5.3 Comments and Responses for Regional Agencies

San Diego County Water Authority
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April 25, 2002

Mr. Bruce D. Ellis
Bureau of Reclamation
Phoenix Area Office (PXAO-1500)
P.O. Box 81169
Phoenix, AZ 85069-4006

Mr. Elston Grubaugh
Manager of Resources, Management and Planning
Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251

Re: Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the Imperial Irrigation District Water Conservation and Transfer Project and Draft Habitat Conservation Plan (SCH No. 99091142)

Dear Messrs. Ellis and Grubaugh:

R1-1 The San Diego County Water Authority (Authority) supports the efforts by Imperial Irrigation District (IID) to implement water conservation and transfer programs that assist in reducing California's demand on Colorado River water resources. The proposed water transfer to the Authority is a key component of the Quantification Settlement Agreement, a consensual agreement developed to reduce California's diversions to meet its normal year apportionment of Colorado River water.

R1-2 The Authority, as a responsible agency under CEQA, has been involved in the analysis of potential environmental impacts associated with the proposed project. In general, we believe the document accurately portrays the potential environmental effects that could occur if any of the project alternatives were approved. We concur that the environmentally superior alternative involves fallowing agricultural lands to avoid potentially significant impacts to the Salton Sea. We also note that the proposed project is defined broadly enough to include fallowing as a substantial component of the water conservation effort. Should fallowing be a part of the ultimately approved project, the Authority would be willing to discuss necessary modifications to the IID/SDCWA Water Conservation and Transfer Agreement.

R1-3

R1-4 While fallowing may avoid or minimize many of the identified potential environmental impacts associated with on-farm or system conservation measures,

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COUNTY
PUBLIC UTILITY DISTRICT
FEDERAL AGENCY

Letter - R1. San Diego Water Authority. Signatory - Maureen A. Stapleton.

Response to Comment R1-1

Comment noted.

Response to Comment R1-2

Comment noted.

Response to Comment R1-3

Comment noted.

Response to Comment R1-4

As described in the Draft EIR/EIS, depending on the eventual implementation of the water conservation program, there could either be beneficial or adverse impacts to the regional economy. If water is conserved using on-farm and water delivery system improvements, it is anticipated that there would be beneficial effects to regional employment; therefore, there would not be any adverse effects to mitigate. If fallowing is used to conserve all or a portion of the water to be transferred, there would be adverse effects to the regional economy and farm workers as identified in the Draft EIR/EIS.

The IID Board will consider whether to implement socioeconomic mitigation measures when it considers whether to approve the Proposed Project or an alternative to the Proposed Project.

R1-4

fallowing would raise the issue of economic impacts to the Imperial Valley community. If fallowing is utilized, the IID water conservation program should include measures to address any economic impacts that result from the project.

R1-5

The Draft EIR/EIS contains an estimate of economic impacts that would result from a fallowing program. Other studies have been drafted that employ differing assumptions and determinations of economic impacts that could result from a fallowing program. We note that these other studies assume fallowing will be limited to crops that use more water and generate lower profits than other crops. The Draft EIR/EIS, however, assumes that fallowing will be spread proportionately among all crops, including those that use less water and generate higher profits. It appears to be a matter of common sense to restrict fallowing opportunities to high water use/low profit crops. It would not only reduce the acreage to be fallowed and the amount of lost profits, but would also lessen impacts on the labor force and the community as a whole. We have attached for your consideration one study and one draft study that examine conservation fallowing scenarios for the Imperial Valley. They are: "Economic Impacts of Fallowing Irrigated Land in the Imperial Irrigation District", prepared by the U.S. Bureau of Reclamation, and "Independent Analysis of the Economic Impact Studies in the IID Water Conservation and Transfer Project EIR/EIS", prepared by CIC Research under the direction of the Community Advisory Commission and funded by IID. We believe these studies present a more realistic depiction of how a fallowing program in the Imperial Valley could operate with due consideration for the needs of the farmers and need to minimize economic impacts to the community. We have also attached results from an analysis of the actual economic impacts resulting from the two-year Palo Verde Test Land Fallowing Program between the Palo Verde Irrigation District and the Metropolitan Water District of Southern California (Metropolitan). The principle findings of this study showed that regional economic performance was not altered to any significant degree and that less than 60 jobs were affected by fallowing more than 20,000 acres. Moreover, a high proportion of program payments were injected into the local economy. We believe this study provides real-life information that should be considered in your economic analysis. The Final EIR/EIS should acknowledge that any fallowing for the proposed project can and will be structured such that impacts to the Imperial Valley economy are minimized.

R1-6

The project purpose, need and objectives section in the Executive Summary (and referenced elsewhere in the document) includes a statement that an Authority objective is "to acquire an independent, alternative, long term water supply that provides drought protection and increased reliability for municipal, domestic, and agricultural uses." It is appropriate to clarify the term "increased reliability" as used in this context. Until now, the reliability of Colorado River supply for Metropolitan and its member agencies, including the Authority, has been constant, even when imported water from the State Water Project and local supplies have been curtailed. For many years, Metropolitan's Colorado River Aqueduct (CRA) has operated near its capacity of about 1.25 million acre feet per year, and the Authority's supply from Metropolitan has consisted of between 75 and 100 percent Colorado River water. Although about 700,000 acre-feet of water required to fill the CRA is not within California's normal year apportionment of 4.4

Response to Comment R1-5

Refer to the Master Response on *Socioeconomics—Crop Type Assumptions for Socioeconomic Analysis of Fallowing* in Section 3 of this Final EIR/EIS.

Response to Comment R1-6

Comment noted.

million acre-feet, that water was available until 1996 due to the availability of the unused apportionments of Arizona and Nevada. As those states are now at or near full use of their apportionment, we have relied on surplus declarations since 1997 to fill the CRA. The IID/Authority water transfer and other elements of the Quantification Settlement Agreement are designed to keep the CRA full into the foreseeable future. This will allow the Authority to continue to rely on Colorado River water to the same extent that it relies on that source today. Therefore, in the context of historic and present availability of Colorado River water, the purpose of the water transfer is to maintain the reliability of that supply. However, if the IID/Authority water transfer and/or other actions designed to ensure a full CRA in the future are not implemented, then the ability to fill the CRA will be dependent on the availability of surplus water as determined by the federal government on a year-to-year basis. So, in the context of a future in which a full CRA would not be guaranteed, the IID/Authority transfer would increase or enhance the reliability of the Authority's future Colorado River supplies, particularly in drought years when the river system supplies less water.

R1-6

The draft EIR/EIS cites the Authority's Water Resources Plan in several places as "SDCWA 2000". The Authority published the Water Resources Plan in 1997, and an Urban Water Management Plan in 2000. It appears that the draft EIR/EIS uses information from both documents under the citation "SDCWA 2000". For example, on page 1-14, the Authority's projected water needs and water resources to the year 2015 apparently came from 1997 document, yet is cited as "SDCWA 2000". At page 5-39, water demand and supply to the year 2020 is also cited as "SDCWA 2000". Because the 2000 Urban Water Management Plan supercedes the 1997 Water Resources Plan as to projections of regional water needs and resources, we request the only the 2000 plan be used for that purpose, and not the 1997 document.

R1-7

Thank you for the opportunity to review this draft document. Please retain the Authority on your mailing list to receive the final EIR/EIS when completed. If you have any questions regarding our comments, please contact Larry Purcell at (858) 522-6752.

Sincerely,

Maureen A. Stapleton
General Manager

Attachments: (1) Economic Impacts of Fallowing Irrigated Land in the Imperial Irrigation District; Alan P. Kleinman; August 2001
(2) Draft Independent Analysis of the Economic Impact Studies in the IID Water Conservation and Transfer Project EIR/EIS, prepared for the Community Advisory Commission of the Imperial Irrigation District; CIC Research, Inc.; March 2002
(3) Regional Economic Impacts of the Palo Verde Test Land Fallowing Program; M. Cubed: December 1994.

Response to Comment R1-7

The suggested changes have been made and are reflected in Section 4.2, Text Revisions in this Final EIR/EIS.

R1-8

Economic Impacts of Fallowing Irrigated Land in the Imperial Irrigation District

Alan P. Kleinman[1] August, 2001 file:fallowpaper

Introduction

An integral part of some alternatives of the Salton Sea Restoration Program (SSRP) involves the fallowing of lands in the Imperial Irrigation District (IID). This paper examines the economic impacts of fallowing in terms of personal income and employment.

Potential fallowing is analyzed in two different scenarios, for quite different purposes. Temporary fallowing is the complete non-use of a given parcel of land for as short a term as one year. A given number of acres of a farm may be fallowed for multiple years, but the actual parcels of land not cropped is expected to change every year as fallowing becomes an integral part of the farm crop rotation pattern. A typical cropping pattern and rotation[2] is given below:

Year 1	Onions
Year 1	Plant Sugar Beets or Wheat
Year 2	Sugar Beets or Wheat
Year 2	Plant Alfalfa Hay
Year 3	Alfalfa Hay
Year 4	Alfalfa Hay
Year 5	Alfalfa Hay
Year 6	Alfalfa Hay
Year 6	Lettuce
Year 7	Sudan Grass
Year 7	Plant Onions

Shown here is a seven-year rotation with Alfalfa Hay remaining in production for 4 years. Under a temporary fallowing scheme, in which Alfalfa Hay is chosen by the farmer to be the fallowed crop, the 4th year of Alfalfa Hay would be fallowed with a 7-year rotation maintained. Thus, if the farm consisted of 1,000 acres, in any given year under normal rotation, about 570 acres of Alfalfa Hay would be in full production. With the incorporation of fallowing, the acres of full production Alfalfa would decrease to about 430 acres. About 140 acres would be in the fallow category. This 140 acres would very likely change each year. In any given year about 140 acres of new Alfalfa would be planted. The irrigation water not applied to grow Alfalfa on the fallowed land would be used for other purposes associated with the SSRP.

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[1] Regional Economist, U.S. Bureau of Reclamation, Boulder City, Nevada

[2] Personal communication with staff at Imperial Irrigation District

Response to Comment R1-8

Refer to the Master Response on *Socioeconomics—Crop Type Assumptions for Socioeconomic Analysis of Fallowing* in Section 3 of this Final EIR/EIS.

Permanent fallowing is the removal of land permanently from the irrigation rotation of a particular farm. The water not used on the permanently fallowed farm land to grow crops would be applied on the land in the form of ponds or other purposes associated with the SSRP.

Water required for restoration elsewhere as part of the SSRP could be secured through either permanent or temporary fallowing. However, if the land is not required as part of an alternative, then the preferred method of securing water for other purposes, such as water transfer, is temporary fallowing because that is thought to have the least negative potential economic impact upon the economy of Imperial County.

The potential impacts of both methods of fallowing are examined here, with estimates made of the direct impact upon farm entities and the third-party impacts upon farm suppliers and processors.

Temporary Fallowing of Irrigated Land

Analytical Methodology

In order to estimate the direct economic impacts upon the farm operator, a simple linear program model was formulated. This model incorporated the major field crops grown in the IID. The crops chosen were Cotton, Wheat, Alfalfa Hay, Bermuda Grass Hay, Sudan Grass Hay, and Sugarbeets. These 6 crops account for almost 360,000 acres of production in the Imperial Valley at the present time. The other crops which account for minor acreage or are in the category of high value or specialty crops make up the balance of the almost half million acres of production in the valley. Comparison of crop budgets reveals that the crops chosen to include in the model are the "marginal" crops which have significant acreage and are those which, on the average, are less profitable to the farmer. About 25 different crops account for over 99 percent of the acreage in IID. Historically, over the past 12 years, 4 crops, Alfalfa Hay, Wheat, Sudan Grass Hay, and Sugarbeets account for about 80 percent of the acres.

The linear programming model with constraints and various accounting values is presented on Table 1. This is the base optimization model to which varying assumptions are applied. The output of the linear programming model becomes the input in estimation of regional economic impacts in the non-farm economy.

The estimation of secondary or third party impacts resulting from changes in farm production were estimated using IMPLAM[3] modeling. IMPLAN is an input-output

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[3]IMPLAN allows for the construction of a regional input-output model to assess the potential economic impacts of alternative resource management strategies. Minnesota IMPLAN Group, Inc., IMPLAN System (1998 data and software), 1940 South Greeley Street, Suite 101,

Table 1. Imperial Irrigation District -- Optimization Program -- 2001

		Upland Cotton	Wheat	Alfalfa Hay	Bermuda Grass Hay	Sudan Grass Hay	Sugarbeets	Fallow		Constraints	Accounting Totals
Irrigated Land		6,000	50,000	175,000	42,000	53,000	32,000	0	<=	358,000	358,000
	Cotton Acres	6,000	0	0				0	<=	6,000	6,000
	Wheat Acres	0	50,000	0				0	<=	50,000	50,000
	Alfalfa Acres	0	0	175,000				0	<=	175,000	175,000
	Bermuda Grass Acre	0	0	0	42,000			0	<=	42,000	42,000
	Sudan Grass Hay	0	0	0	0	53,000		0	<=	53,000	53,000
	Sugarbeet Acres	0	0	0	0	0	32,000	0	<=	32,000	32,000
Fallow Land								0	>=	0	0
District Land		6,000	50,000	175,000	42,000	53,000	32,000	0	<=	358,000	358,000
Irrigation Water		30,000.00	150,000.00	1,137,500.00	231,000.00	265,000.00	176,000.00	0.00	<=	1,989,500	1,989,500
Irrigation Water Price		14.56	14.56	14.56	14.56	14.56	14.56	14.56			
Irrigation Water Costs		$436,800	$2,184,000	$16,562,000	$3,363,360	$3,858,400	$2,562,560	$0			
Yield	primary	1400	3	6	10	5.5	36				
	secondary	1.4		0							
Price	primary	$0.678	$153.000	$97.000	$90.000	$90.000	$42.000				
	secondary	$134.000		$0.130							
Gross Revenues		$6,820,800	$22,950,000	$135,800,000	$37,800,000	$26,235,000	$48,354,000	$0			$277,969,800
Variable Costs		$5,785,920	$15,955,000	$113,263,000	$28,074,020	$20,969,450	$34,146,560	$0			
Returns over costs		$598,080	$4,811,000	$5,985,000	$8,362,620	$1,407,150	$11,674,880	$0	max	$32,938,730	
Profit per acre foot		$19.94	$32.07	$5.26	$36.20	$5.31	$66.33				
Profit per acre		$99.68	$96.22	$34.20	$199.11	$26.55	$364.84				

estimation procedure which is driven by changes in gross output in the region, which in this instance comes from changes in gross farm output. In this application, the model was constrained to Imperial County. Various impacts were estimated including changes in personal income, changes in employment, and changes in local tax revenues when agricultural acreages are fallowed.

Six Crops and Acres of Production

Based upon historic production[4] and current trends in the district, the following acres were selected to represent present crop production:

Cotton	6,000 acres
Wheat	50,000 acres
Alfalfa Hay	175,000 acres
Bermuda Grass Hay	42,000 acres
Sudan Grass Hay	53,000 acres
Sugar Beets	32,000 acres

Crop Production Standards

Cost and returns associated with the 6 crops were based upon crop production budgets. Crop production standards were developed from a number of sources. Irrigation district specific information was gainec by interviewing of selected farm managers and others associated with agricultural operations in the IID. Production information was also obtained by compiling data directly from field crop production guidelines published by the Cooperative Extension Service.[5] Expected yields on farm were estimated and used in calculating costs and returns. For purposes of this analysis, the following acre yields were adopted as shown below:

Cotton	1,400 pounds
Wheat	3 tons
Alfalfa Hay	8 tons
Bermuda Grass Hay	10 tons

Stillwater, MN 55082, www.implan.com,1998.

[4]Historic production over the past 12 years as reported by Imperial Irrigation District to Bureau of Reclamation. Comparisons made with Imperial County Agricultural Commissioner reports for similar years.

[5] Guidelines to Production Costs and Practices, Imperial County, Field Crops 2000-2001, University of California Cooperative Extension, 1050 E. Holton Road, Holtville, California, Circular 104-F.

Sudan Grass Hay	5.5 tons
Sugar Beets	36 tons

Agricultural Price Standards

The relationship between prices paid and received were taken to represent a long term equilibrium situation between inputs and outputs which is expected to be representative of future years. The most likely prices[6] for the 6 crops is shown below:

Cotton	67.8 cents per pound
Cotton seed	134 dollars per ton
Wheat	153 dollars per ton
Alfalfa Hay	97 dollars per ton
Bermuda Grass Hay	90 dollars per ton
Sudan Grass Hay	90 dollars per ton
Sugar Beets	42 dollars per ton

These crop prices were based on recent 5-year average (1995-1999) as reported by the Imperial County Agricultural Commissioner.

Enterprise Crop Budgets

The enterprise crop budgets used from the University of California Extension Service[7] are believed to represent the actual future costs and returns to production of those crops in Imperial Valley. The costs of production include all variable costs and estimated fixed and overhead costs with the exception of any returns to land. The per acre profitability of each of the 6 crops is shown below, without cost or returns to land.

Cotton	$99.68
Wheat	$96.22
Alfalfa Hay	$34.2
Bermuda Grass Hay	$199.11
Sudan Grass Hay	$26.56
Sugar Beets	$364.84

According to these data, Alfalfa Hay and Sudan Grass Hay are the least profitable

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[6] Crop prices calculated from Imperial Agricultural Commissioner reports of the five most recent years.

[7] Guidelines to Production Costs and Practices, Imperial County, Field Crops 2000-2001, University of California Cooperative Extension, 1050 E. Holton Road, Holtville, California, Circular 104-F.

crops for farmers to grow in the Imperial Valley.

Water Use by Crop

Estimated water use by each of the 6 crops was taken from the Extension Service publication, Circular 104-F. Per acre water deliveries to produce each crop as used in the linear programming model are as follows:

Cotton	5 acre feet
Wheat	3 acre feet
Alfalfa Hay	6.5 acre feet
Bermuda Grass Hay	5.5 acre feet
Sudan Grass Hay	5 acre feet
Sugar Beets	5.5 acre feet

The weighted average use of these crops is 5.56 acre feet per acre.

Maintenance of Fallowed Land

Land which is fallowed on a temporary basis must be maintained in a weed-free condition. It is assumed that a farmer would be required to disk the ground for weed control 4 to 5 times during a year's time. Regular discing costs about $11.50 per acre for each time over the field. This would result in total costs of $46 to $57.50 per acre. It is assumed that $60 per acre would cover the cost of maintenance. Thus, in addition to the lost profits on the fallowed land, $60 is added to the farmer cost of operation.

Operation of the Linear Programming Model

The linear programming model results representative of the present condition is shown in Table 1. Gross profits for the 6 crops is shown as $32,838,730. The least profitable crop shown is Sudan Grass Hay at $26.55 per acre, followed closely by Alfalfa Hay at $34.20 per acre. On a per acre foot basis, Alfalfa Hay shows the least profit at $5.26 per acre foot followed closely by Sudan Grass Hay at $5.31 per acre foot. This acre foot profit calculation is after the cost of irrigation water is paid. On a grower by grower basis, these profits could easily be reversed. In any event, it is clear that Alfalfa Hay and Sudan Grass Hay are the prime candidates for fallowing, because no other crops are in a similar profit range.

The optimization model was run iteratively 5 times. In each subsequent run the amount of water available for crop production was reduced by 1 percent of the total, or 19,895 acre feet.