

MEMO

State of Idaho

Department of Water Resources

322 E Front Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 287-4800 Fax: (208) 287-6700

Date: February 25, 2015
To: Gary Spackman, Director
From: Jennifer Sukow, Hydrology Section
Subject: Simulated curtailment junior to July 13, 1962 within Eastern Snake Plain Aquifer area of common groundwater supply

This memorandum presents results extracted from a prior simulation performed using the Enhanced Snake Plain Aquifer Model Version 2.1 (ESPAM2.1). An analysis of the impact of curtailment of groundwater irrigation junior to July 13, 1962 within the Eastern Snake Plain Aquifer (ESPA) area of common groundwater supply was presented previously in Sukow (2013)¹. ESPAM2.1 files for the simulation are available to the public at http://www.idwr.idaho.gov/News/WaterCalls/1000Spring%20Users%20Calls/Archive/Rangen_2013.htm in the file "IDWRModelRuns.zip" dated February 27, 2013.

Table 1 summarizes the predicted increase in spring discharge at the Rangen model cell and Curren Tunnel resulting from curtailment of groundwater irrigation junior to July 13, 1962 within the ESPA area of common groundwater supply. The predicted increase in spring discharge at the Rangen model cell was simulated using ESPAM2.1. The increase in discharge at Curren Tunnel is predicted to be 63% of the increase in spring discharge at the Rangen model cell, based on the linear regression model adopted in previous proceedings.

¹ Sukow, J., 2013, *Staff memorandum in response to expert reports submitted for Rangen Delivery Call (In the Matter of Distribution for Water to Water Right Nos. 36-02551 and 36-07694)*, Idaho Department of Water Resources memorandum dated February 27, 2013.

Time period	Average predicted impact at Rangen model cell (cfs)	Average predicted impact at Curren Tunnel (cfs)
Year 1 (4/2014 – 3/2015)	5.4	3.4
Year 2 (4/2015 – 3/2016)	8.4	5.3
Year 3 (4/2016 – 3/2017)	10.1	6.3
Year 4 (4/2017 – 3/2018)	11.3	7.1
Steady state	16.9	10.7

Table 1. Predicted impact of curtailment on spring discharge.