

RECLAMATION

Managing Water in the West

January 8, 2009

Dear Customer:

Attached are the monthly water supply outlook and projected reservoir and river operating plans as prepared on January 6, 2009. Keep in mind that forecasts are based on January 1 Snowpack values, and snowpack has increased from 64% to 87 % of average since January 1. We hope you find the information useful. 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
 January 1, 2009

Elevations & Storages:

<u>Reservoir</u>	<u>Storage</u>	<u>Percent of Normal</u>	<u>Percent of Full</u>
Gibson	38,899	101.4	40.3
Willow Creek	27,773	139.7	87.2
Pishkun	35,891	104.6	76.8

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
October	14.5	79
November	17.5	102
December	13.4	89

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

<u>Month</u>	<u>Inflow</u>	<u>Percent of Normal</u>
Reclamation	408	86
NRCS	290	63
Average	349	73

Mountain Snowpack Conditions:

Based on Mountain Data from NRCS SNOTEL Sites
 As of MONDAY: January 1, 2009

BASIN	ELEV.	SNOW	WATER	EQUIVALENT	TOTAL	PRECIPITATION	
Data Site Name	(Ft)	Current	Average	% Avg	Current	Average	% Avg

SUN, TETON AND MARIAS RIVER BASINS

BADGER PASS	6900	9.1	15.2	60	12.1	16.6	73
DUPUYER CREEK	5750	-M	4.4	*	5.0	8.0	62
MOUNT LOCKHART	6400	5.9	9.5	62	10.6	12.2	87
PIKE CREEK	5930	-M	12.0	*	11.1	15.3	73
WALDRON	5600	3.3	5.2	63	7.4	8.6	86
WOOD CREEK	5960	3.6	4.2	86	8.8	8.4	105

Basin wide percent of average

64

80

UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 38.9 kaf 4670.51 ft				Maximum Cont Elev 96.5 kaf 4724.02 ft				Minimum Cont Elev 5.0 kaf 4608.95 ft				Total	
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Monthly Inflow	kaf	11.6	10.3	12.5	33.8	135.3	133.2	46.7	20.3	15.1	15.0	13.3	12.0	459.1	
Spillway Rels	cfs	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Release	kaf	13.5	12.1	13.5	16.5	101.8	121.7	98.1	60.4	15.1	15.0	4.0	4.2	475.9	
Total Release	cfs	220	218	220	277	1656	2045	1595	982	254	244	67	68		
End-Month Content	kaf	37.0	35.2	34.2	51.5	85.0	96.5	45.1	5.0	5.0	5.0	14.3	22.1		
End-Month Elevation	ft	4668.07	4665.67	4664.31	4684.77	4715.01	4724.02	4677.88	4608.95	4608.95	4608.95	4631.46	4645.76		
End-Month Area	acre	764.6	740.3	727.6	965.2	1255.1	1296.2	889.6	297.4	297.4	297.4	503.2	584.4		
Net Change Content	kaf	-1.9	-1.8	-1.0	17.3	33.5	11.5	-51.4	-40.1	0.0	0.0	9.3	7.8	-16.8	

Sun River Div Dam		2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Gain Below Gibson	cfs	11	11	11	34	132	134	46	20	15	15	13	11		
Rels to WFC	cfs	0	0	0	76	10	0	0	0	0	0	0	0		
Rels to PSC	cfs	0	0	0	86	859	1333	1421	571	69	179	0	0		
Total Diversion	kaf	0.0	0.0	0.0	9.6	53.4	79.3	87.4	35.1	4.1	11.0	0.0	0.0	279.9	
Total Diversion	cfs	0	0	0	161	868	1333	1421	571	69	179	0	0		
Flow Over Div Dam	kaf	14.2	12.7	14.2	8.9	56.5	50.4	13.5	26.5	11.9	4.9	4.8	4.9	223.4	
Flow Over Div Dam	cfs	231	229	231	150	919	847	220	431	200	80	81	80		
Min River Rels	kaf	11.1	10.0	11.1	8.9	9.2	8.9	6.8	6.8	6.5	4.9	4.8	4.9	93.9	
Min River Rels	cfs	180	180	180	150	150	150	110	110	110	80	80	80		

Willow Crk Operations		2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Native Inflow	kaf	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Inflow	kaf	0.0	0.0	0.1	3.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
WCR Dam Rels	kaf	0.0	0.0	0.1	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	7.0
End-Month Content	kaf	27.5	27.5	27.5	31.4	31.9	31.9	25.0	25.0	25.0	25.0	25.0	25.0		
End-Month Elevation	ft	4138.95	4138.95	4138.95	4141.69	4142.04	4142.04	4137.13	4137.13	4137.13	4137.13	4137.13	4137.13		
Net Change Content	kaf	0.0	0.0	0.0	3.9	0.5	0.0	-6.9	0.0	0.0	0.0	0.0	0.0	-2.5	

Pishkun Operations		2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Rels to PSC	kaf	0.0	0.0	0.0	5.1	52.8	79.3	87.4	35.1	4.1	11.0	0.0	0.0	274.8	
Total Inflow	kaf	0.0	0.0	0.0	4.3	42.2	65.0	74.3	29.8	3.5	9.3	0.0	0.0	228.4	
PSH Dam Rels	kaf	0.0	0.0	0.0	0.5	35.5	65.0	80.0	39.0	14.0	0.0	0.0	0.0	234.0	
End-Month Content	kaf	36.2	36.2	36.2	40.0	46.7	46.7	41.0	31.8	21.3	30.6	30.6	30.6		
End-Month Elevation	ft	4362.69	4362.69	4362.69	4365.44	4370.00	4370.00	4366.14	4359.23	4348.75	4358.21	4358.21	4358.21		
Net Change Content	kaf	0.0	0.0	0.0	3.8	6.7	0.0	-5.7	-9.2	-10.5	9.3	0.0	0.0	-5.6	

Greenfields Irrig		2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
GID Demand	kaf	0.0	0.0	0.0	0.5	35.5	65.0	80.0	39.0	14.0	0.0	0.0	0.0	234.0	
GID Delivery	kaf	0.0	0.0	0.0	0.5	35.5	65.0	80.0	39.0	14.0	0.0	0.0	0.0	234.0	

River Blw Div Dam		2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Flow Over Div Dam	cfs	231	229	231	150	919	847	220	431	200	80	81	80		
PSC Return Flow	cfs	0	0	0	10	138	192	181	76	8	24	0	0		
WCR Dam Rels	cfs	0	0	2	0	0	0	112	0	0	0	0	0		
Sr Demand Above	kaf	0.0	0.0	0.0	0.0	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0	50.2	
Sr Demand Below	kaf	0.0	0.0	0.0	0.0	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0	24.9	
Flow @ Ft. Shaw Div	cfs	246	245	257	208	955	839	213	213	151	86	89	93		
Ft Shaw Demand	kaf	0.0	0.0	0.0	1.0	8.5	9.0	10.0	10.0	6.0	1.0	0.0	0.0	45.5	
Ft Shaw Tot Deliv	kaf	0.0	0.0	0.0	1.0	8.5	9.0	10.0	10.0	6.0	1.0	0.0	0.0	45.5	
Flow blw Ft. Shaw	cfs	246	245	257	192	816	687	50	50	50	70	89	93		

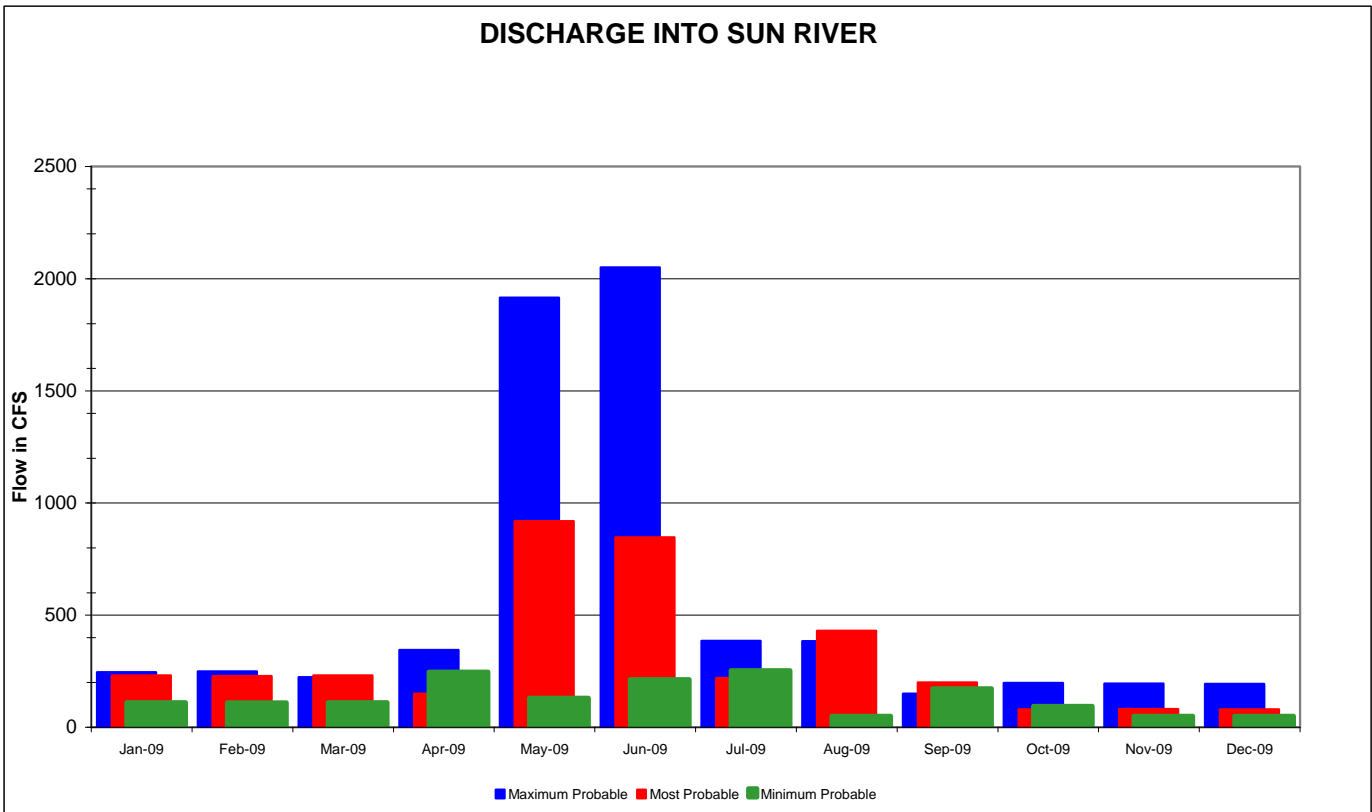
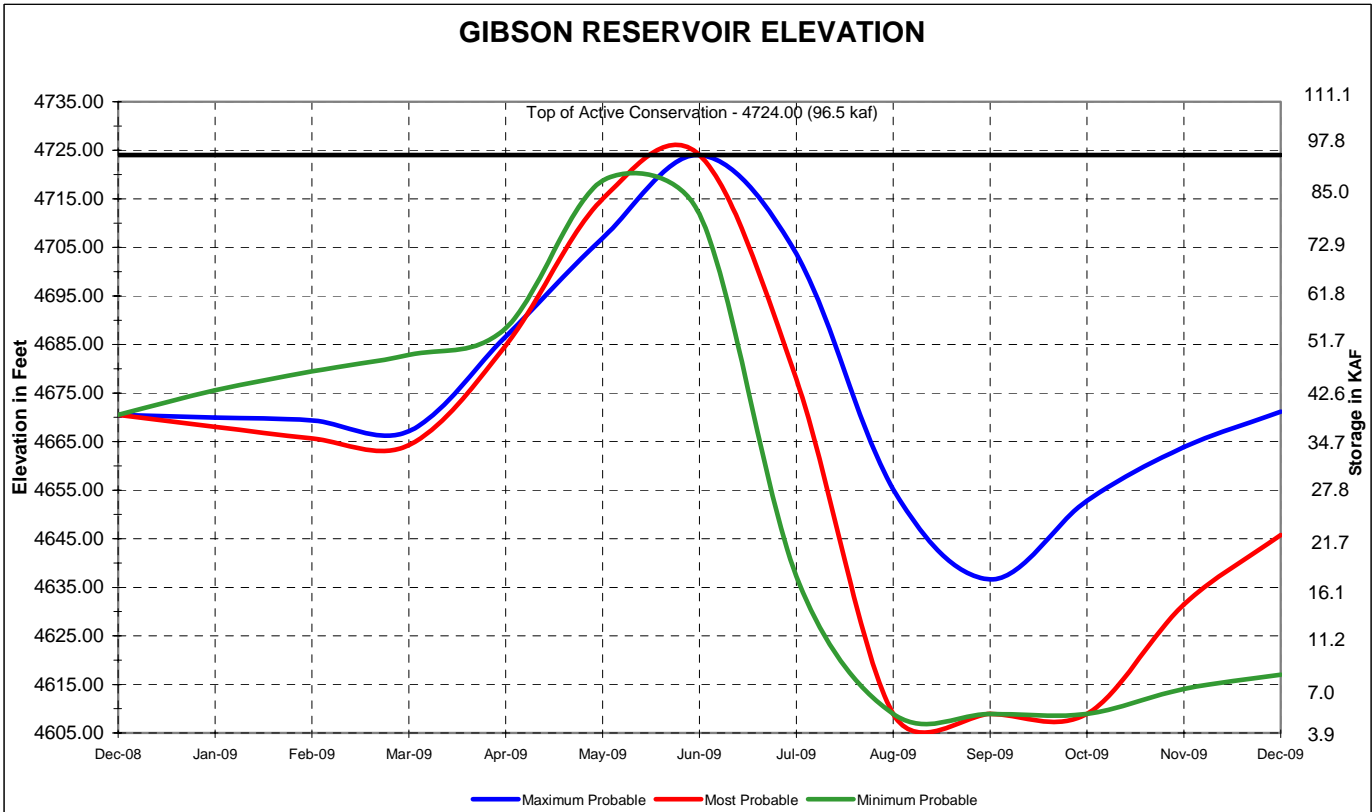
UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 4670.51 ft				Maximum Cont Elev 4724.02 ft				Minimum Cont Elev 4608.95 ft				Total		
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total		
Monthly Inflow	kaf	10.4	9.0	10.9	24.1	91.1	77.5	28.7	13.6	9.6	9.9	8.9	8.2	301.9		
Spillway Rels	cfs	0	0	0	0	0	0	0	0	0	0	0	0			
Total Release	kaf	6.2	5.6	7.7	18.8	56.4	86.1	92.5	25.9	9.6	9.9	7.2	7.1	333.0		
Total Release	cfs	101	101	125	316	917	1447	1504	421	161	161	121	115			
End-Month Content	kaf	43.1	46.5	49.7	55.0	89.7	81.1	17.3	5.0	5.0	5.0	6.7	7.8			
End-Month Elevation	ft	4675.59	4679.44	4682.88	4688.34	4718.73	4711.87	4637.22	4608.95	4608.95	4608.95	4614.09	4616.99			
End-Month Area	acre	860.7	909.3	946.0	995.4	1273.8	1231.5	538.1	297.4	297.4	297.4	363.5	391.2			
Net Change Content	kaf	4.2	3.4	3.2	5.3	34.7	-8.6	-63.8	-12.3	0.0	0.0	1.7	1.1	-31.1		
Sun River Div Dam		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Gain Below Gibson	cfs	10	9	11	30	107	96	59	16	12	11	12	10			
Rels to WFC	cfs	0	0	26	18	36	0	0	0	0	26	76	75			
Rels to PSC	cfs	0	0	0	81	859	1329	1309	387	0	52	7	0			
Total Diversion	kaf	0.0	0.0	1.6	5.9	55.0	79.1	80.5	23.8	0.0	4.8	4.9	4.6	260.2		
Total Diversion	cfs	0	0	26	99	894	1329	1309	387	0	78	82	75			
Flow Over Div Dam	kaf	6.8	6.1	6.8	14.7	8.0	12.7	15.6	3.1	10.3	5.8	3.0	3.1	96.0		
Flow Over Div Dam	cfs	111	110	111	247	130	213	254	50	173	94	50	50			
Min River Rels	kaf	6.8	6.1	6.8	6.5	6.8	6.5	6.8	3.1	3.0	3.1	3.0	3.1	61.6		
Min River Rels	cfs	110	110	110	110	110	110	110	50	50	50	50	50			
Willow Crk Operations		Initial Cont Elev 4139.10 ft				Maximum Cont Elev 4142.04 ft				Minimum Cont Elev 4093.42 ft				Total		
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total		
Native Inflow	kaf	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2		
Total Inflow	kaf	0.0	0.0	1.5	1.0	1.9	0.0	0.0	0.0	0.0	1.4	3.8	3.9	13.5		
WCR Dam Rels	kaf	0.2	0.0	0.0	0.0	0.0	0.0	6.9	23.9	1.0	0.0	0.0	0.0	32.0		
End-Month Content	kaf	27.5	27.5	29.0	30.0	31.9	31.9	25.0	1.1	0.1	1.5	5.3	9.2			
End-Month Elevation	ft	4138.95	4138.95	4140.02	4140.72	4142.04	4142.04	4137.13	4103.14	4093.42	4105.23	4116.15	4122.20			
Net Change Content	kaf	-0.2	0.0	1.5	1.0	1.9	0.0	-6.9	-23.9	-1.0	1.4	3.8	3.9	-18.5		
Pishkun Operations		Initial Cont Elev 4362.47 ft				Maximum Cont Elev 4370.00 ft				Minimum Cont Elev 4341.99 ft				Total		
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total		
Rels to PSC	kaf	0.0	0.0	0.0	4.8	52.8	79.1	80.5	23.8	0.0	3.2	0.4	0.0	244.6		
Total Inflow	kaf	0.0	0.0	0.0	4.1	42.2	64.9	68.4	20.2	0.0	2.7	0.3	0.0	202.8		
PSH Dam Rels	kaf	0.0	0.0	0.0	0.0	35.5	65.0	80.0	39.2	0.0	0.0	0.0	0.0	219.7		
End-Month Content	kaf	35.9	35.9	35.9	40.0	46.7	46.6	35.0	16.0	16.0	18.7	19.0	19.0			
End-Month Elevation	ft	4362.47	4362.47	4362.47	4365.44	4370.00	4369.94	4361.78	4341.99	4341.99	4345.57	4345.95	4345.95			
Net Change Content	kaf	0.0	0.0	0.0	4.1	6.7	-0.1	-11.6	-19.0	0.0	2.7	0.3	0.0	-16.9		
Greenfields Irrig		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
GID Demand	kaf	0.0	0.0	0.0	0.0	35.5	65.0	80.0	40.0	32.0	0.0	0.0	0.0	252.5		
GID Delivery	kaf	0.0	0.0	0.0	0.0	35.5	65.0	80.0	39.2	0.0	0.0	0.0	0.0	219.7		
River Blw Div Dam		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Flow Over Div Dam	cfs	111	110	111	247	130	213	254	50	173	94	50	50			
PSC Return Flow	cfs	0	0	0	10	138	192	168	52	0	7	0	0			
WCR Dam Rels	cfs	3	0	0	0	0	0	112	389	17	0	0	0			
Sr Demand Above	kaf	0.0	0.0	0.0	0.0	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0	50.2		
Sr Demand Below	kaf	0.0	0.0	0.0	0.0	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0	24.9		
Flow @ Ft. Shaw Div	cfs	128	126	135	306	166	205	234	254	133	83	59	63			
Ft Shaw Demand	kaf	0.0	0.0	0.0	0.7	7.1	9.2	11.3	12.5	9.0	2.0	0.0	0.0	51.8		
Ft Shaw Tot Deliv	kaf	0.0	0.0	0.0	0.7	7.1	9.2	11.3	12.5	4.9	2.0	0.0	0.0	47.7		
Flow blw Ft. Shaw	cfs	128	126	135	294	50	50	50	50	50	50	59	63			

UPPER SUN RIVER MONTHLY OPERATIONS

Gibson Reservoir		Initial Cont Elev 4670.51 ft				38.9 kaf 4670.51 ft				Maximum Cont Elev 4724.02 ft				96.5 kaf 4724.02 ft				Minimum Cont Elev 4608.95 ft				5.0 kaf 4608.95 ft				Total
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					Total								
Monthly Inflow	kaf	13.9	12.6	15.1	41.5	180.9	210.1	71.1	27.8	20.9	20.3	18.0	16.4					648.6								
Spillway Rels	cfs	0	0	0	0	0	0	0	0	0	0	0	0					0								
Total Release	kaf	14.3	13.1	16.8	24.5	159.1	188.7	96.2	71.3	31.8	10.9	10.5	10.9					648.1								
Total Release	cfs	233	236	273	412	2588	3171	1565	1160	534	177	176	177													
End-Month Content	kaf	38.5	38.0	36.3	53.3	75.1	96.5	71.4	27.9	17.0	26.4	33.9	39.4													
End-Month Elevation	ft	4670.00	4669.36	4667.14	4686.62	4706.91	4724.02	4703.73	4655.18	4636.66	4652.84	4663.90	4671.14													
End-Month Area	acre	784.3	777.8	755.2	981.0	1181.9	1296.2	1146.2	652.6	534.8	633.6	724.1	800.0													
Net Change Content	kaf	-0.4	-0.5	-1.7	17.0	21.8	21.4	-25.1	-43.5	-10.9	9.4	7.5	5.5					0.5								
Sun River Div Dam		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total										
Gain Below Gibson	cfs	13	14	15	42	176	212	70	28	22	21	18	16													
Rels to WFC	cfs	0	0	65	15	0	0	0	0	0	0	0	0					0								
Rels to PSC	cfs	0	0	0	94	847	1333	1249	803	407	0	0	0					0								
Total Diversion	kaf	0.0	0.0	4.0	6.5	52.1	79.3	76.8	49.4	24.2	0.0	0.0	0.0					292.3								
Total Diversion	cfs	0	0	65	109	847	1333	1249	803	407	0	0	0													
Flow Over Div Dam	kaf	15.1	13.9	13.7	20.5	117.8	122.0	23.7	23.6	8.9	12.2	11.6	11.9					394.9								
Flow Over Div Dam	cfs	246	250	223	345	1916	2050	385	384	150	198	195	194													
Min River Rels	kaf	11.7	10.6	11.7	11.3	9.2	8.9	9.2	9.2	8.9	11.7	11.3	11.7					125.4								
Min River Rels	cfs	190	190	190	190	150	150	150	150	150	190	190	190													
Willow Crk Operations		Initial Cont Elev 4138.95 ft				27.5 kaf 4138.95 ft				Maximum Cont Elev 4142.04 ft				31.9 kaf 4142.04 ft				Minimum Cont Elev 4093.42 ft				0.1 kaf 4093.42 ft				Total
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					Total								
Native Inflow	kaf	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.2								
Total Inflow	kaf	0.0	0.0	3.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					4.4								
WCR Dam Rels	kaf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.3	0.0	0.0	0.0					4.2								
End-Month Content	kaf	27.5	27.5	31.0	31.9	31.9	31.9	31.9	31.0	27.7	27.7	27.7	27.7													
End-Month Elevation	ft	4138.95	4138.95	4141.42	4142.04	4142.04	4142.04	4142.04	4141.42	4139.10	4139.10	4139.10	4139.10													
Net Change Content	kaf	0.0	0.0	3.5	0.9	0.0	0.0	0.0	-0.9	-3.3	0.0	0.0	0.0					0.2								
Pishkun Operations		Initial Cont Elev 4362.69 ft				36.2 kaf 4362.69 ft				Maximum Cont Elev 4370.00 ft				46.7 kaf 4370.00 ft				Minimum Cont Elev 4341.99 ft				16.0 kaf 4341.99 ft				Total
2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					Total								
Rels to PSC	kaf	0.0	0.0	0.0	5.6	52.1	79.3	76.8	49.4	24.2	0.0	0.0	0.0					287.4								
Total Inflow	kaf	0.0	0.0	0.0	4.8	41.7	65.0	65.3	42.0	20.6	0.0	0.0	0.0					239.4								
PSH Dam Rels	kaf	0.0	0.0	0.0	1.0	35.0	65.0	79.0	39.0	20.0	0.0	0.0	0.0					239.0								
End-Month Content	kaf	36.2	36.2	36.2	40.0	46.7	46.7	33.0	36.0	36.6	36.6	36.6	36.6													
End-Month Elevation	ft	4362.69	4362.69	4362.69	4365.44	4370.00	4370.00	4360.21	4362.54	4362.99	4362.99	4362.99	4362.99													
Net Change Content	kaf	0.0	0.0	0.0	3.8	6.7	0.0	-13.7	3.0	0.6	0.0	0.0	0.0					0.4								
Greenfields Irrig		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total										
GID Demand	kaf	0.0	0.0	0.0	1.0	35.0	65.0	79.0	39.0	20.0	0.0	0.0	0.0					239.0								
GID Delivery	kaf	0.0	0.0	0.0	1.0	35.0	65.0	79.0	39.0	20.0	0.0	0.0	0.0					239.0								
River Blw Div Dam		2009		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total										
Flow Over Div Dam	cfs	246	250	223	345	1916	2050	385	384	150	198	195	194													
PSC Return Flow	cfs	0	0	0	10	135	192	159	109	61	0	0	0					0								
WCR Dam Rels	cfs	0	0	0	0	0	0	0	15	55	0	0	0					0								
Sr Demand Above	kaf	0.0	0.0	0.0	0.0	7.7	12.9	13.3	13.3	2.0	1.0	0.0	0.0					50.2								
Sr Demand Below	kaf	0.0	0.0	0.0	0.0	5.5	5.4	5.5	5.5	2.0	1.0	0.0	0.0					24.9								
Flow @ Ft. Shaw Div	cfs	260	266	247	403	1948	2042	246	213	208	181	203	207													
Ft Shaw Demand	kaf	0.0	0.0	0.0	1.0	10.0	10.0	12.0	10.0	8.0	1.0	0.0	0.0					52.0								
Ft Shaw Tot Deliv	kaf	0.0	0.0	0.0	1.0	10.0	10.0	12.0	10.0	8.0	1.0	0.0	0.0					52.0								
Flow blw Ft. Shaw	cfs	260	266	247	387	1786	1874	50	50	74	164	203	207													

GIBSON RESERVOIR



WATER YEAR 2009

Snowpack above Gibson Reservoir

