
TECHNICAL MEMORANDUM

SUBJECT: **Snake/ Salt River Basin Plan**
Task 3D Available Surface Water Determination

PREPARED BY: Meg Frantz, Boyle Engineering Corporation

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Introduction

The purpose of this task is to estimate quantity, timing, and location of surface flows that are available to Wyoming water users for future development. Because of the terms of the Snake River Compact, the analysis is two-pronged. The Snake/Salt River Basin spreadsheet model reveals quantity, location, and timing of available flows as constrained by hydrologic supply and current use within the basin. The spreadsheets represent conditions in the two sub-basins (Snake River and Salt River) under current levels of development for three hydrologic conditions: Dry, Normal, and Wet year water supply. Availability is a function of location, analyzed here at the model “reach” level, and timing, which is analyzed at a monthly level.

Available supply per the spreadsheet model is further subject to compact limitations. The limitation is on basinwide annual use, based on total annual flow at the Idaho state line. As a practical matter, Wyoming’s current post-compact diversions of approximately twenty thousand acre-feet can increase by five to ten times before the compact becomes limiting. However, in some parts of the basin, particularly on the Snake River main stem, the compact is much more limiting than the amount of water unappropriated within Wyoming. Furthermore, availability across the entire basin, once the compact is considered, is much less than the combined available supplies of the Snake and Salt Rivers, as defined by the spreadsheet analysis.

This memorandum describes the two elements of the availability analysis in two sections. Background information on the spreadsheet model can be found in other technical memos prepared for this project:

- “Surface Water Data Collection and Study Period Selection” describes how historical Dry, Normal, and Wet years were determined for the purposes of the spreadsheet
- “Surface Water Data Synthesis and Spreadsheet Model Development” summarizes development of the model

Available Flow (Spreadsheet Model Analysis)

Method

Each basin model is divided into a number of reaches, each composed of several nodes, or water balance points. Reaches are typically defined by gages or confluences, and represent tributary basins

or subsections of the mainstem. An output worksheet in each spreadsheet model summarizes monthly flow at the downstream end of each reach, and provides the basis of this analysis.

In general, simulated flow at the reach terminus indicates how much water is physically present, but it may not fully reflect flow that is available for future appropriation. This apparently “available flow” may already be appropriated to a downstream user, may be satisfying an instream flow right, or may result from reservoir storage water being delivered to specific points of diversion downstream. In short, it is important to acknowledge these existing demands when determining available flow.

To determine how much of the physical supply is actually available to future uses, physical supply at several reaches was first adjusted for the following circumstances:

1. assumed approval of two pending instream flow right applications on Fish Creek, a tributary of the Snake River. The reaches covered by these permits fall within Reach 18 of the Snake River model, and call for 150 cfs of flow;
2. assumed approval of a pending instream flow right application on the Salt River, in model reach 27, for 221 cfs;
3. deliveries of storage water from Jackson Lake to Palisades Reservoir throughout the Snake River mainstem. Differentiating natural flow water from storage water requires a basic understanding of Jackson Lake and Minidoka Project operations, as well as some assumptions about operating conditions during Normal, Dry, and Wet years. The following subsection addresses these topics.

The “available flow” at each point is defined as the minimum of the physical supply value, adjusted to take into account the above-listed instream demands, and “available water” at all downstream reaches. In other words, if adjusted physical supply at the node is the limiting value, then all that water can be removed from the stream without impacting either instream demand at this location, or downstream appropriators. Thus water available for future appropriation must be defined first at the most downstream point, with upstream availability calculated in stream order. These calculations were made on a monthly basis, and annual availability was computed as the sum of monthly available water. Note that calculating annual availability in this way can yield a different value than applying the same logic to annual flows for each reach. The summation of monthly values is more accurate, reflecting constraints of downstream use on a monthly basis.

Jackson Lake operations

Jackson Lake is the most upstream mainstem feature of the U.S. Bureau of Reclamation’s (USBR’s) Minidoka Project, which serves irrigators generally located along the Snake River from the Wyoming border to south central Idaho near Twin Falls. Service areas for all “placeholders” in Jackson Lake are downstream of Palisades Reservoir, the next downstream storage feature. Palisades Reservoir is located at the Idaho state line, just below the downstream limit of the spreadsheet models. The project operates under flexible administration which allows water in storage to be credited to whichever water right has access to it, regardless of where the water is stored. For instance, water generated above Palisades Reservoir can be stored there under the more senior

downstream American Falls Reservoir right at the beginning of the runoff season. If and when American Falls successfully fills physically, the water in Palisades reverts to Palisades' right and ownership. The objective is to keep water as high in the basin as possible, thereby maximizing the ability to distribute the supply and minimizing the risk of spilling water from lower reservoirs when upper reservoirs are unable to fill. As another example, Jackson Lake under normal operations matches winter outflow to inflow in order to maintain flood control capacity in the reservoir as well as minimum fish flows in the river below the dam. When this happens, the "bypass" water is credited to Jackson Lake's storage right even though it is physically stored downstream in Palisades Reservoir. Thus the apparent bypass is actually a delivery of storage water.

Jackson Lake's operational year begins October 1st. Ideally the lake level is drawn down to 6760.95 feet, an elevation that provides 200,000 af of winter flood control space. Under these circumstances, outflows are set to match inflows, which in an average year might be on the order of 400 or 500 cfs. Wyoming has the option, should inflows drop below the minimum streamflow of 280 cfs, to add to the outflows by releasing from storage, provided there is a commensurate amount of water in Wyoming's pool in Palisades Reservoir. The exchange water is reallocated within Palisades Reservoir to Jackson Lake spaceholders. When spring runoff begins, typically in April, storage begins gradually in accordance with flood control criteria covering both Jackson Lake and Palisades. These criteria take into consideration forecasted inflow, downstream flow limitations, and a specified division of the total required space between Jackson Lake and Palisades Reservoir. Target levels are re-computed daily as the hydrograph rises. The objectives are to maintain adequate space in the reservoirs to control runoff while flow is increasing, and complete filling during the receding limb of the hydrograph. Generally, filling is achieved by mid-June. For the remainder of the water year, the Bureau tries to maintain outflows as uniformly as possible to reach elevation 6760.95 by October 1st. In other words, over this period of a normal or wet year, they are moving inflows plus 200,000 af down the river. In a dry year, they will move more storage water and Jackson Lake will be below 6760.95 feet on October 1st. In a normal or above normal year, releases rates are dictated by the need to evacuate for winter and spring flood control; in drier years, the rates may be more influenced by downstream demand.

To estimate the amount of water available to a new appropriator on the Snake River mainstem, certain assumptions were made regarding Normal, Wet, and Dry year operations. These assumptions are extremely general, since in any given year, circumstances are unique. In particular, antecedent conditions bear greatly on annual operations, as a wet year following a dry or normal year is operationally different from a wet year following a wet year. Furthermore, these generalizations are based on historical practice, which has neither required strict administration of the river nor forced resolution of potential conflicts in perspective between Wyoming and USBR. With that in mind, these scenarios were envisioned for each modeled hydrologic condition:

Normal Year

October –March: all flows immediately below Jackson Lake Dam are project deliveries, being counted to Jackson Lake's decree, and cannot be appropriated

April – June: filling at both Jackson Lake and Palisades Reservoir is in accordance with flood control operations; outflows from Jackson Lake are excesses that can't be stored, and any amount above the 280 cfs fishery requirement is available to appropriators

July-September: $200,000/3=66,666$ af/mo of flow below Jackson Lake are project deliveries and cannot be appropriated; the balance is available to appropriators

Wet Year

October-December: all flows immediately below Jackson Lake Dam are project deliveries, but...

January – March: ...as winter progresses it becomes evident that spring flows will be high. Palisades Reservoir no longer stores water coming past Jackson Lake, and it may be appropriated

April-June: outflows from Jackson Lake are excesses that can't be stored, and any amount above 280 cfs is available to appropriators

July – September: $200,000/3=66,666$ af/mo of flow below Jackson Lake are project deliveries and cannot be appropriated; the balance is available to appropriators

Dry Year

October-March: winter outflows from Jackson Lake are project flows, and cannot be appropriated

April-May: flows immediately below Jackson Lake are excesses that can't be stored; runoff ends early and the reservoir may or may not have achieved fill

June – September: approximately $477,000/4\cong 120,000$ af/mo are project deliveries, and the balance can be appropriated. The value 477,000 af is the sum of 200,000 af out of the flood control/irrigation pool, and an additional 277,000 af out of storage. The latter value is the average annual change in storage for four recent dry years (1973, 1977, 1992, 1994).

Results

Tables 1 through **6** summarize available water for the two sub-basins and three hydrologic conditions. The shaded reaches are mainstem reaches. These tables take into account instream flow requirements and Jackson Lake operations as described above, as well as downstream appropriation. For instance, the proposed Salt River instream flow permit is in the most downstream model reach. Even though it has the greatest physical supply, the available supply is limited to flows above 221 cfs (approximately 13,000 af/mo). Table 4 shows that available supply is estimated as 20,904 af in June of a Dry year. The available supply at all upstream nodes is likewise limited to 20,904 af in June; if more water was removed from the river in the upstream reach, the 221 cfs would be violated at the instream flow reach. The available water determination was estimated in a spreadsheet separate from the models themselves.

For comparison, reach outflows on which water availability is based are also included as **Tables 7** through **12**. The latter group of tables comes directly from the models' Outflow Summary by Reach.

Tables 1 through 6 show annual available supply at the most downstream node for each basin as follows:

	Dry Year (af/yr)	Normal Year (af/yr)	Wet Year (af/yr)
Snake River	1,768,960	2,887,630	4,158,807
Salt River	216,249	458,153	694,494

These numbers represent much more water than can actually be developed, because of the Snake River Compact. The next section describes the compact and presents an estimate of the basinwide future development permitted under the compact.

Compact Limitations

The Snake River Compact is summarized in a separate memo completed for this project by Fassett Consulting, *Snake/Salt River Basin Plan Summary of Interstate Compacts and Court Decrees*. Briefly, the compact protects all Wyoming rights that existed on July 1, 1949. It further permits Wyoming to divert, for new development post-1949, 4% of the Wyoming-Idaho State line flow of the Snake River. Domestic and stock uses are exempt from the limitation, and out-of-basin exports are not permitted without Idaho’s permission. Wyoming can develop the first half of the 4% without providing anything additional to Idaho. To develop the second half, however, Wyoming must provide replacement storage space for Idaho’s use to the extent of one third of the second half of the diversions allowed by the Compact. This provision is expected to be addressed by Wyoming’s 33,000 acre-foot pool in Palisades Reservoir, at whatever time Wyoming’s post-compact use exceeds 2% of the Stateline flows. To date, this has not happened.

Historically, Idaho has not required an accounting of Wyoming’s post-1949 use, probably because Wyoming has not come close to encroaching on the “first half” limits of the compact. River administration, from both an interstate and an internal perspective, has generally not required strict accounting of diversions and precisely which rights are exercised. Therefore, there is no historical record to consult to determine post-compact use and remaining allowance.

For this study, an estimate was made of compact limitations on future development under the three hydrologic conditions. This approach is appropriate because the Compact does not refer to rolling average limitations that would permit average limits in years of less-than-average supply. The first step was to estimate the amount of post-compact use during the study period. This was done by assuming that the fraction of post-1949 adjudicated rights among all adjudicated rights also represents the amount of post-compact use among all use. The “post-compact fraction” was determined to be 4 percent in the Salt River basin, and 13 percent in the Snake River basin. Actual basis of the computation was adjudicated acres associated with each right. Post-compact depletions for each hydrologic condition were then calculated as the post-compact fraction multiplied by the depletion modeled in each spreadsheet model. Post-compact depletions on the Greys River were assumed to be negligible, as there has been no significant development in the basin over the last five decades.

Stateline flow was calculated next for each hydrologic condition, as specified in Article III of the compact. Specifically, the quantity of water crossing the State line was computed as the sum of annual flows for USGS gages Snake River above Reservoir near Alpine (13022500), Salt River above Reservoir near Etna (13027500), and Greys River above Reservoir, near Alpine (13023000). Annual change in storage in reservoirs that serve Idaho (i.e., Jackson Lake) was assumed to be zero in Normal and Wet years, and -277,000 acre-feet in Dry years. This number is the average of the historical annual change for water years 1973, 1977, 1992, and 1994. (Values for 1987 and 1988 were not representative because of construction on Jackson Lake Dam.) The sum of the terms gage flow, change in storage, and post-compact depletions, is the amount of water to which 4% is applied in order to determine compact limits.

Once the compact limitation was computed, current post-compact diversions needed to be subtracted from the upper limit in order to estimate the remaining diversion allowance. A factor of 3.0 was used to convert depletions to diversions, based on logic implicit in the compact. The compact specifies that pre-compact flow be computed by adding one-third of the post-compact diversions to the Stateline gage flow; and that Wyoming's replacement duty to Idaho, once the first half of the compact allowance has been used, is one-third of post-compact diversions. These terms indicate that depletion to the river is generally accepted to be one-third of the diversion amount, with the remaining two-thirds of the diversion eventually returning to the stream.

Table 13 summarizes the computations described above. It shows that the remaining allowable surface diversions from the basin are 90,000 af/yr, 155,000 af/yr, and 221,000 af/yr in Dry, Normal, and Wet years respectively.

Conclusion

Surface water availability in the Snake and Salt River basins is a matter of physical supply, availability with respect to others' uses, and basinwide compact limits. In both the Salt and Snake basins, a new appropriation in a tributary basin will be limited by local supply, and without storage, may be severely limited in some months of the year. On the other hand, overall water supply in the basin greatly exceeds current use. On the mainstems of both rivers, and in the larger tributaries of the Snake, the compact is more limiting than physical supply relative to existing demand. There are locations and months in which the entire annual compact allowance could be diverted within one month. Thus the supply available to any given proposed use varies greatly across the basin, and could be impacted by concurrent development of the compact allowance elsewhere in the basin.

Table 1
Available Flow for Snake River Basin and Dry Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	0	0	0	2,705	83,502	59,095	58,458	63,011	0	0	0	0	266,770
2	Pacific Creek near Moran	2,548	2,434	3,041	12,071	43,812	20,873	6,201	3,166	2,704	4,259	3,366	2,828	107,302
3	Snake River below Pacific Creek	3,812	3,650	3,870	16,302	131,888	81,305	67,387	67,708	4,553	5,998	4,851	4,040	395,364
4	Buffalo Fork above Lava Creek	7,409	6,494	7,353	15,560	55,594	77,825	25,091	12,691	9,617	13,226	10,041	8,268	249,169
5	Lava Creek	244	214	242	513	2,113	2,459	743	349	308	436	331	272	8,224
6	Buffalo Fork below Lava Creek	8,012	7,367	10,175	18,902	55,594	106,193	36,420	12,997	10,093	14,711	11,221	9,275	300,962
7	Snake River below Buffalo Fork	11,824	11,017	14,044	35,204	187,482	187,499	103,807	80,704	14,646	20,709	16,073	13,315	696,326
8	Spread Creek	1,057	927	1,049	2,220	8,891	9,752	2,497	917	1,255	1,887	1,433	1,180	33,066
9	Snake River below Spread Creek	17,800	16,678	18,319	43,365	214,177	202,456	116,923	87,579	23,098	29,364	23,284	19,214	812,259
10	Ditch Creek	748	641	666	988	4,613	2,419	607	222	560	985	735	731	13,915
11	Snake River below Ditch Creek	29,446	27,805	26,130	57,514	257,909	215,401	140,255	100,389	39,569	45,339	36,820	30,399	1,006,976
12	Gros Ventre River	10,695	9,421	11,063	15,309	65,475	40,122	13,807	9,138	8,973	15,787	11,883	11,386	223,059
13	Snake River between Gros Ventre and Fish Creek	40,141	37,226	37,193	72,823	310,940	254,774	153,466	109,072	48,518	61,126	48,703	41,785	1,215,767
14	Lake Creek	0	0	0	0	4,781	9,747	3,738	1,417	0	0	0	0	19,682
15	Granite Creek	0	0	0	0	4,781	5,187	1,648	389	0	0	0	0	12,004
16	Lake Creek below Granite Creek	0	0	0	0	4,781	14,255	5,177	1,646	0	0	0	0	25,858
17	Fish Creek	0	0	0	0	646	982	785	441	0	0	0	0	2,854

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	0	0	0	0	4,781	14,255	9,291	1,765	0	0	0	0	30,091
19	Snake River below Fish Creek	42,837	39,632	41,173	77,987	310,940	274,730	160,025	121,126	56,360	67,663	53,387	45,713	1,291,572
20	Spring Creek	193	248	691	663	170	0	0	372	348	861	672	514	4,732
21	Snake River below Spring Creek	44,751	42,505	50,253	86,167	310,940	274,730	160,025	127,904	58,936	78,364	61,899	52,090	1,348,564
22	Flat Creek	540	474	591	563	4,336	4,553	2,246	1,455	1,080	1,045	728	602	18,214
23	Cache Creek	446	383	431	646	1,341	1,093	735	475	402	675	593	532	7,751
24	Flat Creek below Cache Creek	3,242	3,166	3,360	3,997	5,036	4,553	4,125	2,724	2,755	4,054	3,793	3,472	44,278
25	Snake River below Flat Creek	47,993	45,671	53,612	90,165	310,940	274,730	160,025	130,520	61,685	82,418	65,692	55,562	1,379,013
26	Hoback River	11,297	9,417	8,974	26,048	87,413	50,540	20,244	13,510	10,847	14,621	11,757	10,412	275,080
27	Little Granite Creek	322	279	368	1,500	4,935	2,476	1,067	570	408	524	410	369	13,227
28	Granite Creek	2,125	1,781	1,792	5,603	18,868	10,956	4,651	3,010	2,147	2,849	2,280	2,026	58,089
29	Hoback River below Granite Creek	13,422	11,198	10,765	31,651	106,281	61,496	24,896	16,520	12,994	17,471	14,037	12,437	333,168
30	Snake River below Hoback River	63,907	59,831	70,339	133,269	408,526	342,169	192,112	151,226	79,449	107,730	86,484	73,917	1,768,960

Table 2
Available Flow for Snake River Basin and Normal Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	0	0	0	42,162	131,888	204,061	84,674	78,272	55,388	0	0	0	596,444
2	Pacific Creek near Moran	2,686	2,673	3,487	10,715	61,683	74,049	19,878	5,942	4,204	3,839	3,255	3,010	195,422
3	Snake River below Pacific Creek	3,984	3,950	4,420	54,320	196,817	283,046	111,211	87,672	62,565	5,955	4,746	4,614	823,300
4	Buffalo Fork above Lava Creek	7,448	6,732	7,830	13,032	59,337	130,171	82,477	26,195	15,323	13,086	9,992	8,351	379,972
5	Lava Creek	245	222	258	429	1,937	4,207	2,873	801	500	431	329	275	12,508
6	Buffalo Fork below Lava Creek	8,130	7,539	11,538	18,635	85,144	170,867	82,477	27,059	16,459	13,359	10,832	9,362	461,400
7	Snake River below Buffalo Fork	12,115	11,489	15,958	72,956	281,961	453,913	193,688	114,731	79,024	19,313	15,578	13,976	1,284,700
8	Spread Creek	1,063	961	1,117	1,860	8,227	17,512	11,698	2,943	2,127	1,867	1,426	1,192	51,993
9	Snake River below Spread Creek	18,231	17,421	20,704	80,431	302,821	490,635	231,302	131,131	92,724	29,413	22,806	21,410	1,459,031
10	Ditch Creek	748	644	673	1,076	6,064	6,772	2,120	839	919	898	738	737	22,228
11	Snake River below Ditch Creek	30,174	29,080	29,417	93,947	336,558	539,158	289,989	161,210	119,255	48,549	36,397	35,975	1,749,710
12	Gros Ventre River	11,512	10,025	11,768	17,047	84,390	98,646	36,651	16,159	13,025	14,598	12,433	11,271	337,525
13	Snake River between Gros Ventre and Fish Creek	41,686	39,105	41,185	110,994	404,331	637,204	326,011	176,944	132,260	63,147	48,830	47,246	2,068,944
14	Lake Creek	0	0	0	0	3,163	15,080	10,177	2,374	0	0	0	0	30,794
15	Granite Creek	0	0	0	0	3,163	10,209	6,224	1,325	0	0	0	0	20,921
16	Lake Creek below Granite Creek	0	0	0	0	3,163	21,810	16,181	2,374	0	0	0	0	43,527
17	Fish Creek	0	0	0	0	566	1,400	1,211	479	0	0	0	0	3,656

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	0	0	0	0	3,163	21,810	17,903	2,374	0	0	0	0	45,249
19	Snake River below Fish Creek	45,175	42,162	45,895	118,362	404,331	659,592	354,498	188,852	141,081	69,232	53,991	51,077	2,174,247
20	Spring Creek	469	437	898	886	131	307	799	122	225	855	842	450	6,422
21	Snake River below Spring Creek	51,028	47,692	57,889	129,120	404,331	659,592	363,563	191,425	141,306	80,008	64,944	56,509	2,247,406
22	Flat Creek	597	538	570	771	3,830	7,686	6,545	3,302	1,786	945	725	675	27,971
23	Cache Creek	455	408	444	625	1,644	2,736	1,568	977	637	631	550	500	11,175
24	Flat Creek below Cache Creek	3,313	3,206	3,342	3,957	5,316	7,686	6,545	8,678	4,777	3,935	3,673	3,445	57,874
25	Snake River below Flat Creek	54,341	50,899	61,231	133,077	404,331	659,592	369,958	200,002	142,551	83,943	68,617	59,954	2,288,496
26	Hoback River	11,284	9,433	9,621	31,621	113,844	121,631	58,311	24,211	16,015	14,710	11,352	10,578	432,610
27	Little Granite Creek	336	312	431	1,828	7,557	7,478	2,579	1,027	602	533	441	387	23,512
28	Granite Creek	2,135	1,815	1,955	6,809	25,571	26,995	12,229	5,144	3,160	2,872	2,244	2,069	92,997
29	Hoback River below Granite Creek	13,419	11,248	11,576	38,429	139,415	148,626	70,540	29,354	19,175	17,582	13,597	12,647	525,607
30	Snake River below Hoback River	68,639	63,338	78,241	186,363	549,212	802,257	452,941	241,794	172,641	108,635	87,544	76,025	2,887,630

Table 3
Available Flow for Snake River Basin and Wet Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	17,452	22,588	59,682	158,882	235,554	271,196	150,220	104,691	73,363	0	0	0	1,093,627
2	Pacific Creek near Moran	3,039	2,976	3,847	8,237	77,163	132,916	43,183	8,144	5,287	3,883	3,306	3,306	295,286
3	Snake River below Pacific Creek	21,970	26,982	64,520	168,208	315,597	414,148	194,529	117,677	81,921	6,113	4,987	4,789	1,421,442
4	Buffalo Fork above Lava Creek	7,644	6,450	8,163	12,079	68,471	209,157	129,563	39,252	20,895	13,137	10,781	9,064	534,657
5	Lava Creek	252	213	269	398	2,236	6,814	4,181	1,239	693	433	355	299	17,380
6	Buffalo Fork below Lava Creek	8,631	7,970	12,671	16,081	97,037	247,841	167,630	39,252	20,895	13,916	11,063	9,778	652,766
7	Snake River below Buffalo Fork	30,602	34,952	77,191	184,289	412,635	661,990	362,159	156,929	102,817	20,029	16,049	14,566	2,074,207
8	Spread Creek	1,091	920	1,165	1,724	9,505	28,840	17,350	4,794	2,966	1,875	1,539	1,293	73,063
9	Snake River below Spread Creek	37,453	41,393	82,214	190,250	433,350	729,891	383,896	180,568	118,516	30,582	24,130	21,631	2,273,872
10	Ditch Creek	757	654	684	1,146	8,298	10,295	4,152	1,202	1,136	909	748	738	30,718
11	Snake River below Ditch Creek	50,971	54,276	91,446	200,782	466,132	825,970	396,928	222,926	147,838	50,714	39,372	35,154	2,582,509
12	Gros Ventre River	12,507	10,519	12,589	19,456	115,267	147,528	69,706	21,015	15,992	14,911	13,236	12,807	465,532
13	Snake River between Gros Ventre and Fish Creek	63,478	64,795	104,035	220,238	581,141	972,942	466,012	243,502	163,814	65,625	52,608	47,961	3,046,150
14	Lake Creek	0	0	0	0	5,512	25,624	14,540	3,478	859	0	0	0	50,012
15	Granite Creek	0	0	0	0	4,639	16,238	9,019	1,849	859	0	0	0	32,603
16	Lake Creek below Granite Creek	0	0	0	0	5,512	25,624	21,655	4,742	859	0	0	0	58,392
17	Fish Creek	0	0	0	0	678	1,603	1,402	595	489	0	0	0	4,767

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	0	0	0	0	5,512	25,624	21,655	4,742	859	0	0	0	58,392
19	Snake River below Fish Creek	67,997	68,313	109,452	231,611	581,576	1,007,756	502,480	257,298	173,592	72,591	58,493	53,258	3,184,417
20	Spring Creek	764	561	1,126	1,445	173	635	2,534	0	254	929	1,066	959	10,447
21	Snake River below Spring Creek	77,989	75,578	124,677	249,403	581,576	1,010,854	535,061	257,298	173,847	84,168	72,618	65,964	3,309,034
22	Flat Creek	557	471	594	1,230	4,753	10,703	7,165	4,220	2,372	949	781	659	34,455
23	Cache Creek	508	446	476	595	2,188	4,791	2,050	1,282	811	669	577	546	14,940
24	Flat Creek below Cache Creek	3,236	3,095	3,289	4,063	5,960	10,703	7,165	11,375	5,004	3,726	3,542	3,384	64,543
25	Snake River below Flat Creek	81,225	78,674	127,966	253,465	581,576	1,021,425	542,079	259,346	176,207	87,894	76,160	69,349	3,355,366
26	Hoback River	11,415	9,541	10,132	35,372	158,232	181,502	78,499	31,976	18,600	15,082	11,461	11,046	572,859
27	Little Granite Creek	352	318	476	2,066	11,670	15,009	3,499	1,187	707	542	480	429	36,734
28	Granite Creek	2,171	1,838	2,079	7,635	36,582	43,639	16,342	6,556	3,673	2,941	2,298	2,183	127,937
29	Hoback River below Granite Creek	13,587	11,378	12,211	43,008	194,814	225,142	94,841	38,532	22,273	18,023	13,759	13,229	700,796
30	Snake River below Hoback River	96,597	91,073	146,069	304,925	787,383	1,254,196	656,220	314,777	216,648	110,129	94,621	86,169	4,158,807

Table 4
Available Flow for Salt River Basin and Dry Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	334	264	537	1,526	6,623	6,854	3,331	2,460	1,616	811	490	401	25,247
2	Cottonwood Creek near Smoot	1,043	842	836	1,628	3,415	2,408	1,193	1,417	1,331	1,312	1,151	1,088	17,664
3	Salt River below Cottonwood Creek Confluence	1,377	1,106	1,374	3,201	13,365	15,752	8,144	6,493	4,378	2,258	1,641	1,489	60,577
4	Dry Creek near Afton	324	262	260	502	962	0	0	203	380	408	358	338	3,997
5	Salt River below Dry Creek Confluence	1,701	1,368	1,634	3,734	16,514	19,876	10,413	8,376	5,700	2,756	1,999	1,828	75,897
6	Swift Creek near Afton	2,006	1,798	2,012	2,850	6,458	7,275	2,903	2,388	2,395	3,109	2,343	2,290	37,827
7	Salt River below Swift Creek Confluence	3,707	3,166	3,646	6,612	24,991	20,904	11,357	9,052	8,965	5,946	4,342	4,118	106,805
8	Spring Creek (trib to Crow Creek)	826	614	858	1,173	1,112	988	842	825	664	930	921	784	10,536
9	Crow Creek near Fairview	2,529	1,879	2,628	3,595	3,438	3,285	2,768	2,608	2,045	2,848	2,820	2,402	32,844
10	Crow Creek below Spring Creek Confluence	3,355	2,493	3,485	4,801	7,148	8,417	5,718	5,222	3,841	3,890	3,740	3,186	55,298
11	Salt River below Crow Creek Confluence	7,062	5,659	7,132	11,413	28,521	20,904	11,357	9,052	11,235	9,836	8,082	7,304	137,555
12	Stump Creek	1,769	1,314	1,837	2,508	2,248	1,078	1,054	1,449	1,377	1,992	1,972	1,680	20,278
13	Salt River below Stump Creek	8,152	6,794	7,975	13,942	28,521	20,904	11,357	9,052	11,235	11,910	9,956	8,983	148,781
14	Toms Creek	253	188	262	356	282	0	0	114	183	284	282	240	2,444
15	Salt River below Toms Creek	8,152	6,794	7,975	14,364	28,521	20,904	11,357	9,052	11,235	12,381	9,956	9,064	149,754
16	Willow Creek	479	459	449	406	3,276	4,955	2,786	2,398	1,527	605	469	478	18,286
17	Salt River below Willow Creek Confluence	8,152	6,794	7,975	14,786	28,521	20,904	11,357	9,052	11,235	13,032	9,956	9,064	150,826
18	Strawberry Creek near Bedford	3,733	3,584	3,500	2,858	4,312	2,216	2,208	3,341	2,797	3,850	3,658	3,727	39,784

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
19	Salt River below Strawberry Creek Confluence	13,834	11,524	13,846	20,843	28,521	20,904	11,357	9,052	11,235	20,078	16,655	15,304	193,153
20	Cedar Creek	1,039	998	974	796	1,214	911	821	1,012	786	1,072	1,018	1,038	11,680
21	Salt River below Cedar Creek Confluence	13,956	11,524	15,801	24,533	28,521	20,904	11,357	9,052	11,235	24,041	20,425	18,215	209,565
22	Prater Canyon, Green Canyon, and Lee Creek	1,155	1,109	1,083	884	1,364	1,317	1,126	1,210	881	1,191	1,132	1,153	13,605
23	Salt River below Lee Creek Confluence	13,956	11,524	15,801	26,641	28,521	20,904	11,357	9,052	11,235	26,501	22,542	18,215	216,249
24	Birch Creek	484	464	454	370	552	139	182	391	359	499	474	483	4,850
25	Salt River below Birch Creek Confluence	13,956	11,524	15,801	26,641	28,521	20,904	11,357	9,052	11,235	26,501	22,542	18,215	216,249
26	Stewart Creek	1,379	1,324	1,293	1,056	1,628	1,563	1,339	1,442	1,052	1,422	1,352	1,377	16,228
27	Salt River below Stewart Creek Confluence	13,956	11,524	15,801	26,641	28,521	20,904	11,357	9,052	11,235	26,501	22,542	18,215	216,249

Table 5
Available Flow for Salt River Basin and Normal Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	361	310	585	1,789	9,792	15,856	8,696	3,156	1,986	879	524	416	44,352
2	Cottonwood Creek near Smoot	1,030	847	854	1,351	4,918	7,870	4,646	2,208	1,898	1,298	1,152	1,114	29,186
3	Salt River below Cottonwood Creek Confluence	1,391	1,157	1,447	3,165	16,750	33,473	19,833	8,133	5,202	2,376	1,676	1,530	96,134
4	Dry Creek near Afton	320	263	266	420	1,287	1,784	791	368	572	404	358	346	7,180
5	Salt River below Dry Creek Confluence	1,712	1,421	1,717	3,601	19,333	41,571	24,780	10,263	6,645	2,912	2,035	1,876	117,866
6	Swift Creek near Afton	1,960	1,835	2,012	2,446	6,351	13,950	10,824	4,460	3,741	2,901	2,339	2,270	55,090
7	Salt River below Swift Creek Confluence	3,672	3,256	3,733	6,062	26,923	61,439	39,545	16,404	11,186	5,934	4,374	4,147	186,676
8	Spring Creek (trib to Crow Creek)	807	659	867	1,690	3,736	2,237	1,251	1,049	910	875	896	779	15,757
9	Crow Creek near Fairview	2,472	2,018	2,657	5,175	11,525	7,076	4,051	3,319	2,793	2,681	2,743	2,387	48,897
10	Crow Creek below Spring Creek Confluence	3,279	2,677	3,530	6,885	16,566	16,333	9,641	6,155	4,767	3,722	3,639	3,166	80,360
11	Salt River below Crow Creek Confluence	6,951	5,933	7,264	12,948	43,441	77,641	48,683	22,496	15,949	9,655	8,012	7,313	266,287
12	Stump Creek	1,729	1,411	1,858	3,619	7,678	3,904	1,804	1,819	1,925	1,875	1,918	1,669	31,211
13	Salt River below Stump Creek	7,960	6,689	9,126	16,582	51,955	86,361	48,683	25,468	18,645	11,651	9,931	8,734	301,786
14	Toms Creek	247	202	265	517	1,001	297	1	135	268	268	274	238	3,713
15	Salt River below Toms Creek	7,960	6,689	9,401	17,132	55,783	91,501	48,683	27,826	20,739	12,195	9,976	8,734	316,620
16	Willow Creek	475	471	503	479	2,241	8,314	5,353	2,577	1,539	650	468	471	23,542
17	Salt River below Willow Creek Confluence	7,960	6,689	9,907	17,620	58,439	91,501	48,683	27,826	22,706	12,912	9,976	8,734	322,953
18	Strawberry Creek near Bedford	3,707	3,671	3,882	3,580	4,995	6,168	4,537	3,939	3,525	3,787	3,652	3,677	49,121
19	Salt River below Strawberry Creek Confluence	13,713	12,141	15,766	27,053	72,162	91,501	48,683	27,826	27,089	19,576	16,513	14,935	386,957

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20	Cedar Creek	1,032	1,022	1,081	997	1,428	1,948	1,516	1,190	983	1,054	1,017	1,024	14,291
21	Salt River below Cedar Creek Confluence	14,284	12,673	16,183	33,345	81,781	91,501	48,683	27,826	27,089	23,232	20,141	17,844	414,582
22	Prater Canyon, Green Canyon, and Lee Creek	1,147	1,136	1,201	1,108	1,625	2,402	1,947	1,418	1,095	1,172	1,130	1,137	16,518
23	Salt River below Lee Creek Confluence	14,284	12,673	16,183	46,777	106,362	91,501	48,683	27,826	27,089	24,348	21,621	17,844	455,190
24	Birch Creek	480	476	503	464	628	683	460	464	456	491	473	476	6,055
25	Salt River below Birch Creek Confluence	14,284	12,673	16,183	46,777	109,325	91,501	48,683	27,826	27,089	24,348	21,621	17,844	458,153
26	Stewart Creek	1,370	1,356	1,434	1,323	1,939	2,862	2,317	1,690	1,307	1,399	1,349	1,358	19,707
27	Salt River below Stewart Creek Confluence	14,284	12,673	16,183	46,777	109,325	91,501	48,683	27,826	27,089	24,348	21,621	17,844	458,153

Table 6
Available Flow for Salt River Basin and Wet Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	510	375	1,169	3,241	11,833	31,661	13,915	4,256	2,715	1,071	602	529	71,877
2	Cottonwood Creek near Smoot	1,087	847	875	1,559	5,529	11,897	6,169	2,759	2,022	1,522	1,281	1,160	36,706
3	Salt River below Cottonwood Creek Confluence	1,597	1,222	2,577	5,611	19,687	62,036	31,159	10,833	6,573	2,897	1,883	1,690	147,764
4	Dry Creek near Afton	338	263	272	485	1,480	2,954	1,100	512	606	473	398	361	9,242
5	Salt River below Dry Creek Confluence	1,935	1,485	3,203	6,634	22,654	77,085	39,419	13,797	8,394	3,572	2,281	2,050	182,510
6	Swift Creek near Afton	2,032	1,775	2,152	2,577	6,923	20,242	13,621	5,645	4,385	3,363	2,515	2,417	67,650
7	Salt River below Swift Creek Confluence	3,967	3,261	5,680	9,704	30,988	108,547	59,764	21,760	13,894	7,120	4,796	4,468	273,948
8	Spring Creek (trib to Crow Creek)	1,063	812	1,199	2,356	5,744	3,825	1,551	1,110	958	1,061	1,060	947	21,687
9	Crow Creek near Fairview	3,255	2,488	3,673	7,217	17,672	11,965	5,025	3,515	2,943	3,250	3,248	2,902	67,151
10	Crow Creek below Spring Creek Confluence	4,317	3,300	5,314	10,245	24,962	29,914	14,450	7,237	5,387	4,563	4,308	3,849	117,847
11	Salt River below Crow Creek Confluence	8,284	6,218	10,994	19,949	55,903	138,312	69,983	28,928	19,276	11,683	9,105	8,317	386,953
12	Stump Creek	2,276	1,740	2,568	5,047	11,983	7,194	2,226	1,913	2,023	2,272	2,271	2,029	43,542
13	Salt River below Stump Creek	10,560	6,218	13,886	25,489	68,900	155,487	69,983	32,584	22,377	14,140	11,376	10,346	441,348
14	Toms Creek	325	248	367	721	1,617	735	0	137	280	324	324	290	5,368
15	Salt River below Toms Creek	10,708	6,218	14,993	27,333	73,738	160,616	69,983	38,012	25,202	14,886	11,700	10,636	464,025
16	Willow Creek	484	481	971	1,228	2,608	15,607	9,491	3,636	2,012	753	473	477	38,223
17	Salt River below Willow Creek Confluence	10,708	6,218	16,143	28,833	76,916	160,616	69,983	40,609	27,830	15,742	11,836	10,779	476,214
18	Strawberry Creek near Bedford	3,778	3,754	4,126	4,336	5,861	7,491	6,252	4,879	3,832	3,912	3,694	3,724	55,639
19	Salt River below Strawberry Creek Confluence	16,743	12,476	23,131	41,409	97,910	160,616	69,983	40,609	34,032	23,190	19,082	17,574	556,756

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20	Cedar Creek	1,052	1,045	1,149	1,207	1,661	2,362	1,944	1,422	1,067	1,089	1,028	1,037	16,062
21	Salt River below Cedar Creek Confluence	18,443	15,786	26,869	50,070	113,491	160,616	69,983	40,609	36,782	27,479	23,323	21,389	604,841
22	Prater Canyon, Green Canyon, and Lee Creek	1,169	1,161	1,276	1,342	1,875	2,911	2,370	1,646	1,186	1,210	1,143	1,152	18,441
23	Salt River below Lee Creek Confluence	18,443	16,680	28,198	72,108	154,179	160,616	69,983	40,609	36,782	31,369	27,535	23,240	679,743
24	Birch Creek	490	486	535	562	745	831	708	600	497	507	479	483	6,921
25	Salt River below Birch Creek Confluence	18,443	16,680	28,198	73,774	167,264	160,616	69,983	40,609	36,782	31,369	27,535	23,240	694,494
26	Stewart Creek	1,396	1,387	1,524	1,602	2,239	3,467	2,824	1,963	1,416	1,445	1,365	1,376	22,005
27	Salt River below Stewart Creek Confluence	18,443	16,680	28,198	73,774	167,264	160,616	69,983	40,609	36,782	31,369	27,535	23,240	694,494

Table 7
Reach Outflow for Snake River Basin and Dry Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	24,566	20,103	18,384	19,366	100,719	181,340	180,703	185,256	110,266	32,593	22,483	22,823	918,600
2	Pacific Creek near Moran	2,548	2,434	3,041	12,071	43,812	20,873	6,201	3,166	2,704	4,259	3,366	2,828	107,302
3	Snake River below Pacific Creek	28,378	23,753	22,254	32,963	149,105	203,550	189,632	189,953	114,819	38,591	27,334	26,863	1,047,194
4	Buffalo Fork above Lava Creek	7,409	6,494	7,353	15,560	65,060	77,825	25,091	12,691	9,617	13,226	10,041	8,268	258,634
5	Lava Creek	244	214	242	513	2,113	2,459	743	349	308	436	331	272	8,224
6	Buffalo Fork below Lava Creek	8,012	7,367	10,175	18,902	55,594	106,193	36,420	12,997	10,093	14,711	11,221	9,275	300,962
7	Snake River below Buffalo Fork	36,390	31,120	32,429	51,865	204,699	309,744	226,052	202,949	124,912	53,302	38,556	36,138	1,348,156
8	Spread Creek	1,057	927	1,049	2,220	8,891	9,752	2,497	917	1,255	1,887	1,433	1,180	33,066
9	Snake River below Spread Creek	42,366	36,781	36,703	60,026	231,394	324,701	239,168	209,824	133,364	61,956	45,767	42,037	1,464,089
10	Ditch Creek	748	641	666	988	4,613	2,419	607	222	560	985	735	731	13,915
11	Snake River below Ditch Creek	54,012	47,908	44,515	74,175	275,126	337,646	262,500	222,634	149,835	77,932	59,303	53,222	1,658,807
12	Gros Ventre River	10,695	9,421	11,063	15,309	65,475	40,122	13,807	9,138	8,973	15,787	11,883	11,386	223,059
13	Snake River between Gros Ventre and Fish Creek	64,706	57,329	55,578	89,484	340,360	377,019	275,711	231,317	158,784	93,719	71,186	64,608	1,879,800
14	Lake Creek	369	362	394	1,094	6,876	9,747	3,738	1,417	658	664	692	421	26,432
15	Granite Creek	230	205	252	659	4,786	5,187	1,648	389	394	453	436	286	14,924
16	Lake Creek below Granite Creek	599	567	646	1,753	11,578	14,672	5,177	1,646	1,044	1,117	1,128	707	40,633
17	Fish Creek	119	96	119	187	646	982	785	441	368	233	159	141	4,275

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	2,363	1,896	2,352	3,705	14,004	23,181	18,514	10,988	7,419	4,627	3,162	2,790	95,002
19	Snake River below Fish Creek	67,403	59,735	59,558	94,648	354,271	399,911	293,995	243,371	166,626	100,255	75,870	68,536	1,984,178
20	Spring Creek	193	248	691	663	170	0	0	372	348	861	672	514	4,732
21	Snake River below Spring Creek	69,317	62,608	68,637	102,828	354,441	399,911	293,995	250,149	169,201	110,957	84,382	74,913	2,041,339
22	Flat Creek	540	474	591	563	4,336	5,345	2,246	1,455	1,080	1,045	728	602	19,006
23	Cache Creek	446	383	431	646	1,341	1,093	735	475	402	675	593	532	7,751
24	Flat Creek below Cache Creek	3,242	3,166	3,360	3,997	5,036	4,553	4,125	2,724	2,755	4,054	3,793	3,472	44,278
25	Snake River below Flat Creek	72,559	65,774	71,997	106,826	328,157	396,975	282,270	252,765	171,951	115,011	88,175	78,385	2,030,843
26	Hoback River	11,297	9,417	8,974	26,048	87,413	50,540	20,244	13,510	10,847	14,621	11,757	10,412	275,080
27	Little Granite Creek	322	279	368	1,500	4,935	2,476	1,067	570	408	524	410	369	13,227
28	Granite Creek	2,125	1,781	1,792	5,603	18,868	10,956	4,651	3,010	2,147	2,849	2,280	2,026	58,089
29	Hoback River below Granite Creek	13,422	11,198	10,765	31,651	106,281	61,496	24,896	16,520	12,994	17,471	14,037	12,437	333,168
30	Snake River below Hoback River	88,473	79,934	88,723	149,930	425,743	464,414	314,357	273,471	189,714	140,323	108,967	96,740	2,420,790

Table 8
Reach Outflow for Snake River Basin and Normal Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	25,909	24,059	33,578	58,823	149,105	220,722	151,340	144,938	122,054	32,346	25,516	26,292	1,014,682
2	Pacific Creek near Moran	2,686	2,673	3,487	10,715	61,683	74,049	19,878	5,942	4,204	3,839	3,255	3,010	195,422
3	Snake River below Pacific Creek	29,894	28,009	37,998	70,981	214,034	299,707	177,877	154,338	129,231	38,300	30,262	30,906	1,241,538
4	Buffalo Fork above Lava Creek	7,448	6,732	7,830	13,032	59,337	130,171	89,829	26,195	15,323	13,086	9,992	8,351	387,325
5	Lava Creek	245	222	258	429	1,937	4,207	2,873	801	500	431	329	275	12,508
6	Buffalo Fork below Lava Creek	8,130	7,539	11,538	18,635	85,144	170,867	82,477	27,059	16,459	13,359	10,832	9,362	461,400
7	Snake River below Buffalo Fork	38,024	35,548	49,536	89,617	299,178	470,574	260,354	181,397	145,690	51,659	41,094	40,268	1,702,938
8	Spread Creek	1,063	961	1,117	1,860	8,227	17,512	11,698	2,943	2,127	1,867	1,426	1,192	51,993
9	Snake River below Spread Creek	44,140	41,480	54,283	97,092	320,038	507,296	297,968	197,797	159,390	61,759	48,323	47,702	1,877,269
10	Ditch Creek	748	644	673	1,076	6,064	6,772	2,120	839	919	898	738	737	22,228
11	Snake River below Ditch Creek	56,083	53,139	62,995	110,608	353,775	555,819	356,655	227,876	185,921	80,895	61,914	62,268	2,167,948
12	Gros Ventre River	11,512	10,025	11,768	17,047	84,390	98,646	36,651	16,159	13,025	14,598	12,433	11,271	337,525
13	Snake River between Gros Ventre and Fish Creek	67,596	63,164	74,763	127,655	437,932	653,865	392,677	243,610	198,926	95,493	74,347	73,539	2,503,567
14	Lake Creek	439	328	406	844	6,313	15,080	10,177	2,654	1,127	695	590	445	39,100
15	Granite Creek	295	225	282	618	3,792	10,209	6,224	1,325	718	501	456	289	24,935
16	Lake Creek below Granite Creek	734	554	688	1,463	10,023	25,080	16,181	3,831	1,838	1,197	1,046	734	63,367
17	Fish Creek	123	104	129	275	566	1,400	1,211	479	440	210	161	144	5,242

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	2,445	2,069	2,558	5,452	12,386	30,736	27,126	11,597	8,828	4,159	3,199	2,863	113,417
19	Snake River below Fish Creek	71,085	66,221	79,473	135,023	450,228	684,370	421,164	255,518	207,747	101,577	79,508	77,369	2,629,282
20	Spring Creek	469	437	898	886	131	307	799	122	225	855	842	450	6,422
21	Snake River below Spring Creek	76,938	71,751	91,467	145,781	450,359	684,677	430,229	258,091	207,972	112,353	90,460	82,802	2,702,880
22	Flat Creek	597	538	570	771	3,830	12,113	7,681	3,302	1,786	945	725	675	33,534
23	Cache Creek	455	408	444	625	1,644	2,736	1,568	977	637	631	550	500	11,175
24	Flat Creek below Cache Creek	3,313	3,206	3,342	3,957	5,316	7,686	6,545	8,678	4,777	3,935	3,673	3,445	57,874
25	Snake River below Flat Creek	80,250	74,957	94,810	149,738	421,548	676,253	436,624	266,668	209,217	116,289	94,133	86,247	2,706,734
26	Hoback River	11,284	9,433	9,621	31,621	113,844	121,631	58,311	24,211	16,015	14,710	11,352	10,578	432,610
27	Little Granite Creek	336	312	431	1,828	7,557	7,478	2,579	1,027	602	533	441	387	23,512
28	Granite Creek	2,135	1,815	1,955	6,809	25,571	26,995	12,229	5,144	3,160	2,872	2,244	2,069	92,997
29	Hoback River below Granite Creek	13,419	11,248	11,576	38,429	139,415	148,626	70,540	29,354	19,175	17,582	13,597	12,647	525,607
30	Snake River below Hoback River	94,548	87,396	111,819	203,024	566,429	818,918	518,941	307,794	238,641	140,981	113,061	102,318	3,303,870

Table 9
Reach Outflow for Snake River Basin and Wet Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Snake River near Moran	34,669	38,139	76,899	175,543	252,771	287,857	216,886	171,357	140,029	35,029	24,840	28,789	1,482,806
2	Pacific Creek near Moran	3,039	2,976	3,847	8,237	77,163	132,916	43,183	8,144	5,287	3,883	3,306	3,306	295,286
3	Snake River below Pacific Creek	39,187	42,533	81,737	184,869	332,814	430,809	261,195	184,343	148,587	41,141	29,827	33,577	1,810,621
4	Buffalo Fork above Lava Creek	7,644	6,450	8,163	12,079	68,471	209,157	129,563	39,613	21,171	13,137	10,781	9,064	535,294
5	Lava Creek	252	213	269	398	2,236	6,814	4,181	1,239	693	433	355	299	17,380
6	Buffalo Fork below Lava Creek	8,631	7,970	12,671	16,081	97,037	247,841	167,630	39,252	20,895	13,916	11,063	9,778	652,766
7	Snake River below Buffalo Fork	47,819	50,503	94,408	200,950	429,852	678,651	428,825	223,595	169,483	55,057	40,889	43,355	2,463,387
8	Spread Creek	1,091	920	1,165	1,724	9,505	28,840	17,350	4,794	2,966	1,875	1,539	1,293	73,063
9	Snake River below Spread Creek	54,670	56,944	99,431	206,911	450,567	746,552	450,562	247,234	185,182	65,610	48,970	50,420	2,663,051
10	Ditch Creek	757	654	684	1,146	8,298	10,295	4,152	1,202	1,136	909	748	738	30,718
11	Snake River below Ditch Creek	68,188	69,827	108,663	217,443	483,349	842,631	463,594	289,592	214,504	85,743	64,212	63,943	2,971,689
12	Gros Ventre River	12,507	10,519	12,589	19,456	115,267	147,528	69,706	21,015	15,992	14,911	13,236	12,807	465,532
13	Snake River between Gros Ventre and Fish Creek	80,695	80,346	121,252	236,899	598,358	989,603	532,678	310,168	230,480	100,653	77,448	76,749	3,435,329
14	Lake Creek	483	303	477	914	7,333	27,098	14,540	3,478	1,451	947	807	449	58,281
15	Granite Creek	342	228	311	564	4,639	16,238	9,019	1,849	1,016	545	426	322	35,498
16	Lake Creek below Granite Creek	825	532	787	1,478	11,882	43,141	23,340	5,174	2,462	1,492	1,233	771	93,117
17	Fish Creek	137	112	135	413	678	1,603	1,402	595	489	247	169	152	6,132

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18	Fish Creek below Lake Creek	2,728	2,217	2,682	8,201	14,735	34,550	30,878	13,965	9,785	4,901	3,351	3,018	131,011
19	Snake River below Fish Creek	85,214	83,864	126,669	248,272	612,993	1,024,417	569,146	323,964	240,258	107,620	83,333	82,047	3,587,796
20	Spring Creek	764	561	1,126	1,445	173	635	2,534	0	254	929	1,066	959	10,447
21	Snake River below Spring Creek	95,206	91,129	141,894	266,064	613,167	1,027,515	601,727	323,964	240,513	119,197	97,458	94,753	3,712,587
22	Flat Creek	557	471	594	1,230	4,753	20,071	11,292	4,220	2,372	949	781	659	47,950
23	Cache Creek	508	446	476	595	2,188	4,791	2,050	1,282	811	669	577	546	14,940
24	Flat Creek below Cache Creek	3,236	3,095	3,289	4,063	5,960	10,703	7,165	11,375	5,004	3,726	3,542	3,384	64,543
25	Snake River below Flat Creek	98,442	94,225	145,183	270,126	598,793	1,038,086	608,745	326,012	242,873	122,923	101,000	98,137	3,744,545
26	Hoback River	11,415	9,541	10,132	35,372	158,232	181,502	78,499	31,976	18,600	15,082	11,461	11,046	572,859
27	Little Granite Creek	352	318	476	2,066	11,670	15,009	3,499	1,187	707	542	480	429	36,734
28	Granite Creek	2,171	1,838	2,079	7,635	36,582	43,639	16,342	6,556	3,673	2,941	2,298	2,183	127,937
29	Hoback River below Granite Creek	13,587	11,378	12,211	43,008	194,814	225,142	94,841	38,532	22,273	18,023	13,759	13,229	700,796
30	Snake River below Hoback River	113,814	106,624	163,286	321,586	804,600	1,270,857	722,886	381,443	283,314	145,157	119,461	114,957	4,547,986

Table 10
Reach Outflow for Salt River Basin and Dry Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	334.	264.	537.	1526.	6623.	6854.	3331.	2460.	1616.	811.	490.	401.	25247.
2	Cottonwood Creek near Smoot	1043.	842.	836.	1628.	3415.	2408.	1193.	1417.	1331.	1312.	1151.	1088.	17664.
3	Salt River below Cottonwood Creek Confluence	1377.	1106.	1374.	3201.	13365.	15752.	8144.	6493.	4378.	2258.	1641.	1489.	60577.
4	Dry Creek near Afton	324.	262.	260.	502.	962.	0.	0.	203.	380.	408.	358.	338.	3997.
5	Salt River below Dry Creek Confluence	1701.	1368.	1634.	3734.	16514.	19876.	10413.	8376.	5700.	2756.	1999.	1828.	75897.
6	Swift Creek near Afton	2006.	1798.	2012.	2850.	6458.	7275.	2903.	2388.	2395.	3109.	2343.	2290.	37827.
7	Salt River below Swift Creek Confluence	3707.	3166.	3646.	6612.	24991.	31092.	15513.	12353.	8965.	5946.	4342.	4118.	124449.
8	Spring Creek (trib to Crow Creek)	826.	614.	858.	1173.	1112.	988.	842.	825.	664.	930.	921.	784.	10536.
9	Crow Creek near Fairview	2529.	1879.	2628.	3595.	3438.	3285.	2768.	2608.	2045.	2848.	2820.	2402.	32844.
10	Crow Creek below Spring Creek Confluence	3355.	2493.	3485.	4801.	7148.	8417.	5718.	5222.	3841.	3890.	3740.	3186.	55298.
11	Salt River below Crow Creek Confluence	7062.	5659.	7132.	11413.	32120.	39355.	21120.	17528.	12799.	9836.	8082.	7304.	179408.
12	Stump Creek	1769.	1314.	1837.	2508.	2248.	1078.	1054.	1449.	1377.	1992.	1972.	1680.	20278.
13	Salt River below Stump Creek	8830.	6973.	8969.	13942.	36223.	43087.	23443.	20171.	14989.	11910.	10054.	8983.	207574.
14	Toms Creek	253.	188.	262.	356.	282.	0.	0.	114.	183.	284.	282.	240.	2444.
15	Salt River below Toms Creek	9083.	7161.	9231.	14364.	41115.	52080.	28458.	23909.	17155.	12381.	10335.	9223.	234497.
16	Willow Creek	479.	459.	449.	406.	3276.	4955.	2786.	2398.	1527.	605.	469.	478.	18286.
17	Salt River below Willow Creek Confluence	8152.	6794.	7975.	14786.	45408.	56937.	30733.	26634.	19117.	13032.	9956.	9064.	248587.
18	Strawberry Creek near Bedford	3733.	3584.	3500.	2858.	4312.	2216.	2208.	3341.	2797.	3850.	3658.	3727.	39784.
19	Salt River below Strawberry Creek Confluence	13834.	11978.	13846.	20843.	49567.	55908.	30664.	29068.	21834.	20078.	16655.	15304.	299580.

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20	Cedar Creek	1039.	998.	974.	796.	1214.	911.	821.	1012.	786.	1072.	1018.	1038.	11680.
21	Salt River below Cedar Creek Confluence	16637.	14424.	16965.	24533.	50753.	56209.	31057.	29909.	22605.	24041.	20425.	18616.	326175.
22	Prater Canyon, Green Canyon, and Lee Creek	1155.	1109.	1083.	884.	1364.	1317.	1126.	1210.	881.	1191.	1132.	1153.	13605.
23	Salt River below Lee Creek Confluence	22688.	19552.	24003.	33453.	52117.	57526.	32183.	31119.	23486.	33260.	29197.	26084.	384669.
24	Birch Creek	484.	464.	454.	370.	552.	139.	182.	391.	359.	499.	474.	483.	4850.
25	Salt River below Birch Creek Confluence	26166.	22474.	28097.	38736.	40481.	32491.	23607.	21199.	23334.	38667.	34341.	30427.	360021.
26	Stewart Creek	1379.	1324.	1293.	1056.	1628.	1563.	1339.	1442.	1052.	1422.	1352.	1377.	16228.
27	Salt River below Stewart Creek Confluence	27545.	23798.	29390.	39792.	42110.	34055.	24946.	22641.	24386.	40090.	35693.	31804.	376250.

Table 11
Reach Outflow for Salt River Basin and Normal Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	361.	310.	585.	1789.	9792.	15856.	8696.	3156.	1986.	879.	524.	416.	44352.
2	Cottonwood Creek near Smoot	1030.	847.	854.	1351.	4918.	7870.	4646.	2208.	1898.	1298.	1152.	1114.	29186.
3	Salt River below Cottonwood Creek Confluence	1391.	1157.	1447.	3165.	16750.	33473.	19833.	8133.	5202.	2376.	1676.	1530.	96134.
4	Dry Creek near Afton	320.	263.	266.	420.	1287.	1784.	791.	368.	572.	404.	358.	346.	7180.
5	Salt River below Dry Creek Confluence	1712.	1421.	1717.	3601.	19333.	41571.	24780.	10263.	6645.	2912.	2035.	1876.	117866.
6	Swift Creek near Afton	1960.	1835.	2012.	2446.	6351.	13950.	10824.	4460.	3741.	2901.	2339.	2270.	55090.
7	Salt River below Swift Creek Confluence	3672.	3256.	3733.	6062.	26923.	61439.	39545.	16404.	11186.	5934.	4374.	4147.	186676.
8	Spring Creek (trib to Crow Creek)	807.	659.	867.	1690.	3736.	2237.	1251.	1049.	910.	875.	896.	779.	15757.
9	Crow Creek near Fairview	2472.	2018.	2657.	5175.	11525.	7076.	4051.	3319.	2793.	2681.	2743.	2387.	48897.
10	Crow Creek below Spring Creek Confluence	3279.	2677.	3530.	6885.	16566.	16333.	9641.	6155.	4767.	3722.	3639.	3166.	80360.
11	Salt River below Crow Creek Confluence	6951.	5933.	7264.	12948.	43441.	77641.	49056.	22496.	15949.	9655.	8012.	7313.	266660.
12	Stump Creek	1729.	1411.	1858.	3619.	7678.	3904.	1804.	1819.	1925.	1875.	1918.	1669.	31211.
13	Salt River below Stump Creek	8680.	7345.	9126.	16582.	51955.	86361.	53718.	25468.	18645.	11651.	9931.	8982.	308443.
14	Toms Creek	247.	202.	265.	517.	1001.	297.	1.	135.	268.	268.	274.	238.	3713.
15	Salt River below Toms Creek	8927.	7546.	9401.	17132.	55783.	100164.	62715.	29440.	20739.	12195.	10205.	9220.	343468.
16	Willow Creek	475.	471.	503.	479.	2241.	8314.	5353.	2577.	1539.	650.	468.	471.	23542.
17	Salt River below Willow Creek Confluence	7960.	6689.	9907.	17620.	58439.	110075.	68404.	32270.	22706.	12912.	9976.	8734.	365692.
18	Strawberry Creek near Bedford	3707.	3671.	3882.	3580.	4995.	6168.	4537.	3939.	3525.	3787.	3652.	3677.	49121.
19	Salt River below Strawberry Creek Confluence	13713.	12141.	15766.	27053.	72162.	113706.	70150.	35486.	27922.	19576.	16513.	14935.	439122.

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20	Cedar Creek	1032.	1022.	1081.	997.	1428.	1948.	1516.	1190.	983.	1054.	1017.	1024.	14291.
21	Salt River below Cedar Creek Confluence	16596.	14774.	18634.	33345.	81781.	115176.	71141.	36754.	30451.	23232.	20141.	18243.	480267.
22	Prater Canyon, Green Canyon, and Lee Creek	1147.	1136.	1201.	1108.	1625.	2402.	1947.	1418.	1095.	1172.	1130.	1137.	16518.
23	Salt River below Lee Creek Confluence	22881.	20381.	24800.	49153.	106362.	117579.	73088.	38924.	35849.	31629.	28518.	25721.	574885.
24	Birch Creek	480.	476.	503.	464.	628.	683.	460.	464.	456.	491.	473.	476.	6055.
25	Salt River below Birch Creek Confluence	26504.	23591.	28338.	58605.	120975.	101790.	59955.	39724.	38932.	36538.	33422.	30075.	598448.
26	Stewart Creek	1370.	1356.	1434.	1323.	1939.	2862.	2317.	1690.	1307.	1399.	1349.	1358.	19707.
27	Salt River below Stewart Creek Confluence	27873.	24947.	29772.	59928.	122914.	104652.	62272.	41415.	40240.	37937.	34772.	31433.	618154.

Table 12
Reach Outflow for Salt River Basin and Wet Hydrologic Condition
 values in acre-feet

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1	Salt River near Smoot	510.	375.	1169.	3241.	11833.	31661.	13915.	4256.	2715.	1071.	602.	529.	71877.
2	Cottonwood Creek near Smoot	1087.	847.	875.	1559.	5529.	11897.	6169.	2759.	2022.	1522.	1281.	1160.	36706.
3	Salt River below Cottonwood Creek Confluence	1597.	1222.	2577.	5611.	19687.	62036.	31159.	10833.	6573.	2897.	1883.	1690.	147764.
4	Dry Creek near Afton	338.	263.	272.	485.	1480.	2954.	1100.	512.	606.	473.	398.	361.	9242.
5	Salt River below Dry Creek Confluence	1935.	1485.	3203.	6634.	22654.	77085.	39419.	13797.	8394.	3572.	2281.	2050.	182510.
6	Swift Creek near Afton	2032.	1775.	2152.	2577.	6923.	20242.	13621.	5645.	4385.	3363.	2515.	2417.	67650.
7	Salt River below Swift Creek Confluence	3967.	3261.	5680.	9704.	30988.	108547.	59764.	21760.	13894.	7120.	4796.	4468.	273948.
8	Spring Creek (trib to Crow Creek)	1063.	812.	1199.	2356.	5744.	3825.	1551.	1110.	958.	1061.	1060.	947.	21687.
9	Crow Creek near Fairview	3255.	2488.	3673.	7217.	17672.	11965.	5025.	3515.	2943.	3250.	3248.	2902.	67151.
10	Crow Creek below Spring Creek Confluence	4317.	3300.	5314.	10245.	24962.	29914.	14450.	7237.	5387.	4563.	4308.	3849.	117847.
11	Salt River below Crow Creek Confluence	8284.	6561.	10994.	19949.	55903.	138312.	74052.	28928.	19276.	11683.	9105.	8317.	391364.
12	Stump Creek	2276.	1740.	2568.	5047.	11983.	7194.	2226.	1913.	2023.	2272.	2271.	2029.	43542.
13	Salt River below Stump Creek	10560.	8301.	13886.	25489.	68900.	155487.	81644.	32584.	22377.	14140.	11376.	10346.	455091.
14	Toms Creek	325.	248.	367.	721.	1617.	735.	0.	137.	280.	324.	324.	290.	5368.
15	Salt River below Toms Creek	10885.	8549.	14993.	27333.	73738.	181828.	96991.	38012.	25202.	14886.	11700.	10636.	514753.
16	Willow Creek	484.	481.	971.	1228.	2608.	15607.	9491.	3636.	2012.	753.	473.	477.	38223.
17	Salt River below Willow Creek Confluence	10708.	6218.	16143.	28833.	76916.	201627.	108720.	42467.	27830.	15742.	11836.	10779.	557820.
18	Strawberry Creek near Bedford	3778.	3754.	4126.	4336.	5861.	7491.	6252.	4879.	3832.	3912.	3694.	3724.	55639.
19	Salt River below Strawberry Creek Confluence	16743.	12476.	23131.	41409.	97910.	206071.	112735.	47004.	34032.	23190.	19082.	17574.	651357.

Reach	Reach Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20	Cedar Creek	1052.	1045.	1149.	1207.	1661.	2362.	1944.	1422.	1067.	1089.	1028.	1037.	16062.
21	Salt River below Cedar Creek Confluence	19838.	15786.	26869.	50070.	113491.	207860.	114258.	48619.	37243.	27479.	23323.	21389.	706225.
22	Prater Canyon, Green Canyon, and Lee Creek	1169.	1161.	1276.	1342.	1875.	2911.	2370.	1646.	1186.	1210.	1143.	1152.	18441.
23	Salt River below Lee Creek Confluence	26679.	23236.	35333.	72108.	154179.	210770.	116628.	51167.	44381.	37574.	33388.	30255.	835699.
24	Birch Creek	490.	486.	535.	562.	745.	831.	708.	600.	497.	507.	479.	483.	6921.
25	Salt River below Birch Creek Confluence	30636.	27567.	40263.	85323.	178614.	170300.	80749.	52234.	48517.	43513.	39321.	35453.	832490.
26	Stewart Creek	1396.	1387.	1524.	1602.	2239.	3467.	2824.	1963.	1416.	1445.	1365.	1376.	22005.
27	Salt River below Stewart Creek Confluence	32032.	28954.	41787.	86925.	180853.	173767.	83572.	54198.	49933.	44958.	40686.	36829.	854495.

Table 13
Summary of Compact Limits to Surface Water Development
 Values in acre-feet

Sub-basin	Gage flow	Depletions	Post-compact fraction	Post-compact depletions	ΔStorage for Idaho use	Subject to Compact allocation
DRY YEAR						
Snake	2,420,790	41,607	0.1300	5,409	-277,000	2,149,199
Salt	376,250	54,547	0.0400	2,182	0	378,432
Greys	288,336	0	N/a	0	0	288,336
Total subject to allocation:						2,815,967
Allowable diversions (4%):						112,639
Current post-compact diversions (depletion x 3):						22,772
Remaining allowance:						89,866
NORMAL YEAR						
Snake	3,303,870	37,789	0.13	4,913	0	3,308,783
Salt	618,154	58,502	0.04	2,340	0	620,494
Greys	478,225	0	N/a	0	0	478,225
Total subject to allocation::						4,407,501
Allowable diversions (4%):						176,300
Current post-compact diversions (depletion x 3):						21,758
Remaining allowance						154,542
WET YEAR						
Snake	4,547,986	37,664	0.13	4,896	0	4,552,882
Salt	854,495	61,015	0.04	2,441	0	856,936
Greys	671,481	0	N/a	0	0	671,481
Total subject to allocation:						6,081,299
Allowable diversions (4%):						243,252
Current post-compact diversions (depletion x 3):						22,011
Remaining allowance:						221,241

