

RECLAMATION

Managing Water in the West

May 6, 2009

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on May 6, 2009. With the good snow accumulations in March and April things are continuing to look better for the upcoming runoff, and irrigation seasons. If you have any questions or concerns, please call me at (406) 247-7334.

Chuck Heinje
Reservoir and River Operations



U. S. Department of the Interior
Bureau of Reclamation
Montana Area Office
River and Reservoir Operations

SUN RIVER PROJECT OPERATIONS
 Water Supply Forecasts and Reservoir Operations
 May 1, 2009

Elevations & Storages:

<u>Reservoir</u>	<u>Storage</u>	<u>Percent of Normal</u>	<u>Percent of Full</u>
Gibson	72,000	135	75
Willow Creek	29,900	120	94
Pishkun	34,900	86	75

Actual Inflows to Gibson Reservoir (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
(April-July 2008)	530.7	115
(WY 2008)	627.6	102
August	27.5	104
September	19.8	104
October	14.5	77
November	17.5	102
December	13.3	85
January	12.4	90
February	8.7	72
March	10.7	73
April	44.5	111

May 1 Forecast of May-July Inflow (1,000 Acre-Feet):

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
Reclamation	411	94
NRCS	415	95
Average	413.1	94

Mountain Snowpack Conditions:

Based on Mountain Data from NRCS SNOTEL Sites
As of Friday: May 1, 2009

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT			TOTAL PRECIPITATION		
		Current	Average	Avg %	Current	Average	Avg %
SUN, TETON AND MARIAS RIVER BASINS							
BADGER PASS	6900	32.8	36.4	90	35.2	40.8	86
DUPUYER CREEK	5750	10.3	8.1	127	16.8	18.1	93
MOUNT LOCKHART	6400	21.3	21.4	100	29.6	28.3	105
PIKE CREEK	5930	25.1	26.2	96	30.3	35.5	85
WALDRON	5600	10.3	6.7	154	19.7	19.2	103
WOOD CREEK	5960	12.2	8.7	140	20.5	18.0	114
Basin wide percent of average				104	95		

UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 72.0 kaf 4704.25 ft				Maximum Cont Elev 96.5 kaf 4724.02 ft				Minimum Cont Elev 5.0 kaf 4608.95 ft				Total
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Monthly Inflow	kaf	168.2	182.9	62.0	25.4	19.6	19.1	16.7	15.1	13.2	12.0	14.6	39.3	588.1
Spillway Rels	cfs	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Release	kaf	150.2	176.4	100.9	65.3	32.3	8.0	7.9	8.3	8.4	7.6	9.2	15.7	590.2
Total Release	cfs	2443	2965	1641	1062	543	130	133	135	137	137	150	264	
End-Month Content	kaf	90.0	96.5	57.6	17.7	5.0	16.1	24.9	31.7	36.5	40.9	46.3	69.9	
End-Month Elevation	ft	4718.96	4724.02	4690.92	4637.96	4608.95	4634.96	4650.44	4660.80	4667.41	4672.98	4679.21	4702.42	
End-Month Area	acre	1275.0	1296.2	1016.5	542.4	297.4	525.0	613.9	698.2	757.9	825.4	906.6	1131.8	
Net Change Content	kaf	18.0	6.5	-38.9	-39.9	-12.7	11.1	8.8	6.8	4.8	4.4	5.4	23.6	-2.1
Sun River Div Dam														
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Gain Below Gibson	cfs	164	185	60	24	20	20	17	15	13	13	15	40	
Rels to WFC	cfs	39	0	0	0	0	0	0	0	0	0	10	52	
Rels to PSC	cfs	961	1333	1421	670	282	0	0	0	0	0	0	103	
Total Diversion	kaf	61.5	79.3	87.4	41.2	16.8	0.0	0.0	0.0	0.0	0.0	0.6	9.2	296.0
Total Diversion	cfs	1000	1333	1421	670	282	0	0	0	0	0	10	155	
Flow Over Div Dam	kaf	98.8	108.1	17.2	25.6	16.7	9.2	8.9	9.2	9.2	8.3	9.5	8.9	329.6
Flow Over Div Dam	cfs	1607	1817	280	416	281	150	150	150	150	149	155	150	
Min River Rels	kaf	9.2	8.9	6.1	6.1	8.9	9.2	8.9	9.2	9.2	8.3	9.2	8.9	102.1
Min River Rels	cfs	150	150	100	100	150	150	150	150	150	150	150	150	
Willow Crk Operations														
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Native Inflow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Total Inflow	kaf	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.7	5.3
WCR Dam Rels	kaf	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
End-Month Content	kaf	31.9	31.9	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	28.3	31.0	
End-Month Elevation	ft	4142.04	4142.04	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.53	4141.42	
Net Change Content	kaf	2.0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.7	1.1
Pishkun Operations														
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Rels to PSC	kaf	59.1	79.3	87.4	41.2	16.8	0.0	0.0	0.0	0.0	0.0	0.0	6.1	289.9
Total Inflow	kaf	47.3	65.0	74.3	35.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	5.2	241.1
PSH Dam Rels	kaf	35.5	65.0	80.0	40.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	236.0
End-Month Content	kaf	46.7	46.7	41.0	36.0	35.3	35.3	35.3	35.3	35.3	35.3	35.3	40.0	
End-Month Elevation	ft	4370.00	4370.00	4366.14	4362.54	4362.01	4362.01	4362.01	4362.01	4362.01	4362.01	4362.01	4365.44	
Net Change Content	kaf	11.8	0.0	-5.7	-5.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	4.7	5.1
Greenfields Irrig														
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
GID Demand	kaf	35.5	65.0	80.0	40.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	236.0
GID Delivery	kaf	35.5	65.0	80.0	40.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	236.0
River Blw Div Dam														
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	
Flow Over Div Dam	cfs	1607	1817	280	416	281	150	150	150	150	149	155	150	
PSC Return Flow	cfs	153	192	181	91	42	0	0	0	0	0	0	12	
WCR Dam Rels	cfs	0	0	68	0	0	0	0	0	0	0	0	0	
Sr Demand Above	kaf	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2
Sr Demand Below	kaf	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9
Flow @ Ft. Shaw Div	cfs	1657	1808	229	213	266	132	158	163	164	166	179	210	
Ft Shaw Demand	kaf	8.5	9.0	11.0	10.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	46.5
Ft Shaw Tot Deliv	kaf	8.5	9.0	11.0	10.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	46.5
Flow blw Ft. Shaw	cfs	1519	1657	50	50	165	115	158	163	164	166	179	193	

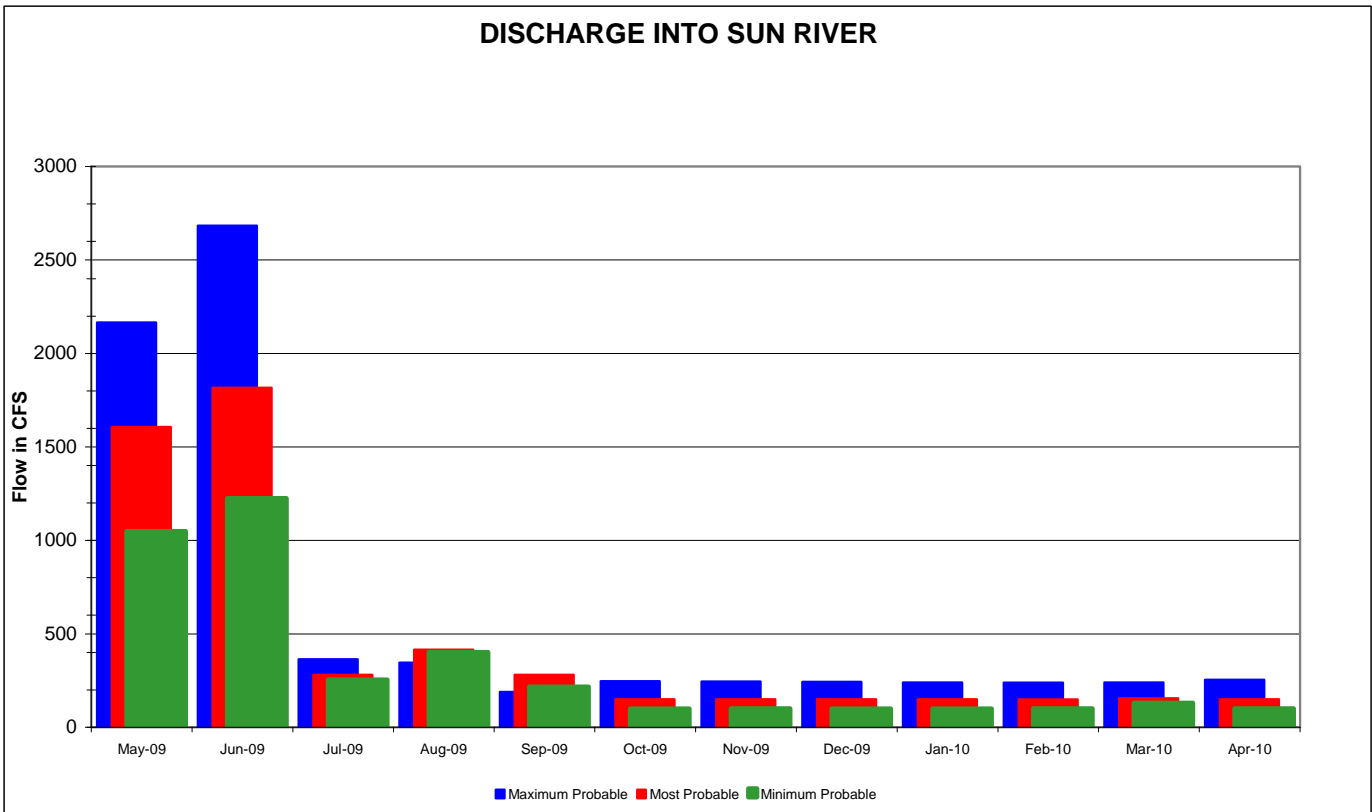
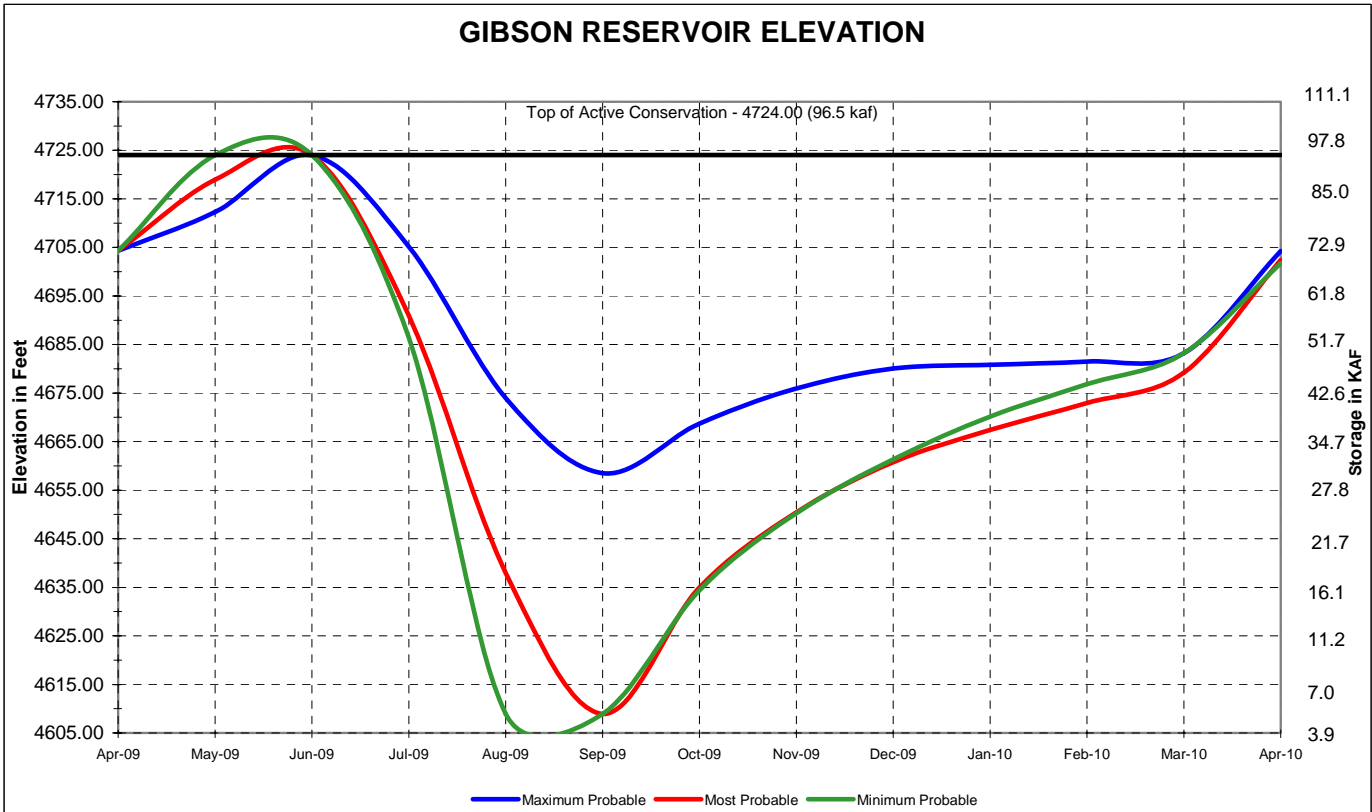
UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 72.0 kaf 4704.25 ft				Maximum Cont Elev 96.5 kaf 4724.02 ft				Minimum Cont Elev 5.0 kaf 4608.95 ft				Total	
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total		
Monthly Inflow	kaf	142.0	143.4	49.8	21.4	16.0	15.9	14.0	12.6	11.9	10.6	13.0	35.0	485.6	
Spillway Rels	cfs	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Release	kaf	117.5	143.4	93.2	69.5	16.0	5.1	5.0	5.3	5.4	5.0	7.2	15.9	488.5	
Total Release	cfs	1911	2410	1516	1130	269	83	84	86	88	90	117	267		
End-Month Content	kaf	96.5	96.5	53.1	5.0	5.0	15.8	24.8	32.1	38.6	44.2	50.0	69.1		
End-Month Elevation	ft	4724.02	4724.02	4686.41	4608.95	4608.95	4634.39	4650.28	4661.37	4670.13	4676.86	4683.20	4701.71		
End-Month Area	acre	1296.2	1296.2	979.3	297.4	297.4	521.4	612.6	702.9	786.1	876.7	949.2	1124.1		
Net Change Content	kaf	24.5	0.0	-43.4	-48.1	0.0	10.8	9.0	7.3	6.5	5.6	5.8	19.1	-2.9	
Sun River Div Dam		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Gain Below Gibson	cfs	138	145	49	21	17	16	17	13	11	11	13	35		
Rels to WFC	cfs	39	0	0	0	54	0	0	0	0	0	0	64		
Rels to PSC	cfs	961	1329	1309	750	15	0	0	0	0	0	0	138		
Total Diversion	kaf	61.5	79.1	80.5	46.1	4.1	0.0	0.0	0.0	0.0	0.0	0.0	12.0	283.3	
Total Diversion	cfs	1000	1329	1309	750	69	0	0	0	0	0	0	202		
Flow Over Div Dam	kaf	64.5	72.9	15.7	24.7	12.9	6.1	6.0	6.1	6.1	5.6	8.0	6.0	234.6	
Flow Over Div Dam	cfs	1049	1225	255	402	217	99	101	99	99	101	130	101		
Min River Rels	kaf	10.5	6.5	6.8	6.1	6.0	6.1	6.0	6.1	6.1	5.6	6.1	6.0	77.9	
Min River Rels	cfs	170	110	110	100	100	100	100	100	100	100	100	100		
Willow Crk Operations		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Native Inflow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	
Total Inflow	kaf	2.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.1	3.3	8.1	
WCR Dam Rels	kaf	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	7.0	
End-Month Content	kaf	31.9	31.9	25.0	25.0	27.7	27.7	27.7	27.7	27.7	27.7	27.7	31.0		
End-Month Elevation	ft	4142.04	4142.04	4137.13	4137.13	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4141.42		
Net Change Content	kaf	2.0	0.0	-6.9	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	3.3	1.1	
Pishkun Operations		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Rels to PSC	kaf	59.1	79.1	80.5	46.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	8.2	273.9	
Total Inflow	kaf	47.3	64.9	68.4	39.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	7.0	227.6	
PSH Dam Rels	kaf	35.5	65.0	80.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	220.5	
End-Month Content	kaf	46.7	46.6	35.0	34.2	35.0	35.0	35.0	35.0	35.0	35.0	35.0	42.0		
End-Month Elevation	ft	4370.00	4369.94	4361.78	4361.17	4361.78	4361.78	4361.78	4361.78	4361.78	4361.78	4361.78	4366.83		
Net Change Content	kaf	11.8	-0.1	-11.6	-0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.1	
Greenfields Irrig		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
GID Demand	kaf	35.5	65.0	80.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	220.5	
GID Delivery	kaf	35.5	65.0	80.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	220.5	
River Blw Div Dam		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Flow Over Div Dam	cfs	1049	1225	255	402	217	99	101	99	99	101	130	101		
PSC Return Flow	cfs	153	192	168	99	0	0	0	0	0	0	0	17		
WCR Dam Rels	cfs	0	0	112	0	0	0	0	0	0	0	2	0		
Sr Demand Above	kaf	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2	
Sr Demand Below	kaf	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9	
Flow @ Ft. Shaw Div	cfs	1099	1217	236	207	160	81	109	112	114	117	156	166		
Ft Shaw Demand	kaf	8.0	8.0	11.4	9.6	6.5	1.0	0.0	0.0	0.0	0.0	0.0	0.7	45.2	
Ft Shaw Tot Deliv	kaf	8.0	8.0	11.4	9.6	6.5	1.0	0.0	0.0	0.0	0.0	0.0	0.7	45.2	
Flow blw Ft. Shaw	cfs	969	1082	50	50	50	65	109	112	114	117	156	155		

UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 72.0 kaf 4704.25 ft				Maximum Cont Elev 96.5 kaf 4724.02 ft				Minimum Cont Elev 5.0 kaf 4608.95 ft				Total	
2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total		
Monthly Inflow	kaf	192.1	239.5	81.4	30.1	21.9	21.3	19.3	17.6	14.6	13.1	15.5	43.5	709.9	
Spillway Rels	cfs	2	0	0	0	0	0	0	0	0	0	0	0	0	
Total Release	kaf	182.5	224.6	104.9	61.4	33.5	13.9	13.4	13.9	13.9	12.5	13.9	21.5	709.9	
Total Release	cfs	2968	3775	1706	999	563	226	225	226	226	225	226	361		
End-Month Content	kaf	81.6	96.5	73.0	41.7	30.1	37.5	43.4	47.1	47.8	48.4	50.0	72.0		
End-Month Elevation	ft	4712.28	4724.02	4705.12	4673.95	4658.48	4668.72	4675.94	4680.09	4680.85	4681.50	4683.20	4704.25		
End-Month Area	acre	1234.5	1296.2	1161.4	838.7	679.2	771.2	865.1	917.4	925.2	931.8	949.2	1151.9		
Net Change Content	kaf	9.6	14.9	-23.5	-31.3	-11.6	7.4	5.9	3.7	0.7	0.6	1.6	22.0	0.0	
Sun River Div Dam		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Gain Below Gibson	cfs	187	242	80	29	22	21	20	18	15	14	15	44		
Rels to WFC	cfs	39	0	0	0	0	0	0	0	0	0	0	64		
Rels to PSC	cfs	951	1333	1421	681	395	0	0	0	0	0	0	87		
Total Diversion	kaf	60.9	79.3	87.4	41.9	23.5	0.0	0.0	0.0	0.0	0.0	0.0	9.0	302.0	
Total Diversion	cfs	990	1333	1421	681	395	0	0	0	0	0	0	151		
Flow Over Div Dam	kaf	133.1	159.7	22.4	21.3	11.3	15.2	14.6	15.0	14.8	13.3	14.8	15.1	450.6	
Flow Over Div Dam	cfs	2165	2684	364	346	190	247	245	244	241	239	241	254		
Min River Rels	kaf	9.2	8.9	9.2	9.2	11.3	11.7	11.3	11.7	11.7	10.6	11.7	11.3	127.8	
Min River Rels	cfs	150	150	150	150	190	190	190	190	190	190	190	190		
Willow Crk Operations		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Native Inflow	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	
Total Inflow	kaf	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.3	5.4	
WCR Dam Rels	kaf	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	4.3	
End-Month Content	kaf	31.9	31.9	31.9	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	31.0		
End-Month Elevation	ft	4142.04	4142.04	4142.04	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4139.10	4141.42		
Net Change Content	kaf	2.0	0.0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	1.1	
Pishkun Operations		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Rels to PSC	kaf	58.5	79.3	87.4	41.9	23.5	0.0	0.0	0.0	0.0	0.0	0.0	5.2	295.8	
Total Inflow	kaf	46.8	65.0	74.3	35.6	20.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	246.1	
PSH Dam Rels	kaf	35.0	65.0	80.0	40.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	241.0	
End-Month Content	kaf	46.7	46.7	41.0	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	40.0		
End-Month Elevation	ft	4370.00	4370.00	4366.14	4362.99	4362.99	4362.99	4362.99	4362.99	4362.99	4362.99	4362.99	4365.44		
Net Change Content	kaf	11.8	0.0	-5.7	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	5.1	
Greenfields Irrig		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
GID Demand	kaf	35.0	65.0	80.0	40.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	241.0	
GID Delivery	kaf	35.0	65.0	80.0	40.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	241.0	
River Blw Div Dam		2009	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Flow Over Div Dam	cfs	2165	2684	364	346	190	247	245	244	241	239	241	254		
PSC Return Flow	cfs	153	192	181	93	59	0	0	0	0	0	0	10		
WCR Dam Rels	cfs	0	0	0	68	0	0	0	0	0	0	2	0		
Sr Demand Above	kaf	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2	
Sr Demand Below	kaf	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9	
Flow @ Ft. Shaw Div	cfs	2215	2675	246	213	192	229	254	257	255	256	267	313		
Ft Shaw Demand	kaf	10.0	10.0	12.0	10.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	52.0	
Ft Shaw Tot Deliv	kaf	10.0	10.0	12.0	10.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	52.0	
Flow blw Ft. Shaw	cfs	2052	2507	50	50	57	213	254	257	255	256	267	296		

GIBSON RESERVOIR



WATER YEAR 2009

Snowpack above Gibson

