

# SJRRP Flow Bench Evaluation

March 16, 2010

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Flows below Friant Dam will increase to 800 cfs on March 16, 2010 based on the Restoration Administrator 2010 Interim Flow Recommendations for the San Joaquin River Restoration Program, February 1 through December 1, 2010. The evaluation of the increase is shown below.

As of March 15, 2010, Reclamation personnel have reported the following:

1. Flows are below known conveyance thresholds (8,000 cfs in Reach 2A, 1,300 cfs in Reach 2B, and 1,300 cfs in Reach 3) based on preliminary real-time data.
2. Mendota Pool operations calls did not identify groundwater seepage or flow problems.
3. The seepage hotline received two calls, on March 4<sup>th</sup> regarding R2B-1, and on March 11<sup>th</sup> regarding an airstrip near river mile 238.5. Both site evaluations determined the planned releases could proceed.
4. Real-time groundwater in Reach 2B and 3 has not risen above identified groundwater level thresholds based on preliminary data.
5. Manually monitored groundwater wells do not show groundwater levels above identified thresholds, with the exception of wells R2B-1 and MW-49B. R2B-1 shows a depth below ground surface of 5.58 ft, with groundwater levels stabilizing (buffer 4-6 feet). The groundwater in MW-49B was measured at 5.79 feet below ground surface (buffer 4-6 feet).
6. Measured losses in Reach 2A are around 160 cfs, but have not yet stabilized.
7. Projected groundwater levels from the upcoming increase in flow are below monitoring thresholds except for wells R2B-1, MW-49B, and MW-55B. R2B-1 shows a predicted depth below ground surface of 4.8 ft (buffer 4-6 feet). MW-49B shows a predicted depth of 4.7 feet (buffer 4-6 feet). MW-55B shows a predicted depth of 6.8 feet (buffer 6-8 feet).
8. No problems have been reported from the LSJLD and they were notified of potential increase or continuance in flows and identified no potential issues.
9. No problems have been reported from CCID or SLCC and they were notified of potential increase or continuance in flows and identified no potential issues.

A seepage hotline call was placed on March 4, 2010 regarding well R2B-1 and a site evaluation was conducted with Reclamation, Columbia Canal Company, and Paramount Farms representatives the same day. The evaluation determined that the planned releases could proceed with close monitoring.

Another seepage hotline call was placed on March 11, 2010 regarding an airstrip near river mile 238.5. A site evaluation was conducted on March 15, 2010. Reclamation will install and monitor two temporary piezometers on the site to verify water level observations and estimate the extent of seepage under the orchard. The evaluation determined that planned releases could proceed.

A third seepage hotline call was placed on March 15, 2010 regarding concerns for future seepage impacts at Fort Washington Beach campground. There are no immediate problems – the call identified issues at 1100 cfs and above. Planned 800 cfs release can occur.

Monitoring Well 49B is in Reach 2A, on the river side of the levee. It is currently within the buffer zone and is predicted to rise to 4.7 feet, which is still within its buffer zone of 4-6 feet. Due to the slope of the water table away from the river, and the short root depth of alfalfa, it is unlikely seepage impacts will occur in the adjacent alfalfa field. However, SJRRP will conduct a site investigation to confirm. The groundwater level is not predicted to exceed the top of the buffer zone. Planned releases can occur.

Monitoring Well 55B is at San Mateo Road. Although it is not currently in the buffer zone, a site investigation and evaluation is planned. The groundwater level is not predicted to exceed the top of the buffer zone. Planned releases can occur.

**DATA:**

Depth versus discharge rating curves along with Exhibit B assumptions and an estimated 300 cfs delivery to Arroyo Canal predicted new groundwater levels. Assumed changes in flows are:

	Current Target (cfs)	Future Target (cfs)	Change (cfs)
Reach 2A	375	675	300
Reach 2B	255	555	300
Reach 3 and 4A	555	855	300

Manual measurements via electronic well sounder are taken weekly and provided along with recent flow data in the Weekly Groundwater Report, available at: <http://restoresjr.net/activities/if/index.html>. Table 1-1 shows the anticipated rise in groundwater. Subsequent pages contain the rating curves for each of these key wells from the TetraTech hydraulic model.

Table 1-1: Predicted Increases in Groundwater Level in Key Wells

Well_ID	Site	Buffer Zone (ft bgs)	Screen Depth (ft bgs)	Current GW Depth (ft bgs) as of week of 3/8/2010	Predicted Increase in Stage (ft)	Anticipated New GW Depth (ft)
FA-9	Reach 2A – Transect 12 – Left	4-6	12-32	9.53	0.6325	8.9
MW-47	Reach 2A – Transect 12 – Right	6-8	20-40	8.94	0.6325	8.3
MA-4	Reach 2A – Transect 13 – Right	6-8	15-25	11.92	1.0475	10.9
MW-49B	Reach 2A – Transect 13 – Left	4-6	10-20	5.79	1.0475	4.7
MW-54B	Reach 2B – San Mateo Ave. – Right	TBD	TBD	17.2	1.51	15.7
MW-55B	Reach 2B – San Mateo Ave. – Left	6-8	10-15	8.26	1.51	6.8
R2B-1	Reach 2B – Right	4-6	8-11	5.58	0.814	4.8
R2B-2	Reach 2B – Right	4-6	17-20	12.72	0.814	11.9
R3-1	Reach 3 – Right	4-6	9-24	9.63	0.947	8.7
R3-6	Reach 3 – Right	4-6	17-20	9.12	1.068	8.1
R3-7	Reach 3 – Right	3-5	17-20	7.72	1.158	6.6
MW-84	Reach 4A – Highway 152 – Right	4-6	32-52	36.42	1.0715	35.3
MW-87B	Reach 4A – Highway 152 - Left	4-6	TBD	>14 (dry)	1.0715	12.9 to dry

# SEEPAGE EVALUATION CONCEPTUAL MODEL

















