

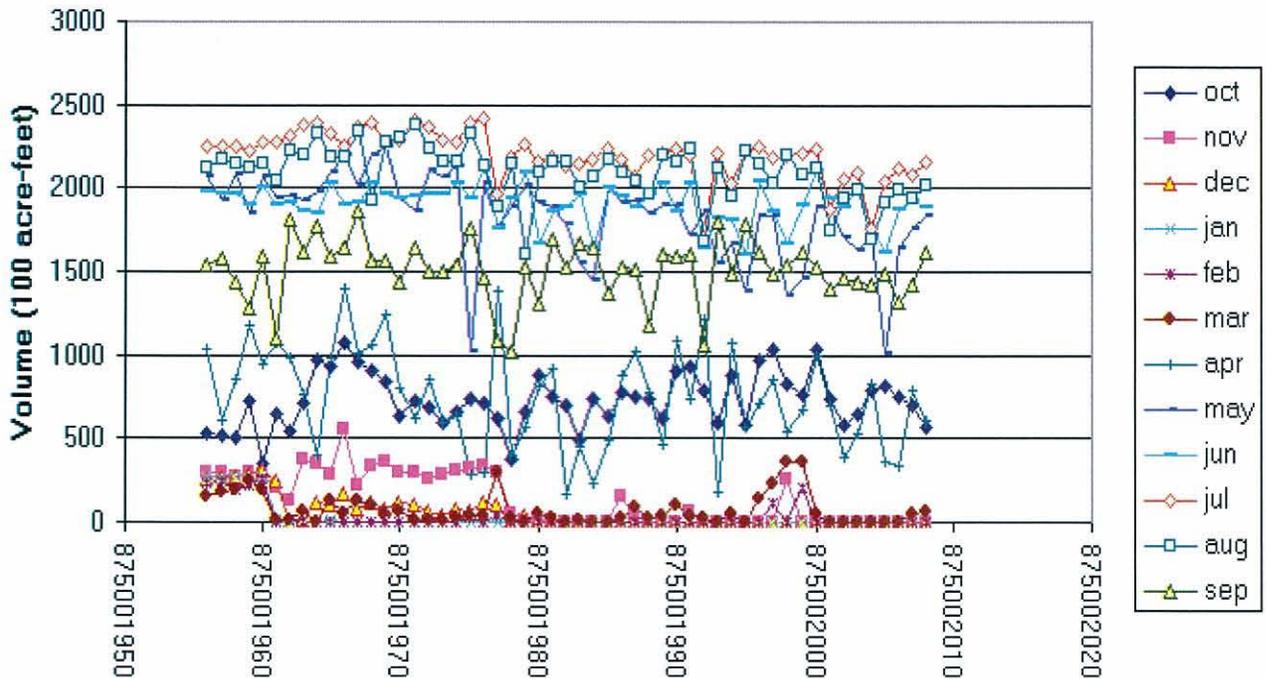
**BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO**

**IN THE MATTER OF THE MITIGATION)
COMPUTATIONS IN WATER DISTRICT 120)
FOR THE SURFACE WATER COALITION)
IDWR'S RESPONSE TO CITY)
OF POCA TELLO'S FIRST)
QUESTIONS (NOS. 1-11))**

QUESTION 1: During the Technical Meeting held June 1, 2009, Director Tuthill noted that the capabilities of the SWC systems are a limitation on the amount of water that can be supplied during the peak season. Please describe IDWR's knowledge of any SWC system limitations.

ANSWER 1: In response to the discussion on June 1, 2009, IDWR developed a comparison of average monthly diversions for various members of the SWC. The graph below depicts the comparison developed for Twin Falls Canal Company. The data developed for this analysis have been posted to the website under Item N of the Data and Calculation Files at http://www.idwr.idaho.gov/News/WaterCalls/Surface%20Coalition%20Call/mit_present/mitigati on_presentations.htm

Twin Falls Canal Co. Average Monthly Diversions



These monthly diversion data depict more variation in the year-to-year summer diversions than had been anticipated by the Director during the discussion on June 1, 2009.

QUESTION 2: Based on discussions during the Technical Meeting held June 1, 2009, the protocol for determining the antecedent moisture adjustment to Reasonable In-season Demand (RISD) has not yet been developed. When the protocol is developed, please describe the draft protocol and provide any associated spreadsheet analyses.

ANSWER 2: This process foresees comparing the simulated irrigation requirements for potential crop ET for the baseline year of 2006 with the current year for an average weighting of crop types. The average weighting used will initially be as shown in Table 4, Exhibit 3026 from the hearing on the SWC delivery call.

The irrigation requirement calculation method will be as described in the ETIdaho documentation (Hearing Exhibit 3024). The computer program described in Exhibit 3024 will be used to obtain the monthly precipitation deficit of the year under evaluation for comparison to the baseline year. The precipitation deficit is the difference between the potential evapotranspiration and the amount of precipitation in the root zone. Precipitation deficit is the same as the irrigation water requirement for irrigated crops.

Specifically, the method of computation will be as follows for the 2006 baseline year and 2002 example year:

$$\text{Deficit Volume}_{\text{month}} = (\text{Pdef}_{\text{month}} 2002 - \text{Pdef}_{\text{month}} 2006) * \text{Area}$$

Where:

$\text{Deficit Volume}_{\text{month}}$ = total additional volume of irrigation required for the month if positive (+), or surplus irrigation in the month if negative (-),

$\text{Pdef}_{\text{month}} 2002$ = crop irrigation requirement for month in 2002, weighted for average crop distribution (feet),

$\text{Pdef}_{\text{month}} 2006$ = crop irrigation requirement for month in 2006, weighted for average crop distribution (feet), and

Area=irrigated area of all crops (acres).

$\text{Deficit Volume}_{\text{month}}$ will be added to the 2006 monthly volume to obtain the correct required RISD for the corresponding month in 2002.

USBR Agrimet station data from Rupert and Kimberly will be used, with the Agrimet station closest to the centroid of each irrigation entity used for that entity. Example calculations using preliminary ETIdaho data are still in progress and will be posted on the Department's website when complete.

QUESTION 3: Based on discussions during the Technical Meeting, the protocol for determining the Crop Water Need if the irrigated area is less than 5% of the irrigated acres for the water right has not yet been developed. When the protocol is developed, please describe the draft protocol and provide any associated spreadsheet analyses.

ANSWER 3: The protocol for determining crop water need where acres irrigated are less than 5% less than the irrigated acreage limit of the water right is to be developed on a case-by-case basis given the parameters of the water delivery organization. The unique characteristics of each water delivery system providing water to reduced acreage must be evaluated, resulting in a computation of diversion requirement.

QUESTION 4: Does the Draft Protocol provide for review of the irrigated area data from parties other than the SWC and IDWR?

ANSWER 4: Yes, the analysis conducted to determine any reduction of diversion requirement will be subject to review and comment by other interested parties.

QUESTION 5: IDWR has proposed a procedure to adjust the baseline year diversions (in this case 2006) to account for above normal precipitation. Based on the discussions at the June 1, 2009 Technical Meeting, the adjustment includes determining the effective precipitation and applying a project efficiency. What are the criteria for including this adjustment? For example, is the adjustment made for any amount of precipitation above normal? What project efficiencies are assumed for this adjustment? In addition, please describe the procedure in detail.

ANSWER 5: The standard for this adjustment is the average precipitation for April and May for the period of record at the corresponding USBR Agrimet site for the SWC entity described in response to Question No. 2. The project efficiencies used will be the monthly values derived from 2006 monthly diversions and METRIC ET values, as depicted in the example protocol for Twin Falls Canal Company for the 2002 irrigation season. The baseline RISD is adjusted to reflect normal precipitation in April and May, with later adjustments in the season to reflect actual precipitation received during those two months compared to the baseline year. This protocol is still under development in conjunction with work described in Question 2, and will be provided when complete.

QUESTION 6: A number of SWC members divert water for other entities. For example, Milner Irrigation Company diverts water for the Southwest Irrigation and these diversions are reflected in the Water District 01 diversion records. In establishing the Baseline Demand, will IDWR make adjustments for water diverted by the canal company for other entities and not used to irrigate the canal company lands?

ANSWER 6: Yes. Any natural-flow water rights, storage allocations, and storage rentals assigned to SWC diversions from other entities are adjusted from each SWC diversion to establish a Baseline Demand.

QUESTION 7: Please describe the adjustments made for the Minidoka Credit in the Draft Protocol. In addition, please provide the spreadsheets where any adjustments are made. If the spreadsheets have already been provided, please identify the spreadsheets.

ANSWER 7: The Minidoka Credit adjustment for reasonable carryover is described in Answer No. 2 to IGWA's first set of questions, which were submitted to the Department on May 27, 2009. To further elaborate on Answer No. 2, the Minidoka Credit is considered in three aspects of the Protocol: (1) forecasting of in-season supplies from the joint USBR/USACE April 1 forecast; (2) developing prediction equations for reasonable carryover from historic data; and (3) calculating the reasonable carryover deficit at the end of the season.

In forecasting in-season supplies during the April 1 timeframe, Minidoka Credit water is transferred between the storage supplies. This is shown in column G in the first tab of http://www.idwr.idaho.gov/News/WaterCalls/Surface%20Coalition%20Call/mit_present/XLS/2009SupplyForecast.xls

With respect to determination of the reasonable carryover deficit at the end of the season, the actual carryover for comparison to the reasonable carryover will include the reduction of actual carryover of TFCC and NSCC for the credit, and increase to the actual carryover of the Minidoka project canals. In the 2002 example of the Protocol, the reduction for the credit in TFCC's carryover is already included. The reduction was internally calculated by the water rights' accounting program during that year.

Development of the historic time series used for the regression equations accounts for the carryover as annotated by footnotes describing the ADJUSTMENT column in http://www.idwr.idaho.gov/News/WaterCalls/Surface%20Coalition%20Call/mit_present/XLS/swc-cnls_1959-2008_water_use_summary.xls. As noted in previous answers to IGWA's Question No. 1, some errors are present in this spreadsheet and are being corrected.

QUESTION 8: In response to IGWA's Question 2 dated May 27, 2009, IDWR indicated that "Minidoka Credit and other amounts set by agreements will be handled the same way". Please identify and provide any agreements for which IDWR is making adjustments for calculating eligible carryover.

ANSWER 8: The Minidoka Credit Settlement Agreement, dated February 14, 2006, currently is the only non-Rental Pool lease agreement incorporated into the carryover calculation along with all other Rental Pool lease agreements.

QUESTION 9: Please provide the statistical analysis using Excel software that is referenced in IDWR's Answer 5 to IGWA's May 27, 2009 Questions.

ANSWER 9: The preliminary analyses are included the file titled Carryover Analysis3.zip at this site: http://www.idwr.idaho.gov/News/WaterCalls/Surface%20Coalition%20Call/mit_present/zip/Carryover%20Analysis%203.zip.

QUESTION 10: How will IDWR use any information received from the SWC that distinguishes between primary or supplementary ground water rights serving their lands?

ANSWER 10: For purposes of computing mitigation for the SWC, acres that receive both ground water and SWC water are initially estimated to receive a seventy percent supply from surface water and a thirty percent supply from ground water. Adjustments to this estimate can be applied via information provided by the IDWR Water Management Information System.

QUESTION 11: Please describe any adjustments in the Draft Protocol for leased water for flow augmentation. In addition, please provide all spreadsheets that show this adjustment.

ANSWER 11: The adjustment for rental included the total amount for flow augmentation and agricultural rentals. It did not differentiate as to the purpose of the rentals and leases. This adjustment is combined with all other adjustments under the ADJ heading of the CANAL_ANN_DATA tab in: http://www.idwr.idaho.gov/News/WaterCalls/Surface%20Coalition%20Call/mit_present/XLS/SWC_Carryover_data_1959-2008.xls.

DATED this 11th day of June, 2009.



David R. Tuthill, Jr.
Director

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 11th day of June, 2009, a true and correct copy of the foregoing document was served upon the following by the indicated method:

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