occur within a minimum of twelve and a maximum of eighteen months. This operating duration would provide Reclamation with sufficient time to collect data while the YDP operates in a manner which demonstrates how the plant could run on a long-term basis. We refer to this operation herein as the “Proposed Pilot Run.”

At the outset, we note that the Colorado River Basin Salinity Control Act of 1974 authorized construction of the YDP as part of the “permanent and definitive solution” to Colorado River salinity embodied in Minute 242 of the International Boundary and Water Commission, United States and Mexico. Reclamation has continuing responsibility and authority to operate the Plant for such purposes. The information obtained from the Proposed Pilot Run will be used by Reclamation to inform decisions as to how and under what conditions the Plant might be operated in the future.

On January 9, 2009, we jointly wrote a letter to the Regional Director regarding the need to obtain information regarding the capability and operational readiness of the YDP. We incorporate that letter here. We expressed our view that such information can be understood only through actual operation of the facility. Without this real-time information, Reclamation and the Municipal Utilities would not be able to determine whether the YDP could reliably operate on a long-term basis and what, if any, improvements to the facility may be necessary to ensure the most efficient, cost effective and reliable long-term operation.

12-1

As noted in our previous letter and in the EA, long-term operation of the YDP is outside the scope of this EA and would only be considered in the future, and in accordance with appropriate federal law. We believe the Proposed Pilot Run is appropriate, both in flow and duration, to obtain the necessary operational data to inform any such later decision. Our previous letter expresses our views as to why the operation should be conducted as proposed, and the information we believe should be obtained as a result. However, the Proposed Pilot Run would neither preclude nor commit resources toward any later use or operation of the YDP.

In this regard, the Municipal Utilities agree that the alternatives eliminated from further consideration – Alternate Product Water Discharge, Pilot Run at Reduced Capacity and Pilot Run for a Shorter Duration – would not meet the purpose and need to obtain necessary operational data. The EA clearly sets forth the reasons why such alternatives would not be sufficient.

We have one comment suggesting an addition to the description of the proposed action in the EA. In our letter of January 9, 2009, we expressed our willingness to enter into a cost sharing arrangement with Reclamation to fund the environmental compliance costs necessary to evaluate the Proposed Pilot Run. We also expressed an interest, in the event Reclamation determines to conduct the Proposed Pilot Run, to partially fund the cost of implementing the Proposed Pilot Run in exchange for one-time intentionally created surplus (ICS) credits in accordance with the 2007 Colorado River Interim Guidelines, for the water conserved as a result of the Proposed Pilot Run.

12-2

Reclamation and the Municipal Utilities are in the final stages of executing an agreement for the funding of environmental compliance. The agreement describes the "Proposed Pilot Project," in addition to its primary purpose of obtaining operational data, of also providing the opportunity for any non-federal person to enter into a funding agreement with Reclamation for the non-federal contribution of money or in-kind services in exchange for ICS credits. Reclamation agreed to first offer the opportunity to enter into such a funding agreement with MWD, SNWA, Colorado River Commission of Nevada as appropriate, and CAWCD, prior to offering such opportunity to enter into a funding agreement for such purpose and on the same terms with any other non-federal entity.

We suggest that the description of purpose and need and the proposed action be revised to reflect the potential for monetary or in-kind participation by non-federal parties in exchange for ICS credits from the water conserved as a result of the Proposed Pilot Run. This would be a one-time water supply opportunity and not a primary purpose of the Proposed Pilot Run. We do not believe the availability and use of ICS credits would create any additional environmental consequences that have not already been identified and considered in the Final Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and

12-2 Lake Mead (October 2007). However, the creation and use of ICS credits resulting from the Proposed Pilot Run should be disclosed and analyzed in the EA.

Thank you for the opportunity to comment.

Sincerely,

Central Arizona Water Conservation District

By: _____

Metropolitan Water District of Southern California

By: _____

Southern Nevada Water Authority

By: _____ for Kay Brothers

“Municipal Entities” Comment Letter Response Table

Comment #	Response
12-1	See comment response 4-3.
12-2	See comment response 6-1.

ENV S-0

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

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In Reply Refer to:
AESO/SE
22410-2009-FA-0001

May 18, 2009

Memorandum

To: Sean Torpey, Environmental Compliance and Planning Group, Yuma Projects Office, Bureau of Reclamation, Yuma, Arizona

From: Field Supervisor

Subject: Comments on Draft Environmental Assessment for the Yuma Desalting Plant Pilot Run, Yuma County, Arizona

The Fish and Wildlife Service (FWS) appreciates the opportunity to review the draft environmental assessment for the Yuma Desalting Plant Pilot Run. The proposed action is the first step in evaluating the long-term potential for the Yuma Desalting Plant (YDP) to operate as part of the overall management of water supplies from the lower Colorado River in Arizona, California, Nevada, and Mexico. We understand the proposed action is the short-term (one year) operation at one-third capacity of the YDP and further environmental analysis will be required for any additional future operations. The FWS encourages the Bureau of Reclamation and the participating partners in the future operation of the YDP to fund the research and monitoring needs for the potential effects to the Cienega de Santa Clara identified in Appendix C of the environmental assessment. The value of the Cienega to threatened and endangered species, migratory birds, and other native wildlife and plant communities is significant, as recognized by its inclusion in the cores areas of the Biosphere Reserve of the Upper Gulf of California and Colorado River Delta.

13-1 The FWS recommends that Minute 306, December 12, 2000 to the Minutes noted for United States-Mexico Water Treaty of 1944 be added to discussions referencing the Water Treaty. Minute 306 commits the United States and Mexico to collaborative efforts to ensure use of water for ecological purposes in aquatic, wetland, and riparian habitats. This is supportive to migratory bird management commitments between the United States, Mexico, and Canada for waterfowl, shorebirds, other wetland birds, neotropical songbirds, and the following endangered species of concern to the United States and Mexico: desert pupfish, Yuma clapper rail, California black rail, southwestern willow flycatcher, and yellow-billed cuckoo (under listing consideration). These migratory species include such songbirds as hummingbirds, cuckoos, flycatchers, vireos, warblers, tanagers, orioles, and buntings, and waterfowl and wetland birds as geese, ducks, gallinules, rail, coots, killdeer and other plovers, stilts, avocets, yellowlegs, dowitchers, and sandpipers.

13-2 The FWS requests, pursuant to Executive Order 12114 as applied to the National Environmental Policy Act, that our agency be included in investigations of the effects of this Federal action in the Colorado River delta area of Mexico due to our migratory bird and endangered species responsibilities.

Overall, the draft environmental assessment addresses the significant issues involved with the proposed short-term operation of the YDP. We do suggest a revision of the description of the proposed action; as it is currently written it is somewhat difficult for the reader to follow the path of the water and the infrastructure involved. Perhaps an initial section describing the current operation of the Main Outlet Drain Extension (MODE), the Bypass Canal, and the various other inflows and outflows that contribute to implementation of Minute 242 would assist the reader in understanding the complex water movements that are involved in the proposed action. A possible revision could use the following outline:

13-3 1. Overview of current water management, including flows in the MODE and Bypass Canal, other withdrawals/inputs to the Colorado River below Laguna Dam, maintenance of salinity levels under Minute 242, and related information.

2. Describe where the water that would be routed through the plant would come from, and how it would be discharged back to the river.

13-4 3. How the high salinity water from the operation of the YDP would be put back into the Bypass Canal and be delivered to the Cienega. The changes to water volume and salinity should be discussed here.

13-5 4. Existing conditions in the Cienega may be more appropriate to include in the effects section to better understand the ramifications of the proposed action and not in the description of the proposed action.

13-6 5. Disposal of the other biosolids at the A22 facility is not well described.

In section 3.4.2.2, the changes in water releases from Hoover Dam that would result from using the treated water from the desalinization plant as part of the water deliveries to Mexico are mentioned. As noted in the text, changes in releases from Hoover Dam are covered under the Lower Colorado River Multi-Species Conservation Program. Please ensure that the changes in
13-7 water flow during the test period are accounted for in the annual incidental take report to the FWS for the period the YDP is in operation.

Specific Comments

13-8 Section 3.5.1.2, paragraph 2-3: please explain why the flows from the Wellton Mohawk Irrigation and Drainage District are not considered waters of the United States and why that flow is not considered as part of the 1944 Treaty deliveries to Mexico. The salinity discussion in

13-9 paragraph 3 is relevant to the effects of the proposed action and should be included to evaluate the effects of the reduced flows and increased salinity due to the waste water stream being put into the MODE.

13-10 Section 3.5.1.3: The applicability of this section to the effects of the proposed action is unclear. Effects to groundwater are not likely, whereas pumping of groundwater to reduce waterlogging of farm fields is a contributing factor to river levels. Groundwater pumped from the fields is put

13-11 into the river and affects the amount and quality of water available for diversion to Mexico. The relationship of the proposed action's disposal of biosolids at A22 and the groundwater management is not clearly defined.

13-12 Section 3.5.2.2: Water Quality: please describe the process in which the other compounds in the concentrate reaches the Cienega.

Thank you for the opportunity to comment on this proposed action. If you have questions regarding these comments, please contact Lesley Fitzpatrick at 602-242-0210 (x236) or me at (x244).

Robert T. Bills

for Steven L. Spangle

cc: Sam Spiller, Lower Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ
Honorable President, Quechan Tribe, Yuma, AZ
Honorable Chairperson, Cocopah Tribe, Somerton, AZ

W:\Lesley Fitzpatrick\YDP 09-01 EA comments.docx:cgg

USFWS—Arizona Ecological Field Services Office
Comment Letter Response Table

Comment #	Response
13-1	The text of the EA has been clarified to read, "the 1944 Water Treaty and implementing protocols" which would include Minute 306.
13-2	Reclamation's coordination with USFWS pursuant to this Executive Order, and applicable law, is documented in Reclamation's August 11, 2009 memorandum to USFWS and USFWS reply dated August 25, 2009. See Appendix D.
13-3	Section 2.2 of the EA has been revised to include maps and clarifying text to illustrate the flow of the water in the Proposed Action.
13-4	Concentrate flows produced from the Proposed Action are conveyed to the Bypass Drain via an underground pipe originating at the YDP. These flows then proceed down the Bypass Drain, a concrete-lined canal, to the SIB. All flows in the Bypass Drain are then under the exclusive jurisdiction of Mexico. Changes in water volume and salinity in the Bypass Drain above the SIB are discussed in Section 3.5.2.2. Proposed Action (Water Quality).
13-5	See Section 1.6, International Considerations and General Comment Response Two.
13-6	The YDP and associated facilities are the only entities which dispose of biosolids in the A-22 evaporation cells. Text has been added to the EA noting this information (see Section 3.5.2.2 Groundwater).
13-7	All releases from Hoover Dam will be accounted for in compliance with MSCP requirements.
13-8	The flow from the WMIDD is not a water of the U.S. for CWA purposes because it is agricultural return flow (see Section 3.5.1.1 Surface Water). In addition, pursuant to Minute 242 of the 1944 Water Treaty this flow is not to be counted against Mexico's annual water allotment.
13-9	In the Final EA, this issue is discussed in Section 3.5.2.2 Surface Water. The discussion of salinity and overall flow in the Bypass Drain has been expanded.
13-10	Reclamation agrees that no groundwater will be impacted by the Proposed Action, but the EA contains discussion of possible effects to groundwater.
13-11	Section 3.5.1.3, Groundwater, has been revised to provide additional clarity.
13-12	The Final EA contains an expanded discussion of concentrates discharged into the Bypass Drain. Please see Section 1.6, International Considerations, for discussion of trans-boundary issues.

Appendix C

Introduction to the Joint Report

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

Letter from the IBWC-U.S. Commissioner approving the Joint Report

Mexico Commitment Letter (as verified by the IBWC-U.S.)

Environmental Defense Fund/Pro Natura Noroeste Letter

Colorado River Delta Water Trust Letter (English Translation)

Reclamation Commitment Letter

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Introduction to the Joint Report

Reclamation held its initial public scoping meeting for the proposed YDP Pilot Run on October 8, 2008. Several comments received during the public scoping process voiced concern over potential effects to the Cienega de Santa Clara (Cienega) as a result of the proposed YDP Pilot Run. Matters related to the Cienega are issues of foreign policy which are most appropriately addressed through IBWC. Therefore, bi-national consultations with Mexico were conducted between November 2008 and April 2009 through the IBWC.

During these consultations, the U.S., Mexico and a bi-national coalition of non-governmental organizations agreed upon a number of joint cooperative actions. Subsequently, each party accepting responsiblility for a cooperative action sent a letter to the IBWC expressing commitment. The IBWC documented the actions in a "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" (Joint Report). The recommendations outlined in the Joint Report were approved by the Principal Engineers of the U.S. and Mexico Sections of IBWC on July 17, 2009. The U.S. and Mexico Section Commissioners then each approved the implementation of the joint cooperative actions as outlined in the Joint Report.

The actions agreed upon through the consultation process result in 30,000 AF of water that Mexico, the non-governmental organizations and the U.S. agree to arrange for conveyance to the Cienega, in connection with the reduction of flow (i.e., the 29,000 AF of water) that would otherwise not reach the Cienega as a result of the proposed YDP Pilot Run. Additionally, the Joint Report provides for a comprehensive bi-national monitoring program for the Cienega that will contribute to future joint cooperative process discussions.

The following table identifies the content, key documents and timeline regarding the development of the Joint Report:

Date	Originator and Addressees	Description
May 19, 2009	Letter from Lorri Gray-Lee, Regional Director, Bureau of Reclamation, to C.W. Ruth, Commissioner, U.S. Section, IBWC	The letter expressed the U.S.'s commitment to the joint cooperative actions defined in the Joint Report. Specifically, the conveyance of 10,000 AF of non-storable flow to the Cienega is confirmed in the letter.
June 4, 2009	Letter from Colorado River Delta Water Trust (Trust) to Roberto Salmón Castelo, Mexico Section, International Boundary and Water Commission	The letter expresses the Trust's commitment to provide 10,000 AF of water for the Santa Clara Wetland.

June 16, 2009	Letter from Environmental Defense Fund and Pronatura Noreste to Lorri Gray-Lee, Regional Director, Bureau of Reclamation	The letter confirms commitment of the 10,000 AF to be arranged by the Trust.
July 10, 2009 (described in Aug. 13, 2009 letter)	Letter from IBWC, Mexican Section to IBWC, U.S. Section.	The letter confirms commitment of the 10,000 AF to be arranged by Mexico (internal IBWC diplomatic correspondence).
July 17, 2009	The completed 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 signed by Luis Antonio Rascón Mendoza, Principal Engineer, Mexican Section and Alfredo J. Riera, Principal Engineer, U.S. Section of the IBWC, sent to the Commissioners of the U. S. and Mexican sections of the IBWC	The Joint Report is based upon the May 19, June 4 and July 10 letters and the commitments made by the U.S., the Trust and Mexico. The report outlines the nine joint cooperative actions committed to in each letter and agreed upon by the two countries during bi-national consultations.
July 23, 2009	Letter from C.W. Ruth, Commissioner, U.S. Section, IBWC to Lorri Gray-Lee, Regional Director, Bureau of Reclamation	The letter explains that the U.S. Section and the Mexico Section of IBWC have approved the implementation the joint cooperative actions outlined in the Joint Report.

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

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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.

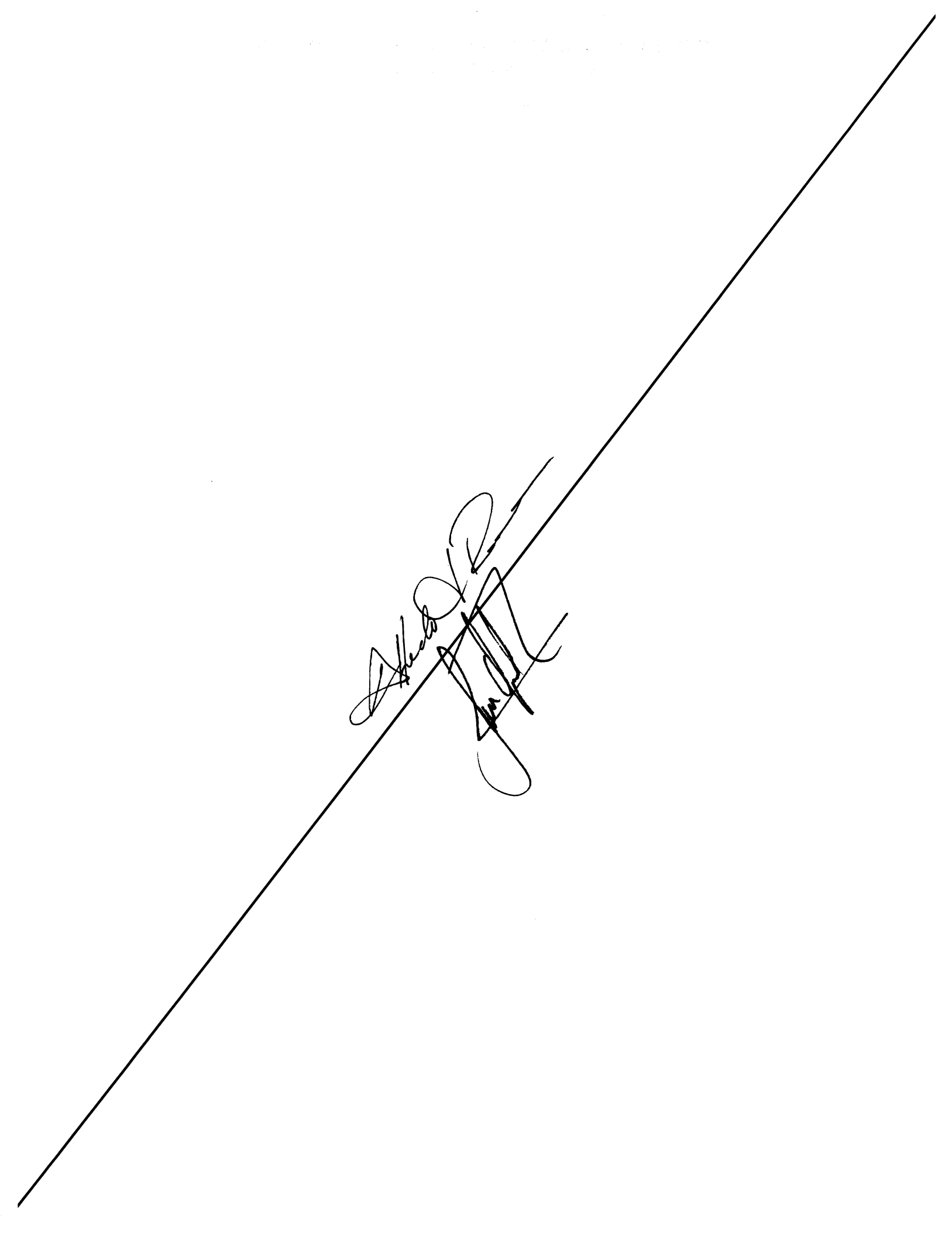
Sirs:

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.



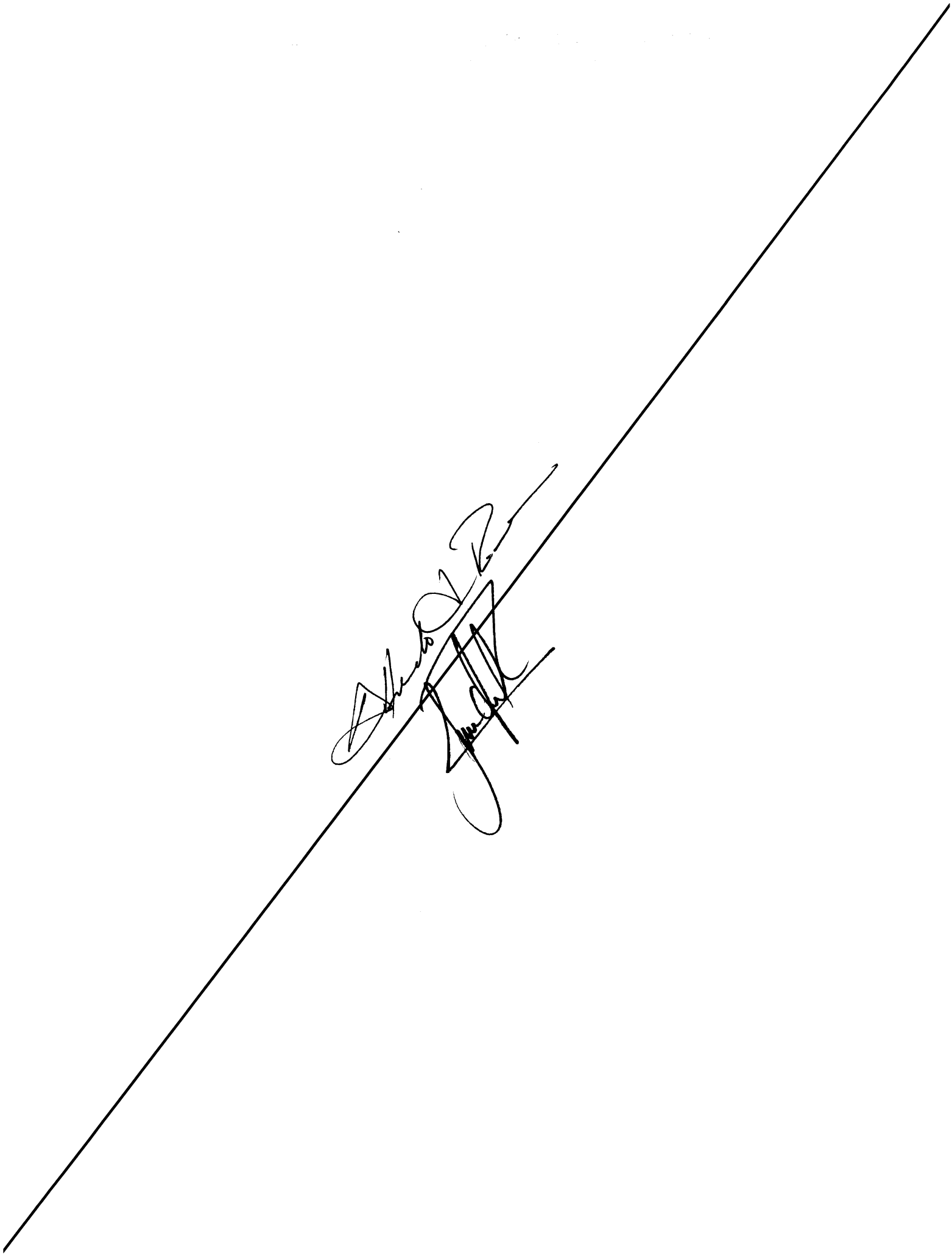
The Metropolitan Water District of Southern California (MWD), Southern Nevada Water Authority (SNWA), and Central Arizona Water Conservation District (CAWCD) have requested that the U.S. Bureau of Reclamation (Reclamation) conduct a Pilot Run of the YDP and are considering providing some funds needed 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."



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.

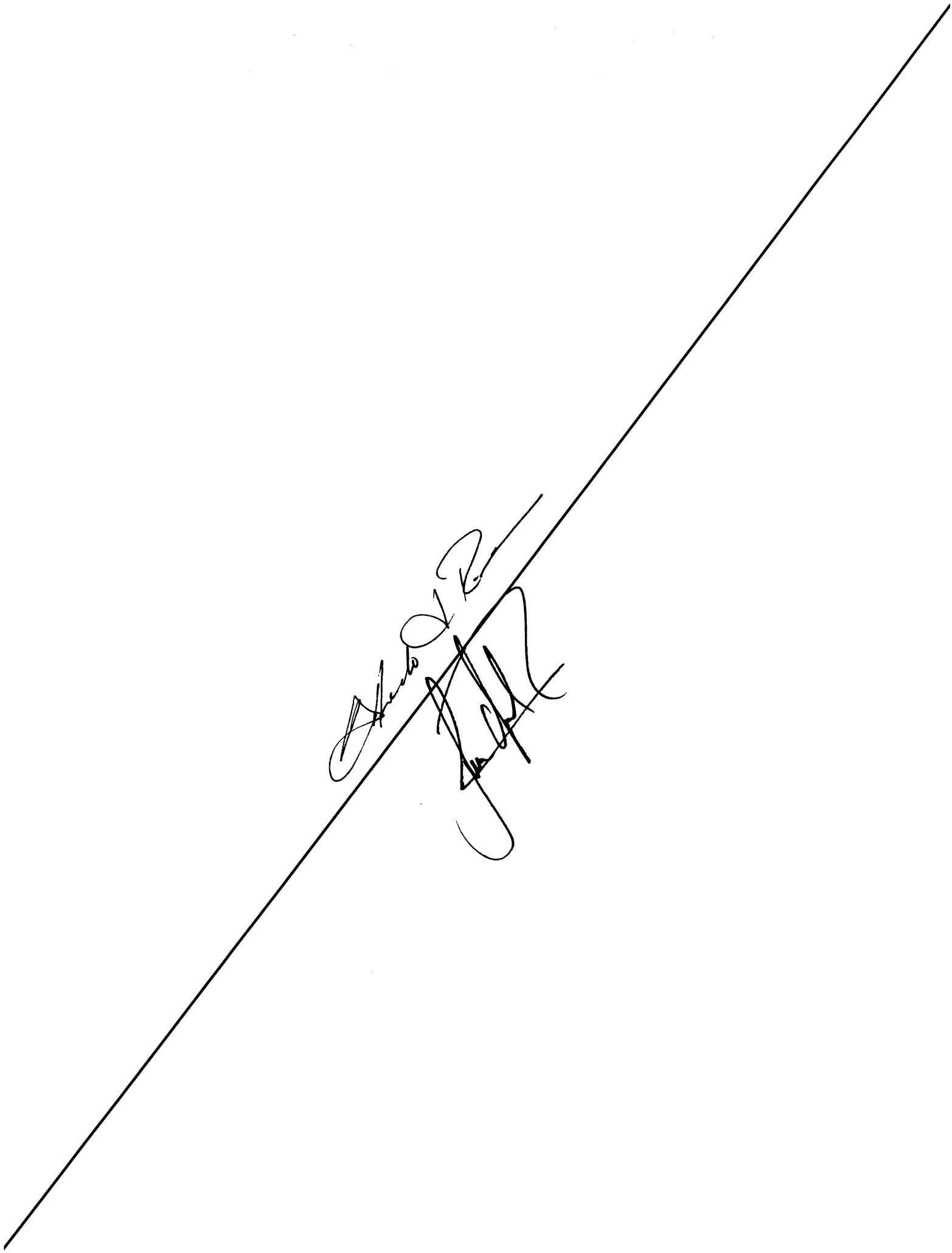
The binational consultation consisted of a series of meetings held over a period of five months where the details of the Pilot Run were presented and expert stakeholders from both countries had an opportunity to discuss the proposed action. The following were the primary items of discussion:

- 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



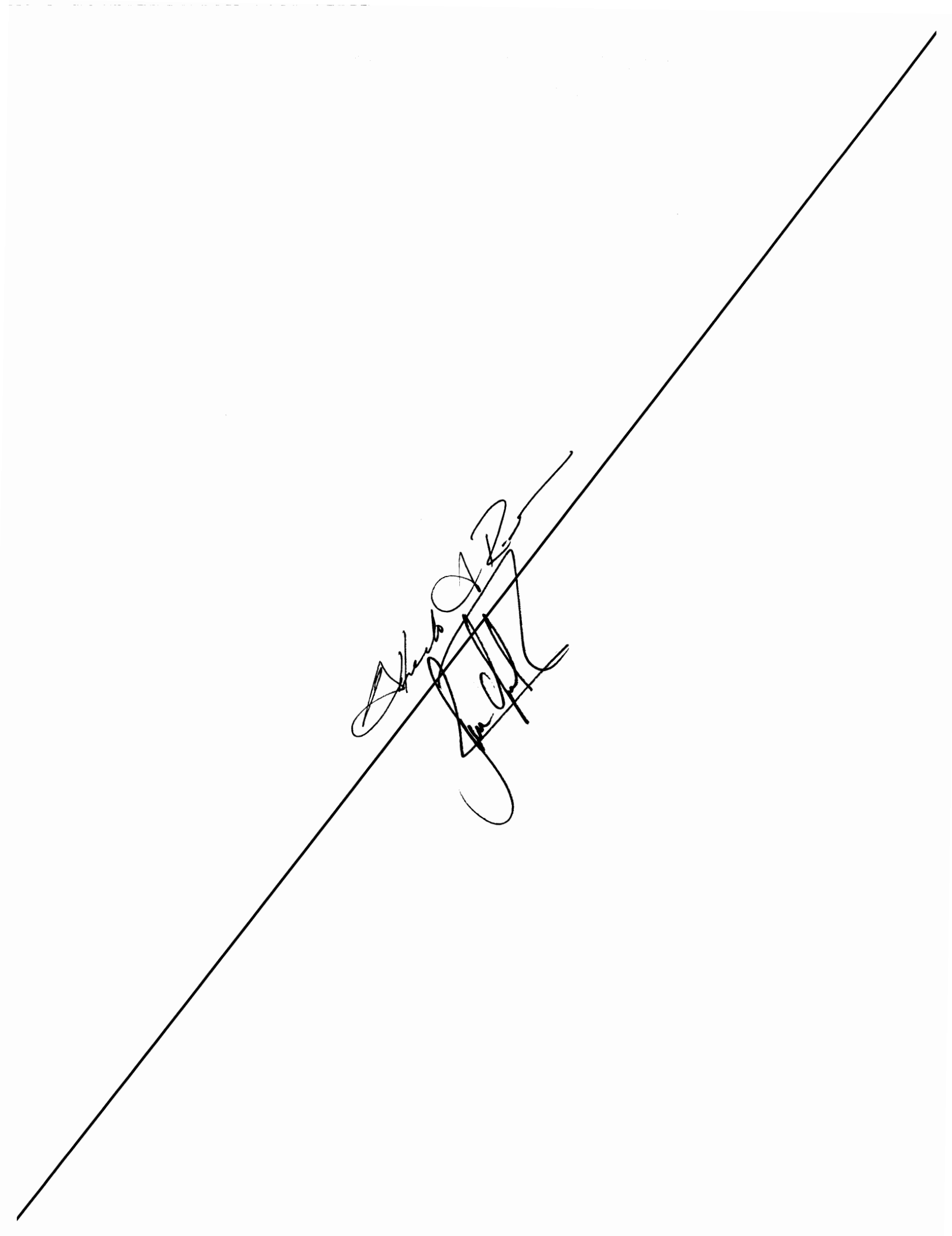
total of 30,000 acre-feet (37.0 mcm) pursuant to the letters of commitment that have been received from the respective participants.

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



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.

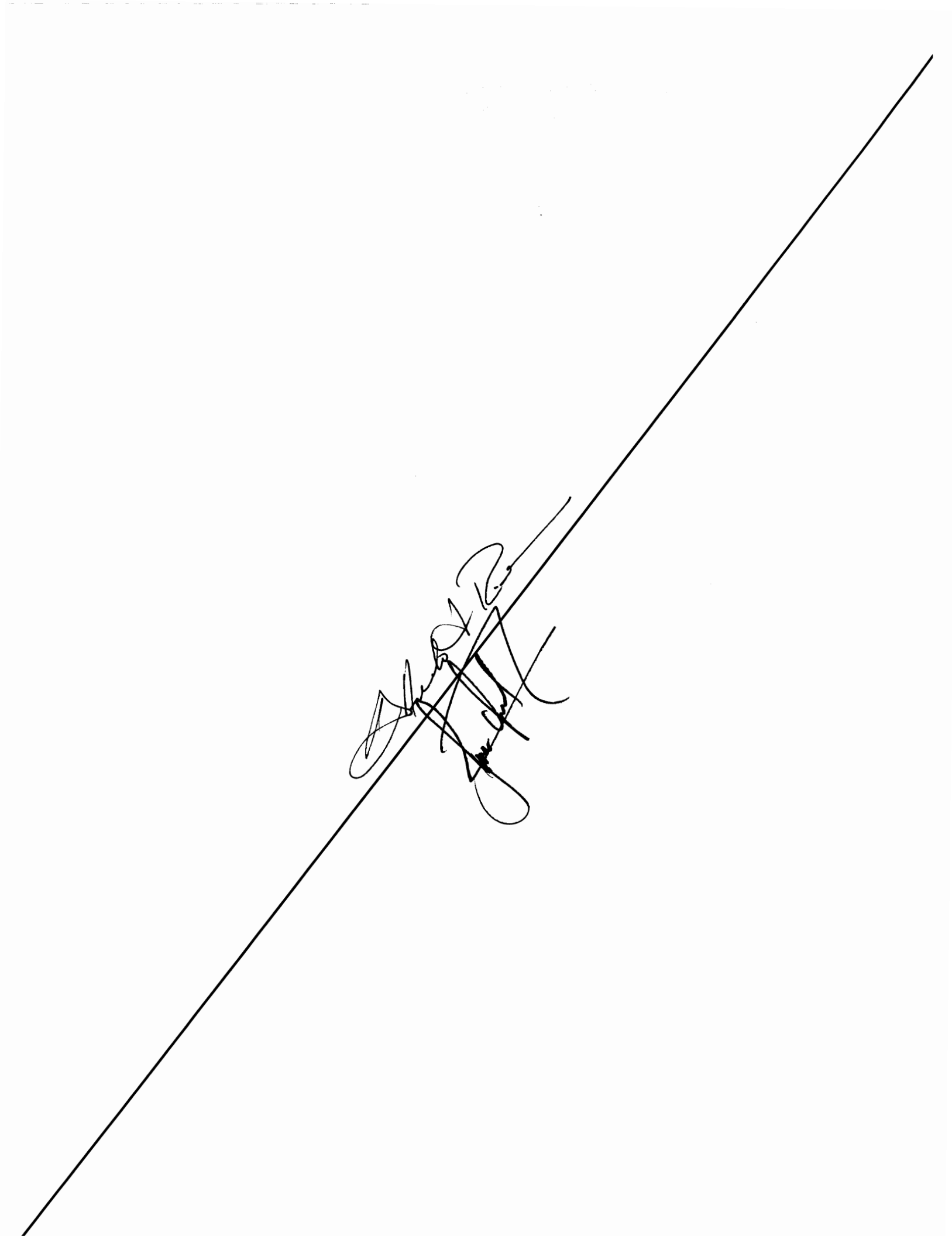
(b) Mexico intends to provide 10,000 acre-feet (12.3 mcm) of water to the Santa Clara Wetland. To do so, Mexico is making the necessary arrangements and investments to send water to the Santa Clara Wetland.

(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.



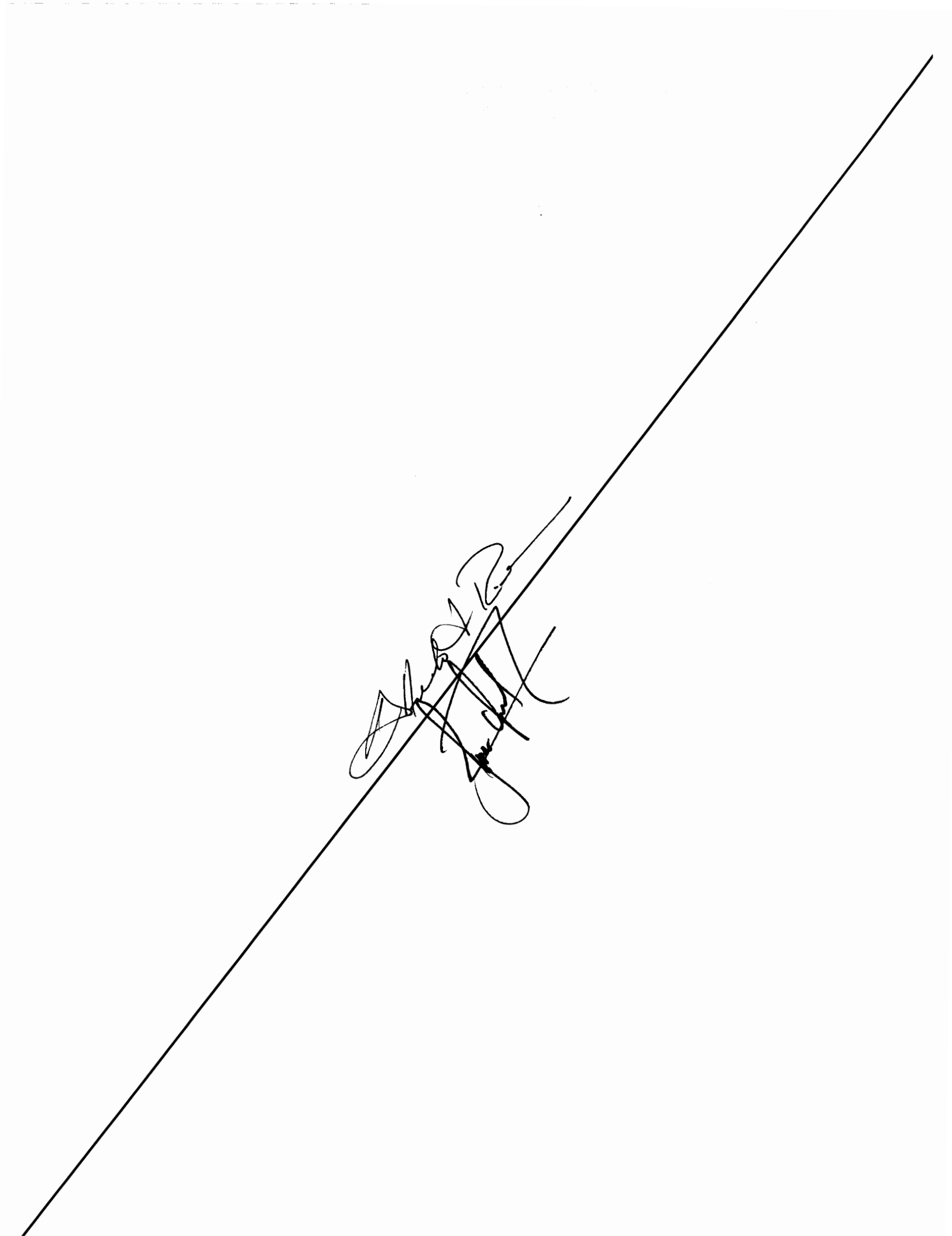
6. For the contribution stated in point 2 (b) above, Mexico intends to, using Mexican resources and infrastructure, perform the necessary maintenance work on the Santa Clara Drain, including removal of sediment, to ensure that Santa Clara Drain flows reach the Santa Clara Wetland, and if appropriate, 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.



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

INFORME CONJUNTO DE LOS INGENIEROS PRINCIPALES CON RELACIÓN A LAS ACCIONES DE COOPERACIÓN CONJUNTA MÉXICO-ESTADOS UNIDOS SOBRE LA PRUEBA PILOTO DE LA PLANTA DESALADORA DE YUMA (PDY) Y LOS HUMEDALES DE LA CIÉNEGA DE SANTA CLARA.

Cd. Juárez, Chih., 17 de julio de 2009.

A los Honorables Comisionados
Comisión Internacional de Límites y Aguas
México y Estados Unidos
Cd. Juárez, Chihuahua-El Paso, Texas.

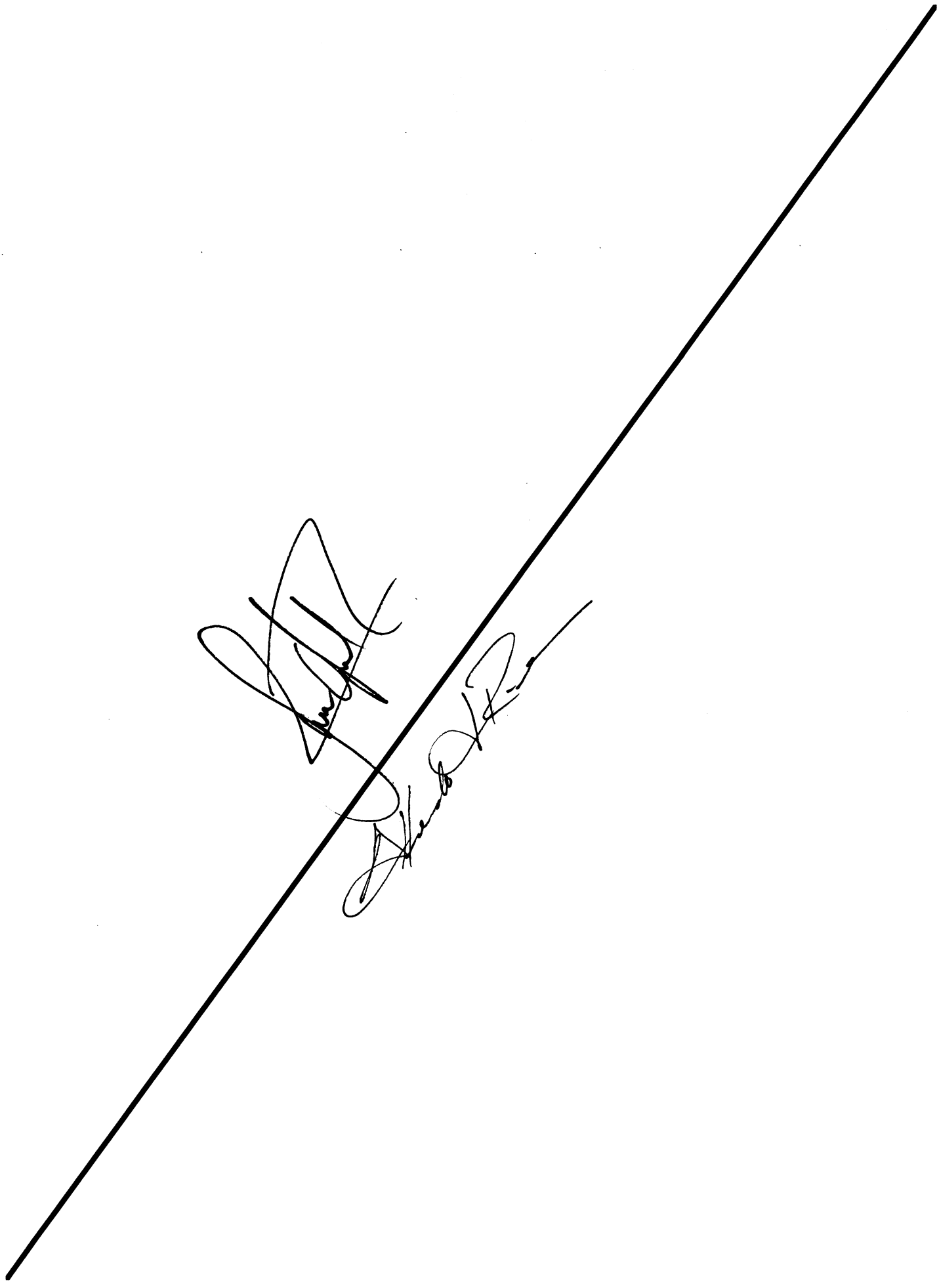
Señores:

De acuerdo con sus instrucciones, respetuosamente sometemos este Informe Conjunto relativo a las acciones de cooperación conjunta México-Estados Unidos relacionadas con la propuesta de Prueba Piloto de la Planta Desaladora de Yuma (PDY). El propósito de este informe es identificar las acciones que podrían llevarse a cabo por cada país con relación a la propuesta de Prueba Piloto de la PDY e identificar otros esfuerzos concernientes a los humedales de la Ciénega de Santa Clara en México.

Para continuar con el espíritu de cooperación binacional con relación al tramo limítrofe y a la Ciénega de Santa Clara, según se establece en el Acta 306 de la Comisión intitulada: "Marco Conceptual entre México y Estados Unidos para el Desarrollo de Estudios que Permitan Emitir Recomendaciones Respecto a la Ecología Ribereña y del Estuario del Tramo Limítrofe del Río Colorado y su Delta", firmada el 12 de diciembre de 2000, y conforme a las resoluciones del Acta 242: "Solución Permanente y Definitiva del Problema Internacional de la Salinidad del Río Colorado", firmada el 30 de agosto de 1973, México y los Estados Unidos iniciaron, en noviembre de 2008, a través de la Comisión Internacional de Límites y Aguas, consultas binacionales con relación a la propuesta de Prueba Piloto para operar la PDY.

Propuesta de Prueba Piloto de la PDY y Alteración de los flujos a la Ciénega de Santa Clara.

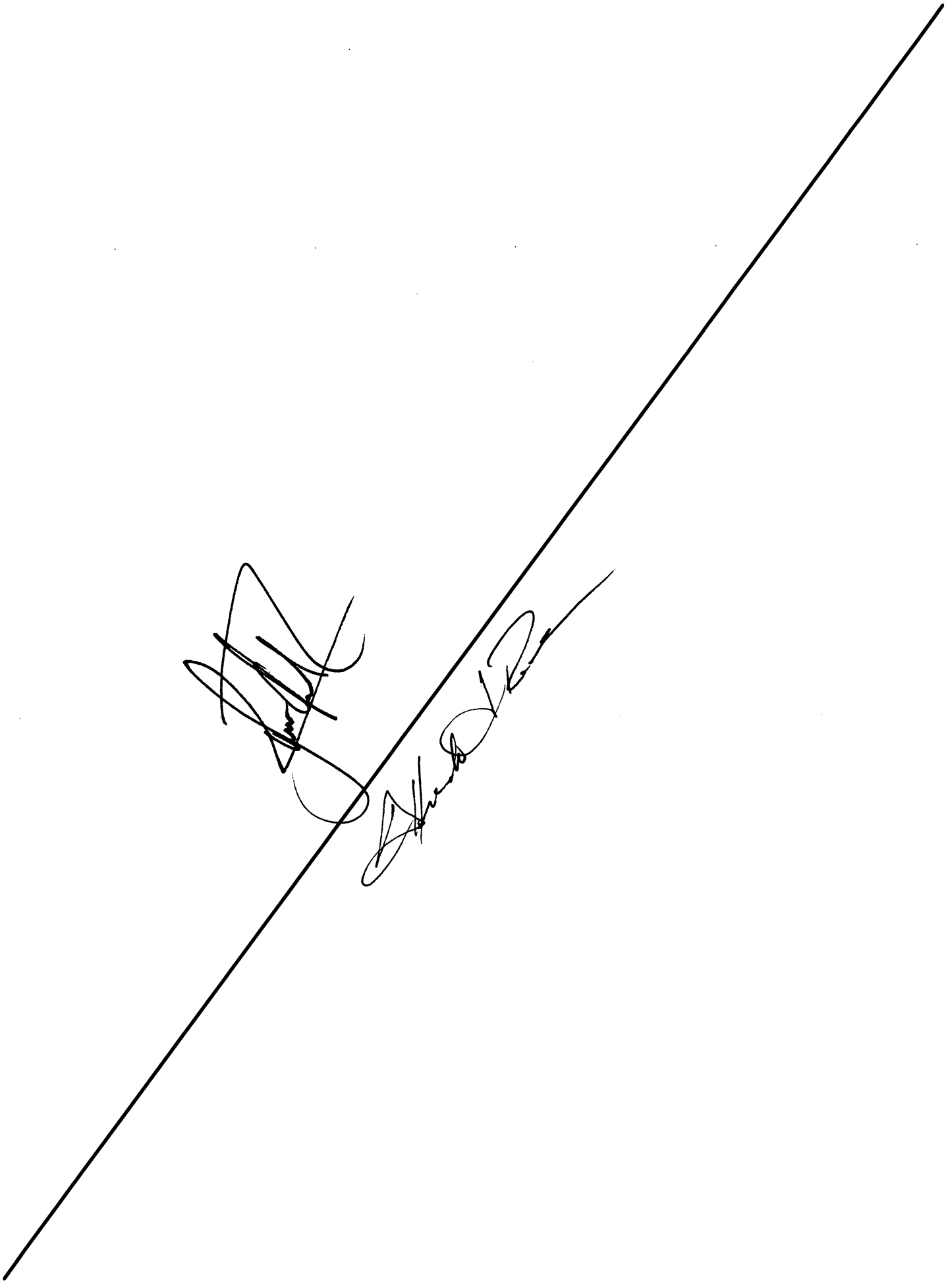
Los Estados Unidos aprobaron en 1974 la *Ley de Control de la Salinidad en la Cuenca del Río Colorado,* (Ley de Control de la Salinidad) la cual autorizó la construcción, operación y mantenimiento de ciertos trabajos en la Cuenca del Río Colorado para controlar la salinidad del agua que es entregada a México de acuerdo con el Tratado de Aguas de 1944. El Título I de la Ley de Control de la Salinidad proporciona el sustento legal de los programas para cumplir con las estipulaciones del Acta 242 aguas abajo de la



Presa Imperial. Para implementar las estipulaciones del Título I de la Ley de Control de la Salinidad, se finalizó en 1992, la construcción de la PDY en Yuma, Arizona. Poco tiempo después, operó a un tercio de su capacidad por un corto periodo de prueba. Con un flujo en el Río Colorado por arriba de la media y otras consideraciones, la operación de la PDY fue suspendida y no ha operado desde entonces con la excepción de una prueba de demostración de 90 días operando al 10% de su capacidad en 2007.

El Distrito Metropolitano de Agua del Sur de California (MWD por sus siglas en Inglés), la Autoridad del Agua del Sur de Nevada (SNWA por sus siglas en Inglés) y el Distrito de Conservación de Agua de Arizona Central (CAWCD por sus siglas en Inglés) han solicitado que el Buró de Reclamación de Estados Unidos (BOR) realice una Prueba Piloto de la PDY y consideran proporcionar algunos fondos necesarios para dicha operación. Estas partes, así como otras entidades estadounidenses, están interesadas en obtener información adicional bajo condiciones de bajo almacenamiento en la Cuenca del Río Colorado que puede ser utilizada cuando se considere la operación sostenida y de largo plazo de la PDY como una herramienta para ampliar los abastecimientos de agua. Tales consideraciones requieren la recopilación de información que solo puede obtenerse a través de la operación real de la PDY. Esto incluye la recopilación de datos de rendimiento y costos, identificación de cualquier mejora que aún se requiera realizar al equipo y probar los cambios ya realizados en la planta. El BOR ha desarrollado un plan para la propuesta de Prueba Piloto, en la cual la planta operaría a un tercio de su capacidad durante 365 días dentro de un periodo de hasta 18 meses a fin de recabar tal información. La Prueba Piloto propuesta produciría aproximadamente 35.8 millones de metros cúbicos (Mm^3) (29,000 acres-pies) de agua para su uso dentro de los Estados Unidos. El BOR, como propietario y operador, cumplirá con todos los requerimientos aplicables de la Legislación Federal antes de determinar si inicia la Prueba Piloto.

Bajo las condiciones actuales, los flujos salinos son desviados a México vía el Dren de Desvío de Wellton-Mohawk y su destino final son los humedales de la Ciénega de Santa Clara. Observamos que los humedales de la Ciénega de Santa Clara son parte de la Reserva de la Biosfera del Alto Golfo de California y Delta del Río Colorado, máxima categoría de protección que México le otorga a un humedal, además de que fueron declarados como humedales protegidos bajo la Convención de RAMSAR sobre los Humedales. Esta área proporciona un hábitat de humedales para las aves migratorias que utilizan la Ruta de Aves del Pacífico, así como de varias especies incluyendo las amenazadas y en peligro de extinción. Al no operar la PDY, los flujos que llegaron a los humedales de la Ciénega de Santa Clara por el Dren de Desvío de Wellton Mohawk, entre 2004 y 2008, promediaron aproximadamente 132.0594 Mm^3 (107,000 acres-pies) anuales, con una salinidad de aproximadamente 2,664 ppm. Efectuando la Prueba Piloto propuesta, sin ninguna acción de cooperación conjunta, los flujos que lleguen a los humedales de la Ciénega de Santa Clara por el Dren de Desvío de Wellton Mohawk, se reducirían aproximadamente a 95.0334 Mm^3 (77,000 acres-pies) mientras que la salinidad se incrementaría aproximadamente a 3,204 ppm.



Observamos que ambos países están interesados en preservar el valor ambiental de la Ciénega de Santa Clara durante la propuesta de Prueba Piloto de la PDY y observamos también que México, Estados Unidos y las agencias que potencialmente financiarán la Prueba Piloto de la PDY, en el interés de la cooperación binacional, están dispuestos a llevar a cabo acciones de cooperación conjunta que consideren los humedales de la Ciénega de Santa Clara y los intereses estadounidenses de llevar a cabo la propuesta Prueba Piloto de la PDY.

Conversaciones México –Estados Unidos con relación a la Prueba Piloto de la PDY y los Humedales de la Ciénega de Santa Clara.

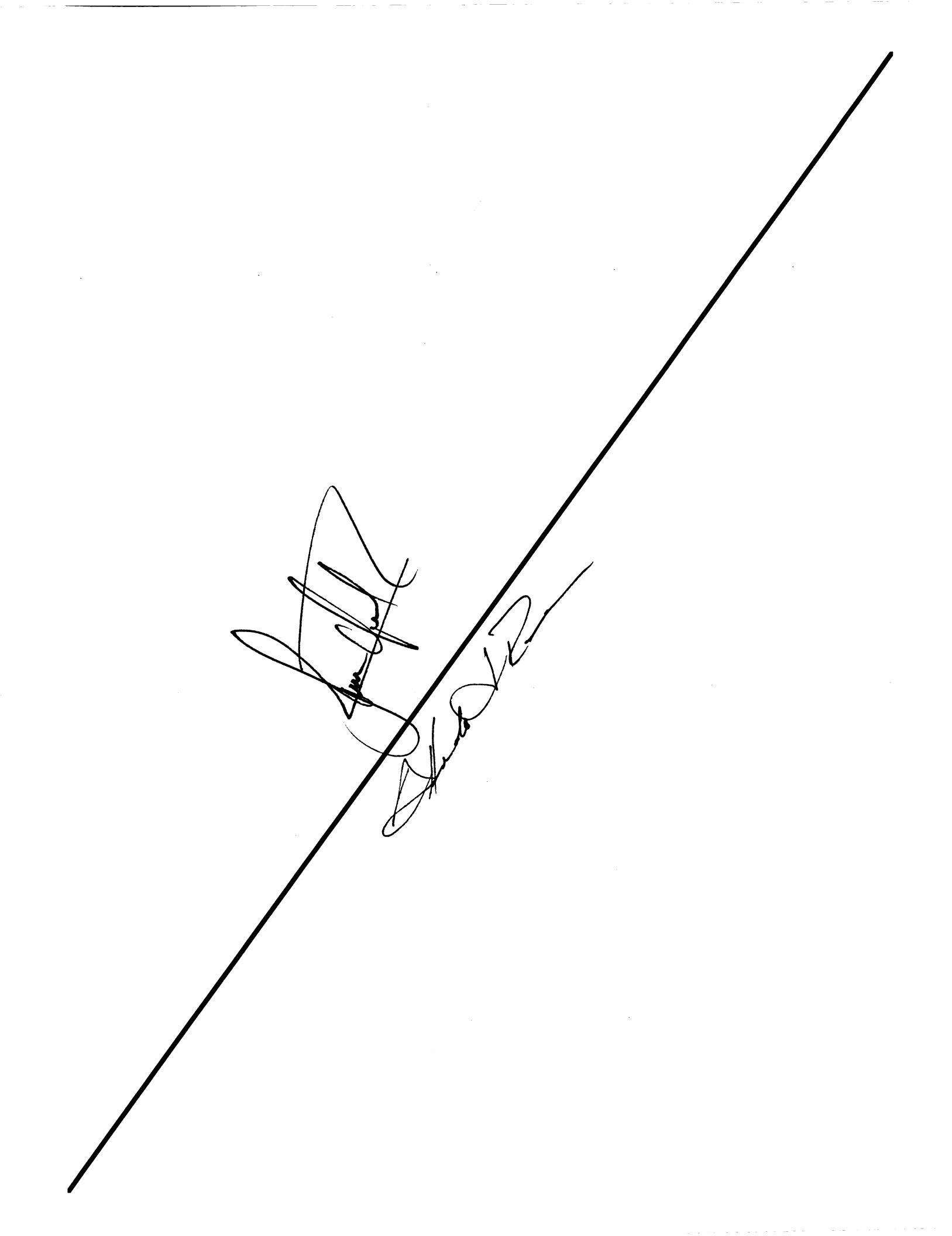
Observamos que la resolución 4 del Acta 242 establece que México permitirá a los Estados Unidos descargar al Estero de Santa Clara "los volúmenes de salmuera resultantes de las operaciones de desalación que se hagan en los Estados Unidos para cumplir con la Resolución de esta Acta, y cualesquiera otros volúmenes de salmuera que México convenga en aceptar", y la resolución 6 establece que "A fin de evitar problemas futuros, México y los Estados Unidos se consultarán recíprocamente antes de emprender, en el área fronteriza de sus respectivos territorios, cualquier nuevo desarrollo de aguas superficiales o de aguas subterráneas, o de emprender modificaciones substanciales de sus desarrollos actuales, que pudieran afectar adversamente al otro país".

Observamos también que el Acta 306 establece "Que en reconocimiento del interés de sus respectivos gobiernos en la preservación de la ecología ribereña y del estuario del Río Colorado en su tramo limítrofe y su delta, la Comisión deberá establecer un marco de trabajo para la cooperación entre México y los Estados Unidos a través del desarrollo de estudios conjuntos y la formulación de recomendaciones para proyectos de cooperación, incluyendo posibles enfoques que aseguren el uso de agua para propósitos ambientales en este tramo con base en el principio de una distribución equitativa de los recursos."

En noviembre de 2008, a fin de continuar con las consultas establecidas en el Acta 242 y con un espíritu de cooperación binacional con relación a la ecología del tramo limítrofe del Río Colorado y su delta, según se establece en la Acta 306, México y los Estados Unidos, a través de la Comisión Internacional de Límites y Aguas, iniciaron las consultas con relación a la propuesta de Prueba Piloto de la PDY.

Las consultas binacionales consistieron en una serie de reuniones celebradas en un periodo de cinco meses en donde fueron presentados los detalles de la Prueba Piloto de la PDY y los expertos de las partes interesadas de ambos países, tuvieron la oportunidad de discutir la acción propuesta. Los siguientes temas fueron parte de las discusiones principales:

- Si los flujos anuales promedio actuales que llegan a la Ciénega de Santa Clara serían o no reducidos, y si esto último ocurre, cual sería el impacto que se presentaría en la



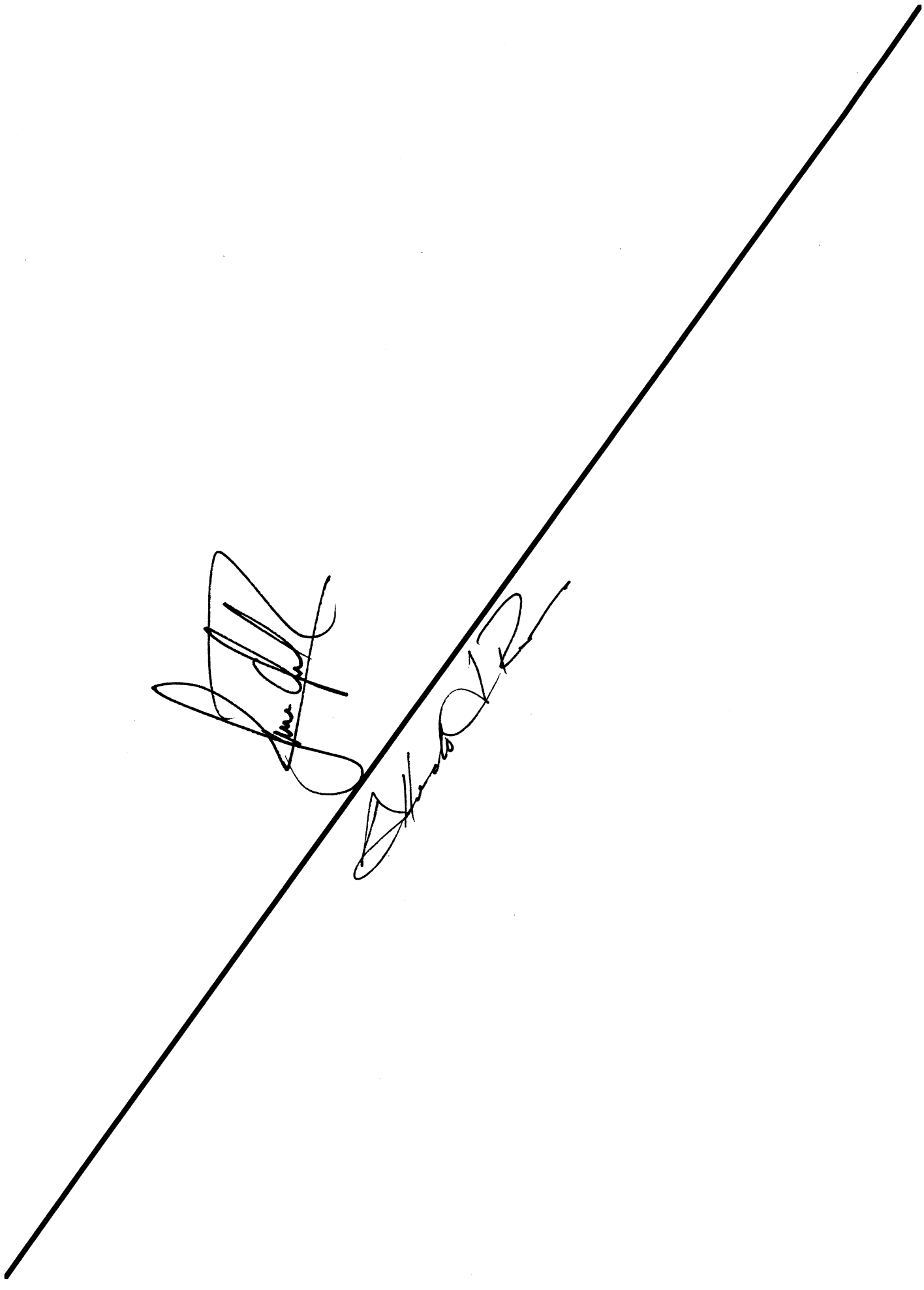
biodiversidad y el ecosistema por la reducción de volúmenes y el incremento de la salinidad.

- La necesidad de un programa de monitoreo integral binacional para la Ciénega de Santa Clara.
- La importancia de la Prueba Piloto de la PDY para obtener los datos requeridos para una futura toma de decisiones.
- Asegurar que todos los acuerdos con relación a estas consultas de la PDY estén limitados a la propuesta Prueba Piloto de la PDY y su duración.
- Atender la importancia de determinar los requerimientos para la sustentabilidad a largo plazo de la Ciénega de Santa Clara con base en los requerimientos específicos del hábitat, en vez de usar como base los flujos históricos que llegan a la Ciénega de Santa Clara, y
- La importancia del mantenimiento de la infraestructura existente como el Dren de Desvío de Wellton Mohawk y el Dren Santa Clara, para asegurar que los flujos lleguen a los sitios deseados dentro de los humedales de la Ciénega de Santa Clara.

Acciones de Cooperación Conjunta Propuestas

Con base en las consultas binacionales relativas a la Prueba Piloto de la PDY discutidas durante los cinco meses anteriores, se desarrolló y propuso un programa de acciones de cooperación conjunta para atender los intereses de ambos países en caso de que el BOR determine iniciar la Prueba Piloto. Las acciones de cooperación conjunta sugeridas que han sido discutidas a la fecha con relación a la propuesta de Prueba Piloto de la PDY se describen a continuación:

1.- Si la propuesta de Prueba Piloto de la PDY de un periodo de 365 días, es aprobada por las autoridades estadounidenses correspondientes, se recomienda que se lleven a cabo las Acciones de Cooperación Conjunta descritas en este documento.
2.- Durante la Prueba Piloto de la PDY cada una de las partes, México, Estados Unidos y las Organizaciones no Gubernamentales, harán esfuerzos por aportar a la Ciénega de Santa Clara un volumen de 12.3 Mm^3 (10,000 acres-pies) de agua para un total de 37.0 Mm^3 (30,000 acres-pies), de acuerdo a las cartas de compromiso que se han recibido de los respectivos participantes.
3.- Todas las acciones que se lleven a cabo conforme a este acuerdo, se realizarán de manera que no interferirán con las entregas de agua a México, tanto en la Presa Morelos como en el Lindero Internacional Sur, ni con los derechos de México y de Estados Unidos de conformidad con el Tratado de Aguas de 1944.
4.- Las agencias estadounidenses no federales MWD, SNWA y CAWCD tienen la intención de aportar un total de $250,000 dólares para llevar a cabo un programa integral binacional de monitoreo para la Ciénega de Santa Clara.
5.- México expresó su disposición para aportar recursos para realizar los trabajos de dragado necesarios en el Dren Santa Clara a fin de permitir la conducción de sus flujos hacia la Ciénega de Santa Clara.



6.- Si se estima necesario, Estados Unidos permitirá el uso de la draga anfibia para dragar el Dren Santa Clara, y México proporcionará los recursos para la operación, mantenimiento y de requerirse, la reparación del equipo.

7.- El Buró de Reclamación de Estados Unidos proporcionará por una sola vez, $100,000 dólares para trabajos adicionales de mantenimiento relacionados con el Dren de Desvío de Wellton Mohawk.

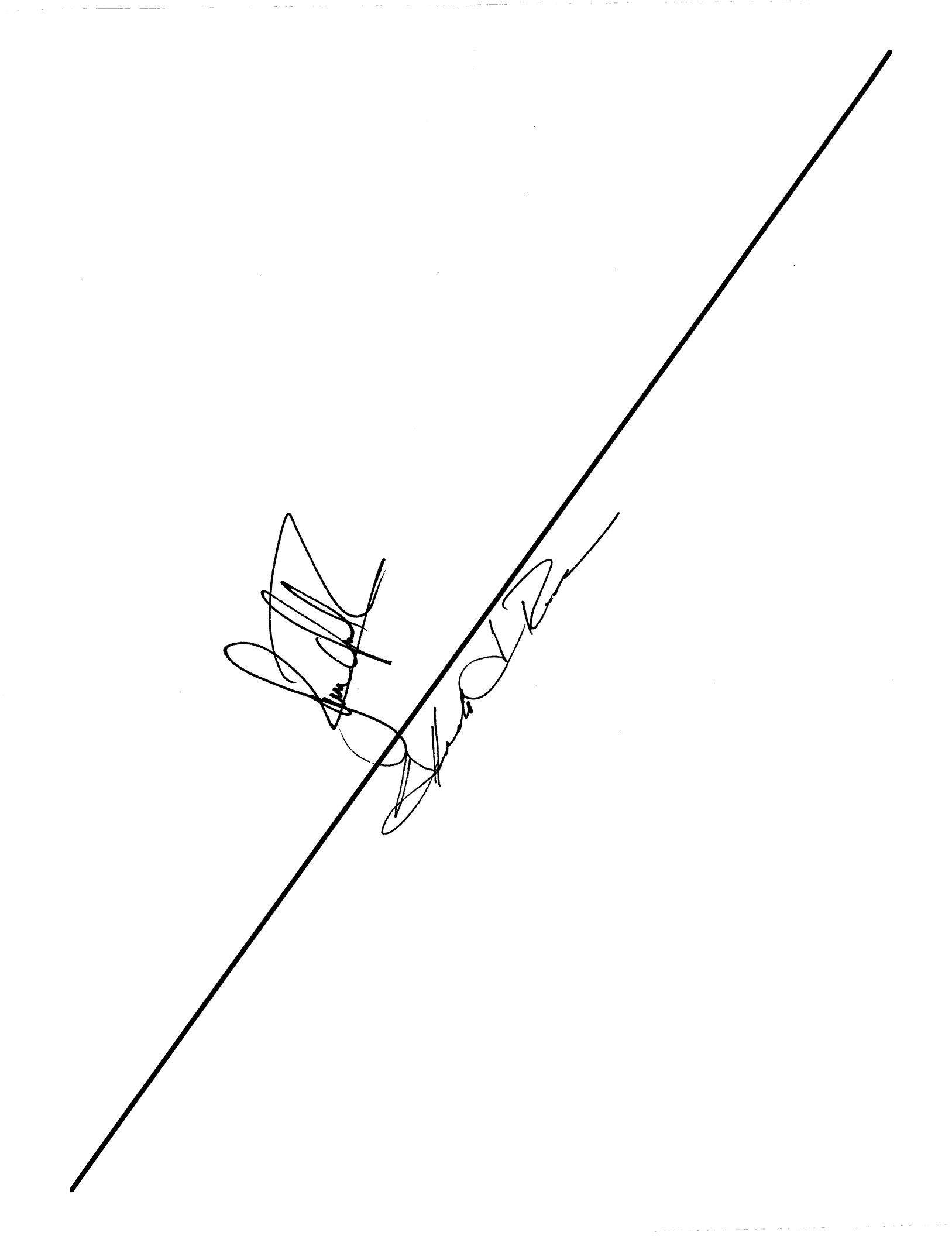
8.- A petición de México y de acuerdo a arreglos adicionales, de forma que no plantee conflictos con las disposiciones del Tratado de Aguas de 1944, Estados Unidos está dispuesto a realizar las gestiones para el uso del Dren de Desvío de Wellton Mohawk para la conducción de flujos de agua que México y las Organizaciones no Gubernamentales pretendan aportar a través de este dren a la Ciénega de Santa Clara.

9.- Ambos países están de acuerdo en continuar con los trabajos, bajo los auspicios del Acta 306, y de incluir este tema en las discusiones del Proceso de Cooperación Conjunta del Río Colorado, a fin de identificar específicamente los requerimientos reales para la sustentabilidad a largo plazo de los humedales de la Ciénega de Santa Clara basándose en los requerimientos específicos del hábitat, en vez de usar como base los flujos que históricamente han llegado a la Ciénega de Santa Clara.

Detalles específicos de las Propuesta de Acciones de Cooperación Conjunta

1. La propuesta Prueba Piloto de la PDY consiste en la operación de la PDY a un tercio de su capacidad por 365 días durante un período de hasta dieciocho meses. La ejecución de esta Prueba Piloto está sujeta a la conclusión de la Evaluación Ambiental (EA) y a la decisión para proceder por parte del Buró de Reclamación. Para llevar a cabo la propuesta Prueba Piloto, se tratarán en la PDY 46.8 Mm^3 (37,980 acres-pies) de agua del Dren de Desvío de Wellton Mohawk, produciendo aproximadamente 26.8 Mm^3 (21,700 acres-pies) de agua tratada y desalada. Esta agua tratada y desalada será descargada al Río Colorado junto con un estimado de 9 Mm^3 (7,300 acres-pies) de agua no tratada, ni desalada del Dren de Desvío de Wellton Mohawk, resultando una descarga al río de aproximadamente 35.8 Mm^3 (29,000 acres-pies) de agua con una salinidad sustancialmente similar a la presentada actualmente en el río. La salmuera, que es un subproducto del proceso de tratamiento, será descargada al Dren de Desvío de Wellton Mohawk, con lo cual se incrementaría la salinidad a un estimado de 3,204 ppm.

2. México, los Estados Unidos y una asociación de Organizaciones no Gubernamentales proponen cada uno aportar 12.3 Mm^3 (10,000 acres-pies) de agua, para un total de 37 Mm^3 (30,000 acres-pies) en relación con la reducción de flujo a la Ciénega de Santa Clara y el incremento en la salinidad que ocurriría durante la propuesta Prueba Piloto de la PDY en ausencia de las Acciones de Cooperación Conjunta de este acuerdo. Estos volúmenes deberán conducirse durante el periodo de la Prueba Piloto de la PDY, no obstante cada parte podrá iniciar con la conducción de los volúmenes que le corresponda, a partir de la fecha en que las autoridades estadounidenses



correspondientes tomen la decisión de proceder con dicha Prueba Piloto y hasta la conclusión de dicha prueba:

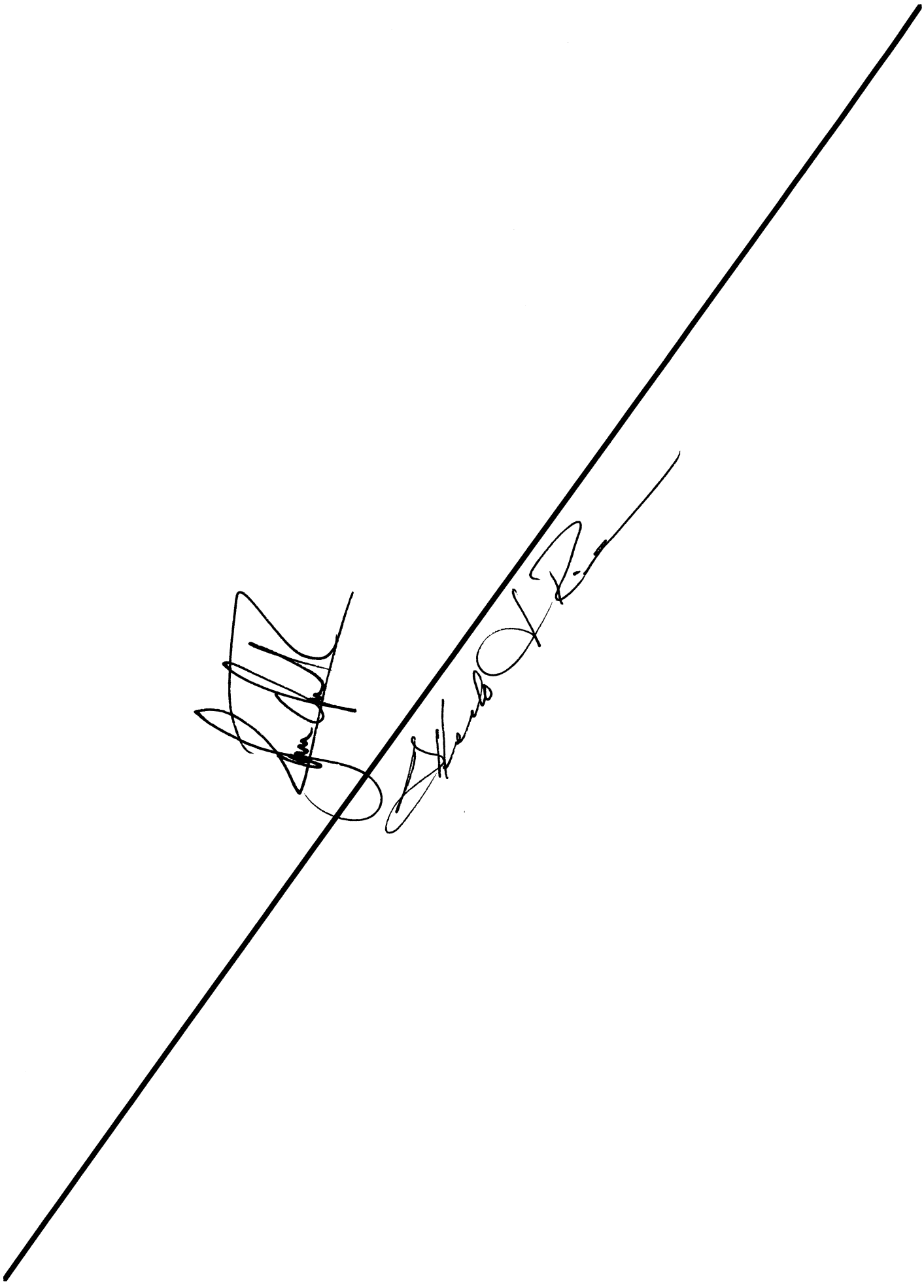
a) Como una medida de cooperación binacional, los Estados Unidos pretenden transportar a la Ciénega de Santa Clara, a través del Dren de Desvío de Wellton Mohawk, 12.3 Mm^3 (10,000 acres-pies) de flujos no almacenables del Río Colorado que llegan a México, debido a las limitaciones en el sistema de operaciones de Estados Unidos y que no forman parte de sus asignaciones del Río Colorado.

b) México pretende proveer 12.3 Mm^3 (10,000 acres-pies) de agua a la Ciénega de Santa Clara. Para ello, México está llevando a cabo las gestiones e inversiones necesarias para enviar agua hacia la Ciénega de Santa Clara.

c) Las Organizaciones no Gubernamentales de México y Estados Unidos pretenden utilizar los derechos de agua existentes que son propiedad del fideicomiso de las Organizaciones no Gubernamentales y arrendar los derechos de agua suficientes del Distrito de Riego del Valle de Mexicali, para proveer 12.3 Mm^3 (10,000 acres-pies) de agua para entrega en la Ciénega de Santa Clara. Esta responsabilidad está limitada a las Organizaciones no Gubernamentales, sin responsabilidad para los gobiernos de México y Estados Unidos. Se recomienda que México y los Estados Unidos trabajen con las Organizaciones no Gubernamentales para documentar a través de la Comisión este acuerdo, y entregar el agua a través del Dren de Desvío de Wellton Mohawk.

3. Para la aportación mencionada en el punto 2a), los Estados Unidos están dispuestos a operar sus sistemas de una manera que permitan la conducción de los 12.3 Mm^3 (10,000 acres-pies) de agua directamente hacia el Dren de Desvío de Wellton Mohawk. La conducción en los Estados Unidos de los 12.3 Mm^3 (10,000 acres-pies) de agua no-almacenable del Río Colorado identificada en el punto 2a), no deberá ser considerada como parte de las asignaciones de agua a México del Río Colorado establecidas en el Tratado de Aguas de 1944, ni impactar las entregas de dichas aguas, incluyendo las asignaciones mensuales y los calendarios de entrega.

4. Se recomienda que México y los Estados Unidos se coordinen, con respecto a las operaciones del sistema, para garantizar la conducción de los volúmenes de agua a la Ciénega de Santa Clara descritos en los puntos 2b) y 2c), incluyendo la consideración de la viabilidad de la entrega de agua mexicana a la Ciénega de Santa Clara a través del Dren de Desvío de Wellton Mohawk, o por medio de otra infraestructura propiedad u operada por los Estados Unidos. Se recomienda que la Comisión desarrolle una nueva Acta para facilitar la conducción de dichas aguas utilizando en Dren de Desvío del Wellton Mohawk.



5. El volumen de 12.3 Mm^3 (10,000 acres pies) de agua transportado de acuerdo al punto 2a), durante la Prueba Piloto de la PDY, no será contabilizado a México como parte de sus asignaciones de agua del Río Colorado, estipuladas en el Tratado de Aguas de 1944.

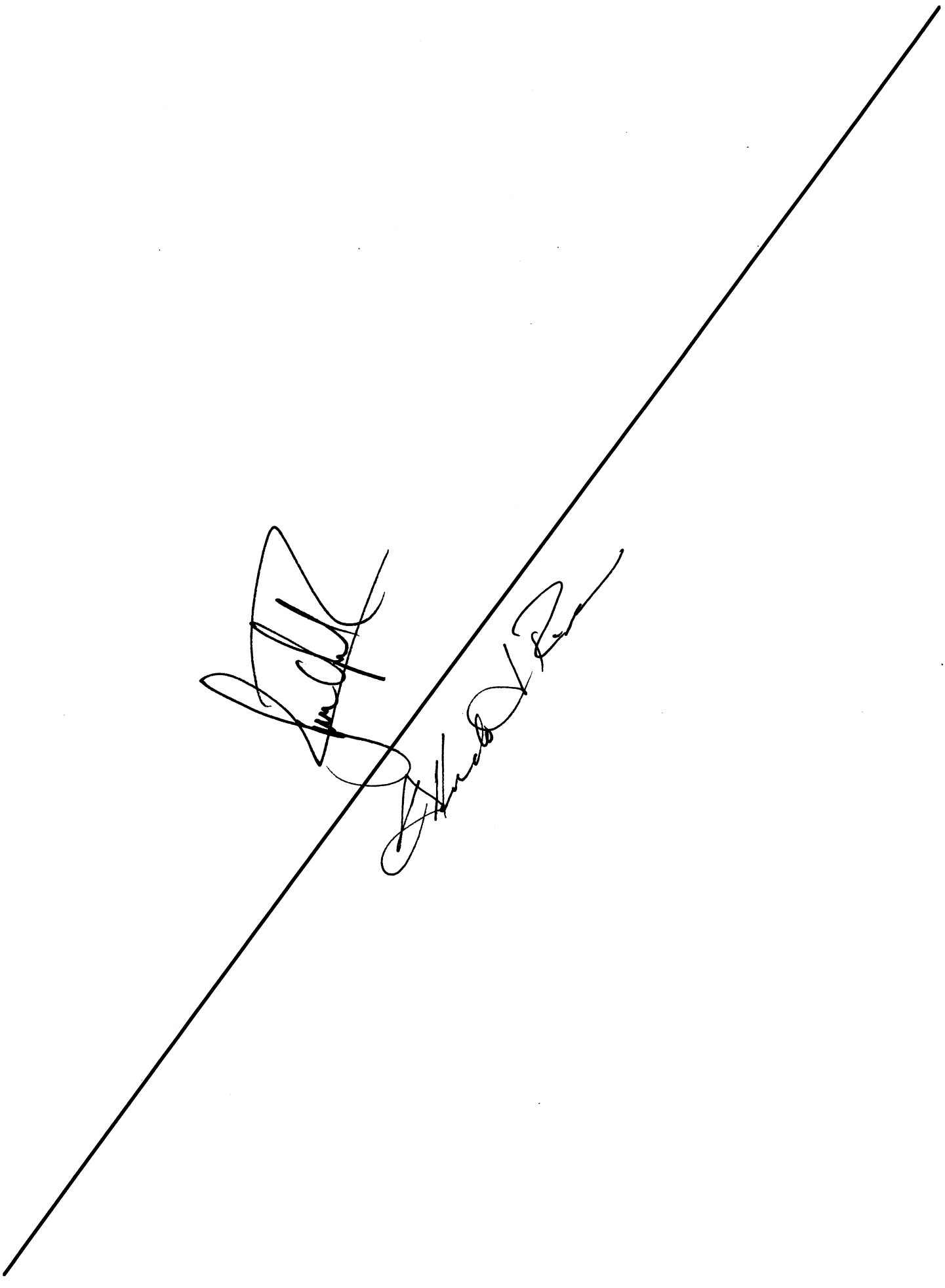
6. Para la aportación mencionada en el punto 2b), México propone, utilizando los recursos y la infraestructura mexicanos, ejecutar las tareas necesarias de mantenimiento en el Dren Santa Clara, incluyendo la remoción de los sedimentos, para asegurar que los flujos del Dren Santa Clara lleguen a la Ciénega de Santa Clara, y en caso de ser necesario, otras acciones para garantizar su compromiso.

7. Los socios no federales del Buró de Reclamación que contribuyen al financiamiento de la Prueba Piloto de la PDY, pretenden aportar un total de $250,000 dólares para un programa integral binacional de monitoreo de la Ciénega de Santa Clara y actividades relacionadas. Se recomienda que la Comisión establezca un grupo binacional para formular recomendaciones a la misma sobre los términos de referencia del programa, su alcance y duración. Los términos de referencia deberán indicar cuáles serán los organismos participantes, la forma en que será intercambiada la información, y cómo será publicado el producto final.

8. La Sección de los Estados Unidos está dispuesta a autorizar a la Sección mexicana, si ésta lo solicita, a utilizar la excavadora anfibia, los dos botes de 19 pies de aluminio, y el aerobote con su remolque, actualmente cedidos en préstamo a la Sección mexicana para el mantenimiento del Dren de Desvío de Wellton-Mohawk, para su utilización en el mantenimiento del Dren Santa Clara, con fondos suministrados por México para la operación, mantenimiento, y en su caso, la reparación del equipo. El uso del equipo en el Dren Santa Clara deberá ser consistente con las condiciones establecidas para ello. La utilización del equipo y sus condiciones de uso deberán ser coordinadas entre las dos Secciones de la Comisión.

9. El Buro de Reclamación, a través de la Sección de los Estados Unidos, está dispuesto a proporcionar una contribución única a la Sección mexicana de $100,000 dólares para el mantenimiento extraordinario del Dren de Desvío de Wellton Mohawk. La ejecución del mantenimiento extraordinario en el Dren de Desvío de Wellton Mohawk, asegurará flujos confiables a la Ciénega de Santa Clara, mejorando de manera efectiva la capacidad de conducción para el transporte de sedimentos en el Dren y evitar su acumulación en la parte terminal, lo que podría interrumpir el flujo a los humedales. La Sección mexicana propone proveer a la Sección de Estados Unidos, una lista detallada de las acciones a realizar para su revisión y aprobación.

10. Se recomienda que los Grupos de Trabajo y Grupo Base del Proceso de Cooperación Conjunta para el Río Colorado, consideren las necesidades futuras para la Ciénega de Santa Clara. De conformidad con el Acta 306, el Proceso de Cooperación Conjunta para el Río Colorado propone abordar enfoques a largo plazo para mantener los



valores ambientales de la Ciénega de Santa Clara. Estos planteamientos deberían centrarse en identificar y cuantificar los valores de hábitat que deberán ser preservados, identificando luego la cantidad, tiempo, calidad y fuente de agua asociada a la preservación de esos valores.

Recomendaciones

Basado en lo anterior y en que los participantes de México y los Estados Unidos, involucrados en el proceso de consulta, están de acuerdo en la aplicación de la propuesta de Programa de Acciones de Cooperación Conjunta, respetuosamente recomendamos a los Comisionados la aprobación del presente informe.

Después de la aprobación de este informe por los Comisionados, y en el caso de que alguna de las acciones de cooperación conjunta recomendadas en este informe no sean aplicadas debido a condiciones imprevistas, se recomienda que, bajo los auspicios de la Comisión y en el interés de la cooperación binacional, todas las partes implicadas en el proceso reinicien discusiones, de buena fe, para resolver de manera expedita cualquier imprevisto relacionado con la propuesta de Prueba Piloto de la PDY.

Respetuosamente sometido a su consideración,

Luis Antonio Rascón Mendoza
Ingeniero Principal
Sección mexicana

Alfredo J. Riera
Ingeniero Principal
Sección de los Estados Unidos

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Letter from the IBWC-U.S. Commissioner approving the Joint Report

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INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

July 23, 2009

Ms. Lorri Gray-Lee
Regional Director, Lower Colorado Region
U.S. Bureau of Reclamation
500 Fir Street
Boulder City, NV 89005-2403

Dear Ms. Gray:

The International Boundary and Water Commission, United States and Mexico, has recently approved the recommendations made by the Principal Engineers with regards to the proposed Yuma Desalting Plant Pilot Run. Enclosed is a copy of the report entitled "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", dated July 17, 2009.

The U.S. Section appreciates the coordination and assistance provided by the U.S. Bureau of Reclamation in support of the IBWC and looks forward to making the pilot run a success.

If you have any questions or require additional information, please feel free to contact me or have the person you designate contact Principal Engineer Alfredo J. Riera.

Sincerely,

C. W. Ruth

C.W. Ruth
Commissioner

Enclosure:
As Stated

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Mexico Commitment Letter (as verified by the IBWC-U.S.)

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INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

August 13, 2009

Jennifer M. McCloskey
Area Manager, Yuma Area Office
Bureau of Reclamation
7301 Calle Agua Salada
Yuma, AZ 85364

Dear Ms. McCloskey:

I refer to the Joint Report entitled "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," dated July 17, 2009, in which the U.S. and Mexican Sections of the International Boundary and Water Commission agreed 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.

I specifically refer to the 10,000 acre-feet of water that the Government of Mexico has agreed to supply to the Santa Clara Wetland. We are in receipt of a letter from the Mexican Section dated July 10, 2009, stating their commitment to this amount of water. This supply of water will be made available by Mexico's CONAGUA through internal agreement with its Water Districts. The commitment is contingent upon the equivalent contribution from the U.S. Government and Non-Government Organizations.

This acknowledgement and agreement in writing by Mexico should be sufficient for the U.S. Bureau of Reclamation to proceed forward with the documentation necessary for the Environmental Assessment along with July 23, 2009 letter already provided by United States Commissioner C.W. Ruth on this matter.

Sincerely,

John L. Merino, P.E
Principal Engineer

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902
(915) 832-4100 • (FAX) (915) 832-4190

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Environmental Defense Fund/Pro Natura Noroeste Letter

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ENVIRONMENTAL DEFENSE FUND
finding the ways that work

pro natura noroeste

June 16, 2009

Ms. Lorri Gray-Lee
Director, Lower Colorado Region
United States Bureau of Reclamation
PO Box 61470
Boulder City NV 89006-1470

Via email: lgray@lc.usbr.gov

Dear Ms. Gray-Lee:

We write to confirm the commitment of Pronatura Noroeste and the Environmental Defense Fund, via the Colorado River Delta Water Trust (Trust), to use its best efforts to provide 10,000 acre-feet (12.33 mcm) water for delivery to the Ciénega de Santa Clara during the period of the pilot operation of the Yuma Desalting Plant (YDP) proposed by the United States Bureau of Reclamation, as a match for equal commitments by the governments of the United States and Mexico. The commitment is pursuant to an agreement reached in a consultation between Mexico and the United States under the auspices of the Comisión Internacional de Límites y Aguas and the International Boundary and Water Commission in 2009. The goal of these three commitments is to deliver sufficient water to the Ciénega de Santa Clara during the pilot operation of the Yuma Desalting Plant to ensure maintenance of average historical water quantity and quality that sustains the wetlands. Attached please find the letter submitted by the Trust to the Comisión Internacional de Límites y Aguas.

Our statement of this commitment in no way changes the comments we submitted to USBR regarding the draft Environmental Assessment for proposed YDP pilot operation.

Sincerely,

Jennifer Pitt
Environmental Defense Fund

Osvel Hinojosa-Huerta
Pronatura Noroeste

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Colorado River Delta Water Trust Letter (English Translation)

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June 4, 2009, México, D.F.

Ing. Roberto Salmón Castelo
Mexican Commissioner
International Boundary and Water Commission – Mexican Section

Commissioner Salmón,

This letter documents the commitment by the Colorado River Delta Water Trust (Trust) to use its best efforts to provide 12.33 Million m^3 (10,000 af) of water for delivery to the Ciénega de Santa Clara during the period of the pilot operation of the Yuma Desalting Plant (YDP) proposed by the United States Bureau of Reclamation, as a match for equal commitments by the governments of the United States and Mexico.

The commitment is pursuant to an agreement reached in a consultation between Mexico and the United States under the auspices of the Comisión Internacional de Limites y Aguas and the International Boundary and Water Commission in April 2009. The goal of these three commitments is to deliver sufficient water to the Ciénega de Santa Clara during the pilot operation of the Yuma Desalting Plant to ensure maintenance of average historical water quantity and quality that sustains the wetlands.

Background

The YDP is currently proposed to be operated at partial capacity for a period of approximately 12 months, as part of a test run being jointly funded by the Metropolitan Water District (MWD), Southern Nevada Water Authority (SNWA), and Central Arizona Water Conservation District (CAWCD) (collectively, the "Funding Parties") in cooperation with the U.S. Bureau of Reclamation (USBR). During the proposed 1-year "pilot" operation, the YDP will treat a portion of the saline agricultural drain water currently flowing through the Main Outlet Drain Extension (MODE) towards the Ciénega de Santa Clara.

The MODE flows to the Ciénega are a result of the Minute 242 salinity agreement between the United States and Mexico. This drain flow, which averages approximately 133.2 Million m^3 (108,000 af) per year, is the primary water supply for the Ciénega de Santa Clara, a 16,000 ha (40,000 acre) cattail marsh and open water wetland complex located in Sonora, Mexico. The Ciénega has been recognized as a Wetland of International Importance by the Ramsar Convention, for its habitat value for migratory birds and several threatened or endangered species. The Ciénega also sits within the protected area boundary of the Upper Gulf of California and Colorado River Delta Biosphere Reserve. Approximately 90% of the current inflow to the Ciénega is derived from the MODE, with the remainder derived from irrigation drain flows from farming in the San Luis Valley in Mexico. Operation of the Yuma Desalting Plant using MODE flows could substantially affect both the quantity and quality of flows to the Ciénega by both reducing the overall MODE flow to the wetland and increasing the salinity of remaining water. Previous scientific studies have shown that the size of the Ciénega, particularly the extent of its vegetated area, has a direct relationship with the volume and salinity of these flows.

During the proposed pilot run, the YDP would be operated at one-third of its total capacity, requiring depletions from the MODE that total approximately 55 Million m^3 (44,680 acre-feet) of water and returning to the MODE approximately 19 Million m^3 (15,400 acre-feet) of water for a net depletion from the MODE of 36 Million m^3 (29,280 acre-feet) of water. The YDP reverse-osmosis process will concentrate salts that will be included in the water returned to the MODE, resulting in an increase in MODE salinity from approximately 2664 ppm TDS to approximately 3204 ppm TDS.

The Environmental Workgroup of the Joint Cooperative Process for the Colorado River reviewed these facts in January 2009, and determined that to protect habitat at the Ciénega de Santa Clara, the quantity and quality of water in the MODE should be maintained during the pilot operation of the YDP by adding a volume of 36 Million m^3 (30,000 acre-feet) water at approximately 1200 ppm TDS.

Commitments of Water

The commitment of the Trust to use its best efforts to deliver water to the Ciénega de Santa Clara is predicated and conditioned on the delivery of like volumes of water (12.33 Million m^3) to the Ciénega de Santa Clara by both the United States and Mexico. Pursuant to the agreement reached in consultation between the CILA and IBWC, the governments of the United States (via USBR) and Mexico (via CONAGUA) will each seek to provide an equal volume of replacement water over a period that will commence upon execution of an Engineers' Report between IBWC and CILA codifying these agreements and will extend through the completion of the pilot operation of the Yuma Desalting Plant (the Replacement Period).

To facilitate this bi-national commitment, the Colorado River Delta Water Trust will seek to deliver the final increment of replacement water. The overall objective of this replacement effort will be to deliver to the Ciénega approximately 30,000 acre-feet (37 Million m^3) of replacement water with an average salinity no greater than 1200 ppm over the Replacement Period, as follows:

- USBR will undertake best efforts to deliver 12.33 Million m^3 (10,000 acre-feet) of water to the MODE canal by increasing the efficiency of operations on the mainstem of the Lower Colorado River.

- CONAGUA will undertake best efforts to make 12.33 Million m^3 (10,000 acre-feet) of water available for delivery to the MODE Canal and/or the Santa Clara Drain.

- To facilitate the commitments described above, the Colorado River Delta Water Trust will undertake best efforts to raise funds and acquire in Mexico 12.33 Million m^3 (10,000 acre-feet) of water for delivery via the Santa Clara Drain and/or the MODE Canal. It is anticipated that a portion of this water would be derived by delivering water rights currently owned or to be acquired by the Water Trust via the MODE on a one-time basis during the Replacement Period. Remaining water would be obtained via short-term lease or fallowing arrangements of irrigation rights in the Mexicali Valley.

The commitment of the Trust is based on the understanding that the Funding Parties, the Bureau of Reclamation, and CONAGUA will assist the Trust in efforts to raise other private and/or public funds required for the acquisition of temporary and/or permanent water supplies, and will provide such legal and/or physical assistance to the Water Trust as may be required to undertake deliveries of replacement water to the Ciénega.

Nature of the Agreement

Nothing in this letter shall be understood to create any legally binding obligations or to impose any liability upon any party for any action or failure to act as described in this letter; nor shall this letter be construed as creating any form of legal association or arrangement that would impose liability upon any party for the action or failure to act of the other parties.

It is further expressly understood and agreed that this letter contemplates that the parties will engage in activities and/or assume obligations that may require the further approval of or assistance from other federal and/or state agencies, governing boards, and authorized corporate officers or trustees. In addition, some contemplated activities are contingent upon the ability to raise public and/or private funds and purchase, lease, and deliver water from third parties whose actions are entirely beyond the control of the participating parties.

Sincerely

Advisory Members of the Colorado River Delta Water Trust

Martín Gutiérrez Lacayo
Pronatura México, A.C.

Osvel Hinojosa Huerta
Pronatura Noroeste, A.C.

Francisco Zamora Arroyo
Sonoran Institute

Jennifer Pitt
Environmental Defense Fund

C.c.p. C.P. Gastón Lúken Aguilar, Fideicomitente y Miembro del Comité Técnico del Fideicomiso de Agua (ausente)
C.c.p. Dr. Eduardo Peters, INE
C.c.p. Ing. Mario López Pérez, CONAGUA
C.c.p. Lic. Ismael Grijalva, CONAGUA
C.c.p. Biol. José Campoy, CONANP
C.c.p. Peter W. Culp, Squire, Sanders & Dempsey, L.L.P.

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Reclamation Commitment Letter

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United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
LC-1000
ADM-1.10

MAY 19 2009

Honorable C. W. Ruth
Commissioner, United States Section
International Boundary and Water Commission
The Commons Building C, Suite 100
4171 North Mesa Street
El Paso, TX 79902

Dear Commissioner Ruth:

The Bureau of Reclamation understands that the International Boundary and Water Commission-United States and Mexico Sections are working to develop a "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 (Wetland)." The purpose of this letter is to express our commitment and the commitment of the United States municipal utilities to the cooperative actions discussed during our consultation meetings held on April 8, 2009, in San Ysidro, California. The municipal utilities working with Reclamation on the proposed pilot run include The Metropolitan Water District of Southern California, Southern Nevada Water Authority, and Central Arizona Water Conservation District.

Jointly Reclamation and the United States municipal utilities, should a decision be reached to proceed with the proposed YDP Pilot Run, are committed, as a purely voluntary matter of international comity, to:

- Convey 10,000 acre-feet of non-storable flow water to the Wetland.
- Ensure that the conveyance of this water does not impact water deliveries under the Mexico Water Treaty of 1944.
- Provide funding up to $250,000 for a bi-national monitoring program of the Wetland.
- Provide a $100,000 one-time contribution for extraordinary maintenance of the Wellton-Mohawk Bypass Drain.
- Operate in a manner that allows the conveyance of 10,000 acre-feet of Mexican Colorado River water using the Wellton-Mohawk Bypass Drain as determined in a future minute to be drafted by the Commission.
- Continue to work cooperatively under the auspices of Minute 306 and the Colorado River Joint Cooperative Process to understand the requirements for long-term sustainability of the Wetland.

I sincerely appreciate your leadership and all the efforts of the U.S. Section which resulted in the Joint Cooperative Actions. If Reclamation selects the proposed Pilot Run, then your efforts would allow the Pilot Run to proceed and to do so in a manner that is supported by both the U.S. and Mexico.

Reclamation will continue to work with you and the U.S. Section as YDP Pilot Run joint cooperative actions are implemented and as additional bi-national discussions occur under the Colorado River Joint Cooperative Process. If you have questions, please contact Jennifer McCloskey at 928-343-8123.

Sincerely,

Lorri Gray-Lee
Regional Director

Appendix D

USFWS Concurrence of “No Effect” Memorandum for Section Seven of the Endangered Species Act

Reclamation Letter to the USFWS Regarding Consultations Pursuant to Section Eight of the Endangered Species Act

USFWS Letter to Reclamation Regarding Consultations Pursuant to Section Eight of the Endangered Species Act

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USFWS Concurrence of “No Effect” Memorandum for Section Seven of the Endangered Species Act

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PRJ 25.00-YDP

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

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ORDER NO. 10816702

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In Reply Refer to:

AESO/SE
22410-2009-I-0005
22410-2009-FA-0001

July 13, 2009

Memorandum

To: Area Manager, Yuma Area Office, Bureau of Reclamation, Yuma, Arizona

From: Field Supervisor

Subject: Acknowledgement of Finding of "No Effect" to Listed Species from Proposed Yuma Desalting Plant Pilot Run, Yuma, Arizona

Thank you for your memorandum of June 29, 2009, requesting Fish and Wildlife Service (FWS) acknowledgement of your "no effect" findings for the endangered Yuma clapper rail (*Rallus longirostris yumanensis*) and southwestern willow flycatcher (*Empidonax traillii extimus*) and the candidate yellow-billed cuckoo (*Coccyzus americanus*) in the United States from the proposed operation of the Yuma Desalting Plant during the pilot run.

As described in the draft Environmental Assessment, the operation of the Yuma Desalting Plant Pilot Run will not have effects to riparian habitats occupied by the southwestern willow flycatcher or yellow-billed cuckoo in the United States. Nor will marsh habitats occupied by Yuma clapper rails in the United States be affected by the operation of the plant during the pilot run. We can therefore acknowledge your findings of "no effect" to these species in the United States.

Thank you for the continued coordination with our office on the initiation of the pilot run. If we may be of additional assistance, please contact Lesley Fitzpatrick of my staff at (602) 242-0210 (x236) or me at (x244).

Steven L. Spangle

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Field Supervisor, Fish and Wildlife Service, Tucson, AZ
Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ

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Reclamation Letter to the USFWS Regarding Consultations Pursuant to Section Eight of the Endangered Species Act

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United States Department of the Interior

BUREAU OF RECLAMATION
Yuma Area Office
7301 Calle Agua Salada
Yuma, Arizona 85364

IN REPLY REFER TO:

TAKE PRIDE IN AMERICA

AUG 11 2009

Steve Spangle
Field Supervisor
Ecological Services Field Office
United States Fish and Wildlife Services
2321 West Royal Palm Road, Suite103
Phoenix, AZ 85012

Subject: Endangered Species Act Considerations in Mexico: U.S-Mexico Agreement on International Cooperation for the Proposed Yuma Desalting Plant Pilot Run

Dear Mr. Spangle,

Since 2000 the Colorado River Basin has experienced the driest 9 year period in the past century, leading to reduced reservoir storage throughout the Colorado River system. In response to the ongoing period of historic drought, Reclamation is actively working to identify opportunities to stretch existing supplies of Colorado River water. One of the tools that may be available in the future is operation of the Yuma Desalting Plant (YDP).

In order to acquire additional information regarding the viability of future YDP operations, Reclamation is actively considering a proposed pilot run of the YDP. The proposed Pilot Run was described in a draft Environmental Assessment (EA) published May 1, 2009 pursuant to the National Environmental Policy Act (NEPA). Attached to the Draft EA was a Cienega Literature Review that provided information about the Cienega de Santa Clara. Both the Draft EA and Cienega Literature Review were previously shared with your office.

The Literature Review responded to initial public comments received from a public scoping meeting Reclamation held on October 8, 2008 on the YDP proposed Pilot Run, and it reviewed existing scientific literature gathered from several consultations with individuals and groups in the U.S. and Mexico. Work has continued on the Literature Review as part of Reclamation's effort to identify all available relevant information from organizations and individuals, domestic and international, most familiar with the Cienega. Through this effort, Reclamation's goal was to appropriately address comments received relative to international aspects of the proposed project.

In addition to our work on the ongoing NEPA process for the proposed YDP Pilot Run, Reclamation has also been actively engaged in bi-national consultations with Mexico through the U.S. and Mexican sections of the International Boundary and Water Commission (IBWC). In addition, representatives of the U.S. Department of State were active participants in these consultations.

I am pleased to be able to report that these consultations were recently successfully completed by exchange of letters between the U.S. and Mexican IBWC Commissioners. These international consultations have concluded with a set of agreed-upon joint cooperative actions between the United States and Mexico. These actions are described in the attached "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" (Joint Report).

In earlier correspondence between United States Fish and Wildlife Service (USFWS) and Reclamation we sought USFWS guidance regarding the most appropriate approach to take with respect to the Endangered Species Act, regarding proposed discretionary Federal actions with potential trans-boundary effects. In a January 11, 2006 response to Reclamation's All-American Canal Lining Project Biological Assessment, the USFWS concluded that Section 7 of the Endangered Species Act (ESA) does not apply to such actions but recommended that Reclamation work with USFWS in a manner consistent with Section 8 to address concerns that could arise as a result of that project.

Consistent with USFWS' longstanding encouragement of bi-national cooperation and the Service's 2006 direction, we are pleased to be able to report that joint cooperative consultations have been extremely successful for the YDP Pilot Run, as outlined in the Joint Report. As a result, these actions identified in the Joint Report are designed to offset the product water generated by the YDP Pilot Run. These identified bi-national actions – by the U.S., Mexico and participating Non-Governmental Organizations- will therefore result in 30,000 acre-feet of water that will be provided to the Santa Clara Wetland (Wetland). This water, in effect, fully replaces the 29,000 acre-feet of water that would otherwise not reach the Wetland if the YDP Pilot Run were conducted without the joint cooperative actions. Additionally, this agreement provides for a comprehensive bi-national monitoring program for the Wetland that will contribute to future Joint Cooperative Process discussions. Karl Flessa, University of Arizona Geosciences Professor, is coordinating the development of the monitoring program and you may contact him at (520) 621-7336 for further input.

Reclamation requests USFWS concurrence that the voluntary cooperative actions conducted through the IBWC and described in the Joint Report are appropriate to demonstrate the commitment of the United States as described in Section 8 of the ESA, particularly with regard to "entering into bilateral or multilateral agreements with foreign countries to provide for such conservation" of "fish or wildlife and plants including endangered species and threatened species."

Thank you for the continued coordination with regard to the YDP Pilot Run. If you have any questions, please contact me at (928) 343-8123.

Sincerely,

Jennifer McCloskey

USFWS Letter to Reclamation Regarding Consultations Pursuant to Section Eight of the Endangered Species Act

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United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
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Telephone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer to:

AESO/SE
22410-2009-I-0005

August 25, 2009

Email Transmission

Memorandum

To: Area Manager, Yuma Area Office, Bureau of Reclamation, Yuma, Arizona

From: Field Supervisor

Subject: Endangered Species Act Considerations in Mexico: U.S.-Mexico Agreement on International Cooperation for the Proposed Yuma Desalting Plant Pilot Run, Yuma County, Arizona, and Sonora, Mexico

Thank you for your memorandum of August 11, 2009, regarding the Bureau of Reclamation's (Reclamation's) proposed operation of the Yuma Desalting Plant for a pilot period of up to 12 months out of the 18 month window covered by the proposed action as described in the draft Environmental Assessment of May 1, 2009. We also appreciate the Cienega de Santa Clara Literature Review attached to the draft Environmental Assessment. There has been information developed on the wetland resources of the Gulf of California/Colorado River Delta Region, and having the compilation of this knowledge will significantly contribute to implementing conservation in the region.

Section 8 of the Endangered Species Act of 1973, as amended, addresses and encourages International Cooperation and development of international programs to conserve fish and wildlife resources, including listed endangered and threatened species. In a January 11, 2006 response to Reclamation's All-American Canal Lining Project Biological Assessment, the Fish and Wildlife Service concluded that section 7 of the Endangered Species Act does not apply to such actions but recommended that Reclamation work with us in a manner consistent with section 8 to address concerns that could arise as a result of that project. In recent years, attention to the marsh and other wetland/riparian habitats for the Yuma clapper rail, southwestern willow flycatcher, and other species of conservation concern in the Colorado River Delta Region has resulted in increased interest in protecting and enhancing the remaining areas of such habitat. The importance of the flows arriving at the Cienega de Santa Clara to maintain habitat for desert pupfish and the largest population of Yuma clapper rails in Mexico has already been recognized by the Fish and Wildlife Service "as a key action in the conservation of species in northern Mexico" (from January 11, 2006 memorandum from Acting Manager, California-Nevada Operations Office, Fish and Wildlife Service to Regional Director, Bureau of Reclamation).

In our July 13, 2009 response to your request for section 7 consultation on the effects of the YDP pilot run on species in the United States, including Yuma clapper rail, we agreed with your findings of "no effect." To the degree that the overall status of species may be affected by population trends in Mexico, such information will assist in creating the baseline for future section 7 consultations for discretionary Federal actions in the United States.

We appreciate the effort by Reclamation, in coordination with the U.S. and Mexico Sections of the International Boundary and Water Commission to develop and provide for the implementation of the "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." This agreement will arrange for conveyance of water to the Cienega de Santa Clara in connection with the reduction in flow resulting from pilot operations of the YDP and thus no net reduction of inflow to the Bypass Drain will occur as a result of the pilot run. This agreement represents an important bi-national achievement in furtherance of, and is fully consistent with, section 8 of the Endangered Species Act.

We are encouraged by the ongoing efforts to provide protection to the Colorado River Delta and the Cienega de Santa Clara as part of the management of the lower Colorado River to provide water resources during the current drought and recognizing the emerging challenge of climate change in the Colorado River Basin. The opportunity for governmental and non-governmental organizations on both sides of the International Boundary to work together to provide water resources for both people and wildlife in these times of more careful water management is inspiring.

We will take the opportunity to contact Dr. Karl Flessa at the University of Arizona for additional information on the development and implementation of the monitoring program provided for in the agreement. We look forward to working with Reclamation and other partners to evaluate future operations of the lower Colorado River. We appreciate the efforts Reclamation has undertaken to protect significant wetland resources in Mexico, and if we can assist in any way, please contact Lesley Fitzpatrick at (602) 242-0210 (x236) or me (x244). Our Regional Director's Lower Colorado River Coordinator, Sam Spiller (x240), also has resources and interest in this project that may contribute to future discussions.

Steven L. Spangle

cc: Field Supervisor, Fish and Wildlife Service, Carlsbad, CA
Lower Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ

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