

February 2004



Baker Project
Boise Project
Burnt River Project
Little Wood River Project
Mann Creek Project
Michaud Flats Project
Minidoka Project
Owyhee Project
Palisades Project
Ririe Project
Vale Project

Operations Description for Bureau of Reclamation Projects in the Snake River Basin above Brownlee Reservoir

Appendices



U.S. Department of the Interior
Bureau of Reclamation

Pacific Northwest Region
Boise, Idaho

Snake River Area
Boise, Idaho

On the cover: "Map Rock" is a petroglyph-covered boulder located on private property just north of the Snake River in southwest Idaho. The carvings are credited to the Shoshone Indians and are estimated to have been made between the period 3000 and 1500 B.C.E. (before common era).

Early 20th-century Idaho explorer and naturalist Robert W. Limbert interpreted the map literally, believing the glyph depicted the entire Snake River and Columbia River region. A contemporary noted as "an Indian expert," John E. Rees of Salmon, Idaho, believed the map represented the Snake River region in Idaho. However, "...contemporary rock art experts believe some of the petroglyphs are maps, but the actual number is quite small. ...[M]ost archaeologists agree that the uncanny arrangement of these designs to seemingly represent topographic features makes Map Rock significant."

(Text adapted from "Map Rock, Culture Resources Information Series, Number 3," Fall 2001, Boise District, Bureau of Land Management; photo by Barry Rose, BLM Lower Snake River District, April 2001.)

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APPENDIX A.

LOCATION MAP OF

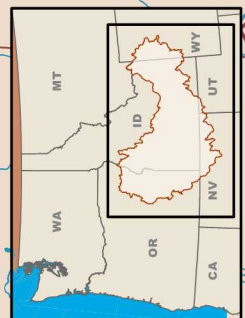
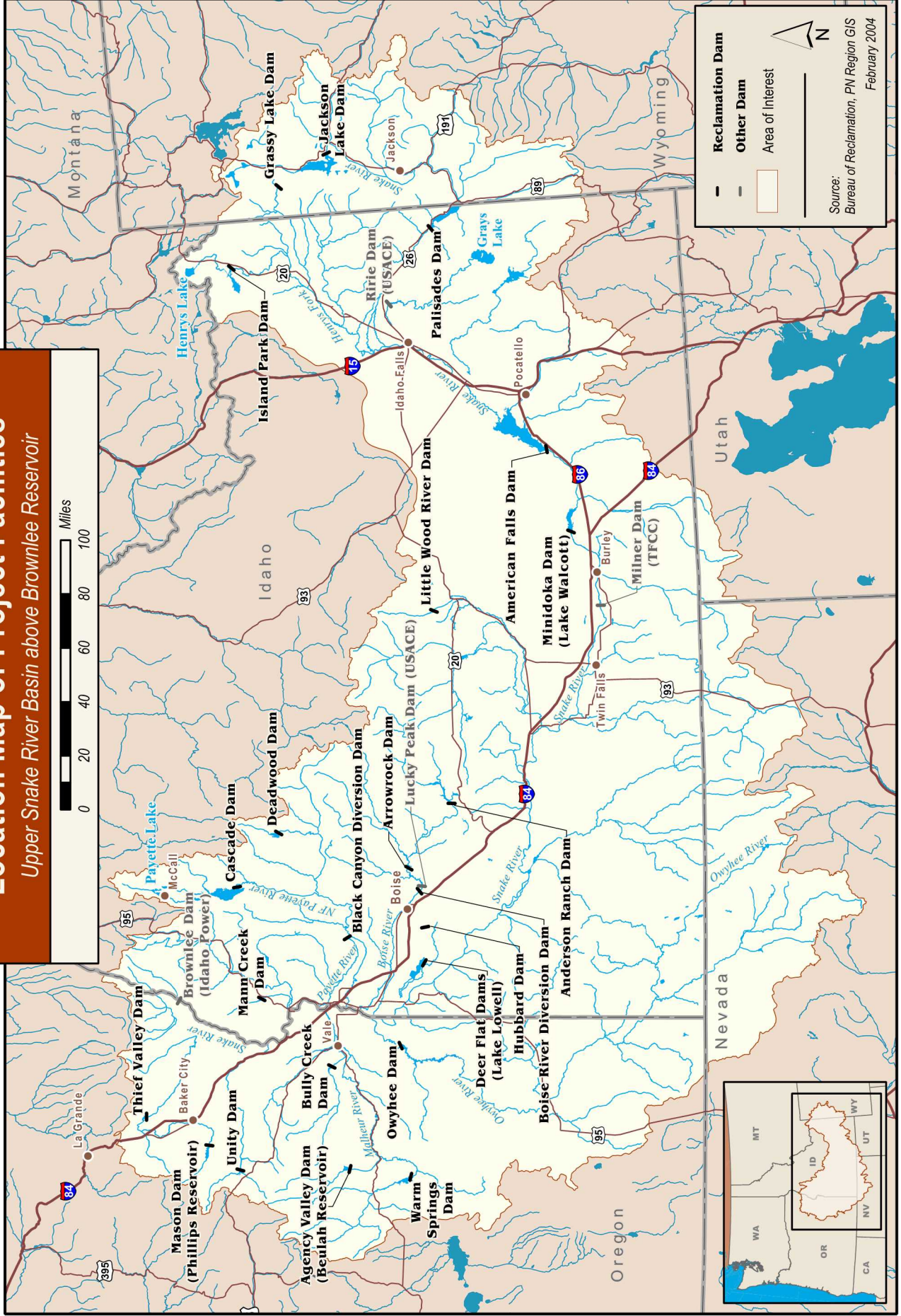
PROJECT FACILITIES:

UPPER SNAKE RIVER BASIN

ABOVE BROWNLEE RESERVOIR

Location Map of Project Facilities

Upper Snake River Basin above Brownlee Reservoir



—

Reclamation Dam

—

Other Dam

□

Area of Interest

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Source:
Bureau of Reclamation, PN Region GIS
February 2004

APPENDIX B.

**PHOTOGRAPHS OF FACILITIES,
GRAPHS OF STORAGE AND OUTFLOW,
AND SUMMARY HYDROGRAPHS**

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EXPLANATION OF GRAPHS

Typical storage and outflows for dry, average, and wet years:

These graphs depict the historical daily operations for specific years that fall into the categories of “dry,” “average,” and “wet” conditions. The year chosen for each category serves as a generalized example of the operations that may be typical in such a year but does not represent the entire range of possible operations. Operations in any given year will differ based on carryover conditions from the prior year, spatial distribution of the water supply, special operating requests, and other unforeseen factors.

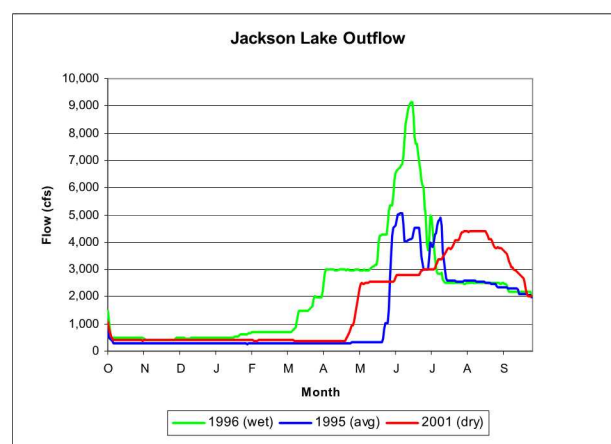
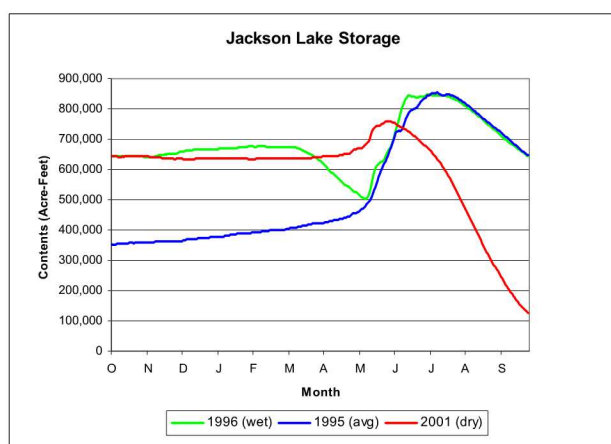
Summary hydrographs of maximum, median, and minimum storage and outflows by month:

These graphs depict the entire range of operations that have occurred for the listed period of record. Data for each day of the water year, for each year of the period of record, were examined and the maximum, median, and minimum values were plotted. For example, all of the October 1 readings for the period 1971-2003 (33 separate values) were ranked, and the maximum, minimum, and median values were plotted. October 2 values were similarly processed, then October 3, etc., until the entire water year was analyzed. It is important to note, therefore, that the plots do not represent a single water year, but rather they are a composite of the records for each individual day. The period 1971-2003 was chosen, where possible, to most accurately reflect modern operations of the fully developed Upper Snake system, while still closely corresponding with the official 1971-2000 period of record.

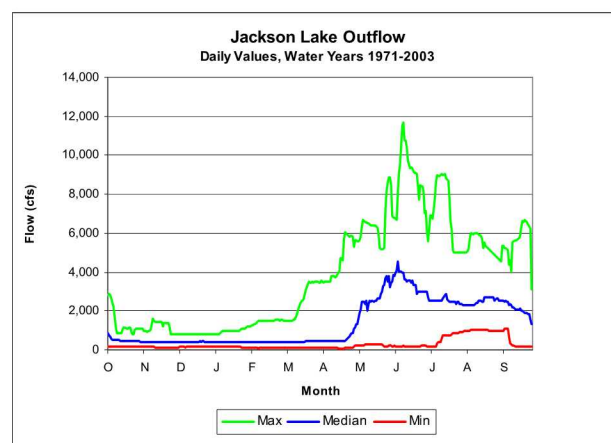
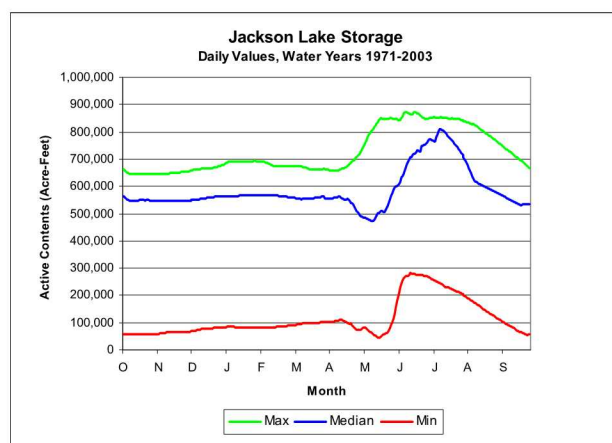
Jackson Lake Dam and Jackson Lake – Minidoka Project, ID-WY



Typical storage and outflows for dry, average, and wet years



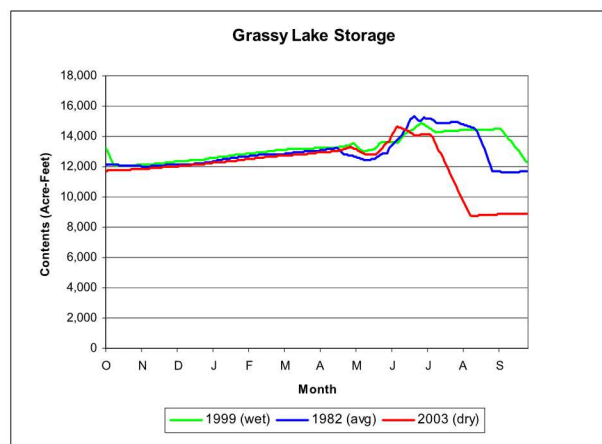
Summary hydrographs of maximum, median, and minimum storage and outflows by month



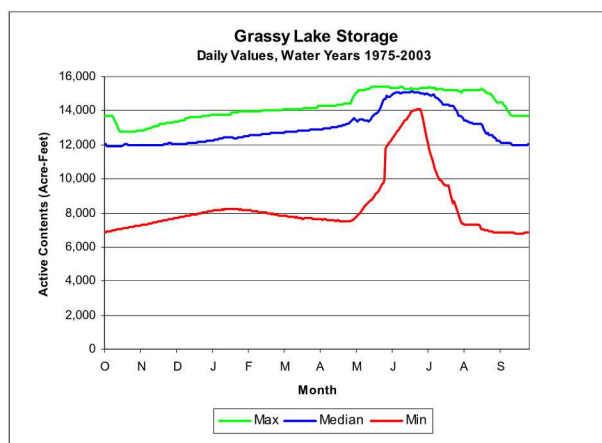
Grassy Lake Dam and Grassy Lake – Minidoka Project, ID-WY



Typical storage for dry, average, and wet years



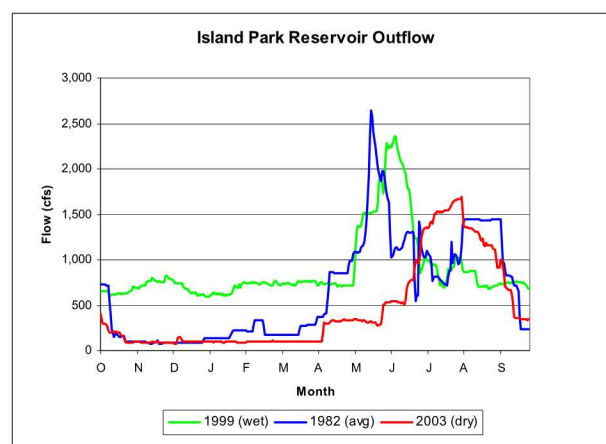
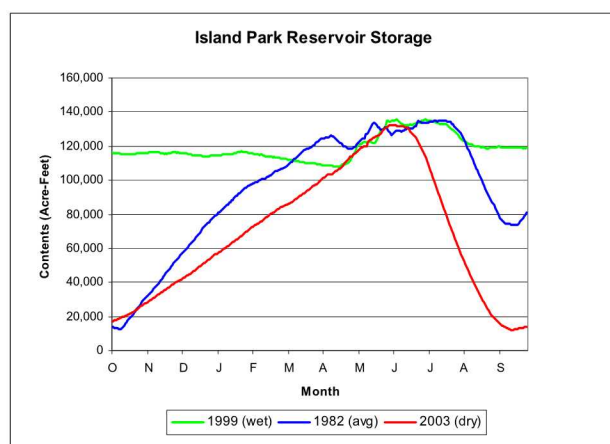
Summary hydrographs of maximum, median, and minimum storage by month



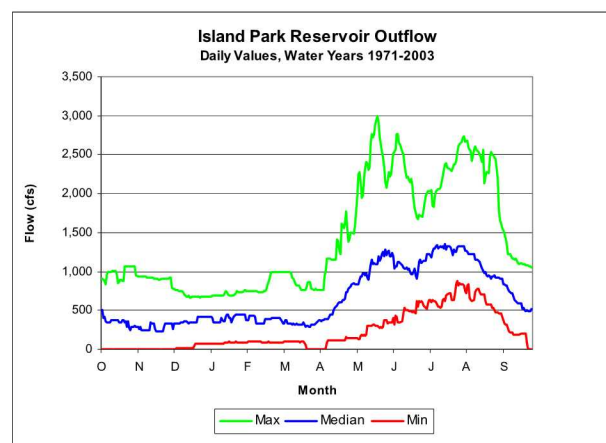
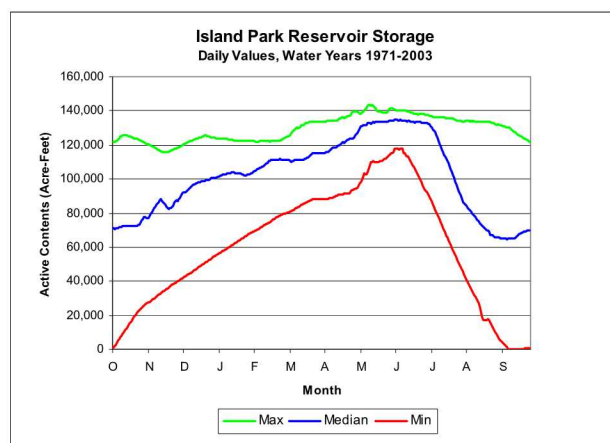
Island Park Dam and Reservoir – Minidoka Project, ID-WY



Typical storage and outflows for dry, average, and wet years



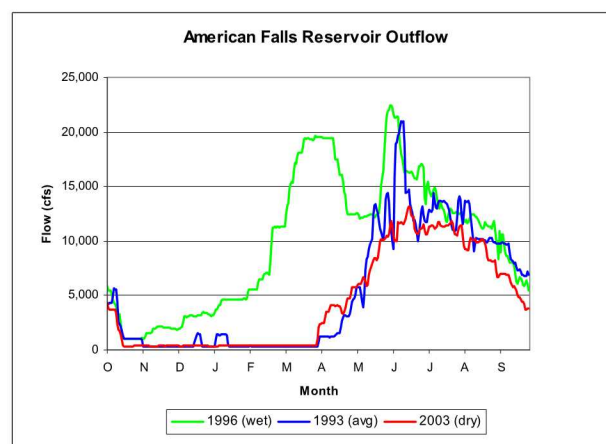
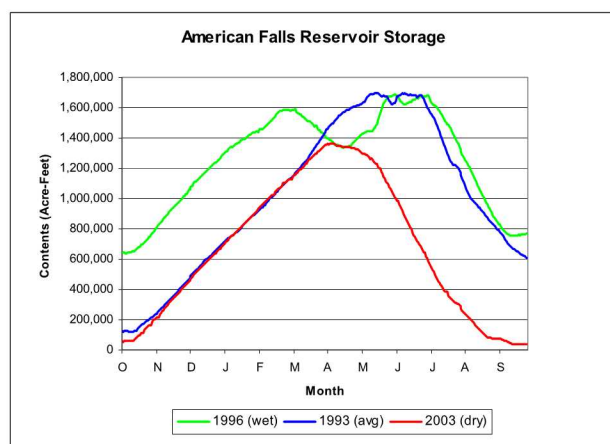
Summary hydrographs of maximum, median, and minimum storage and outflows by month



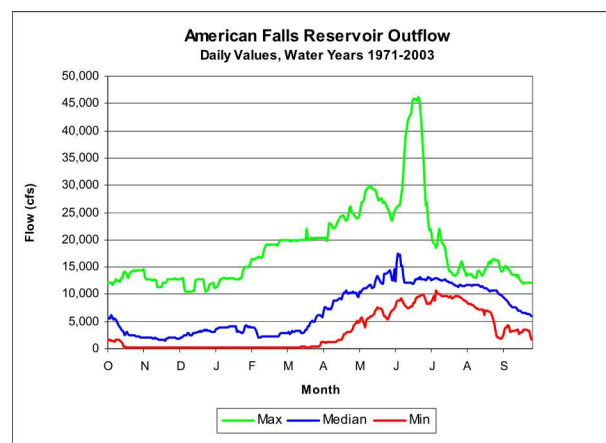
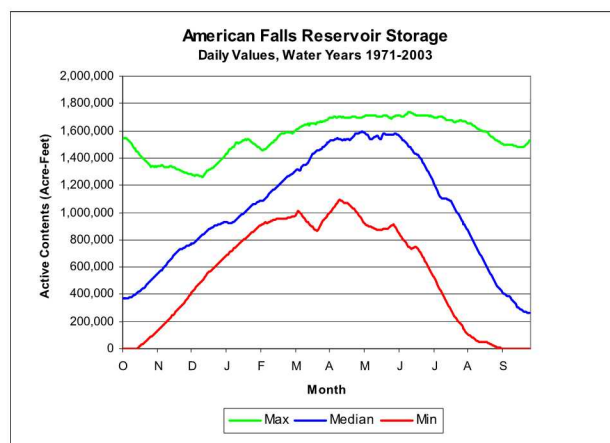
American Falls Dam and Reservoir – Minidoka Project, ID-WY



Typical storage and outflows for dry, average, and wet years



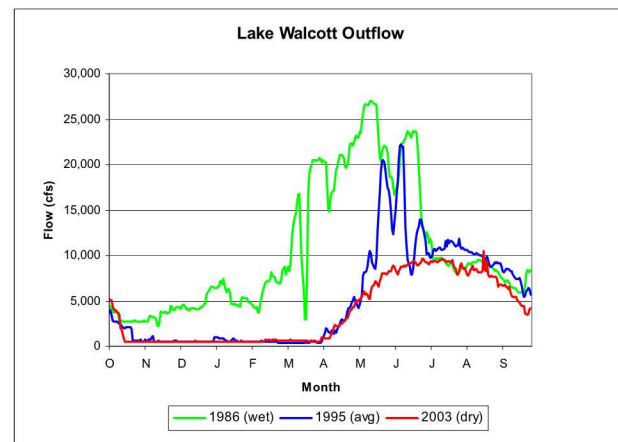
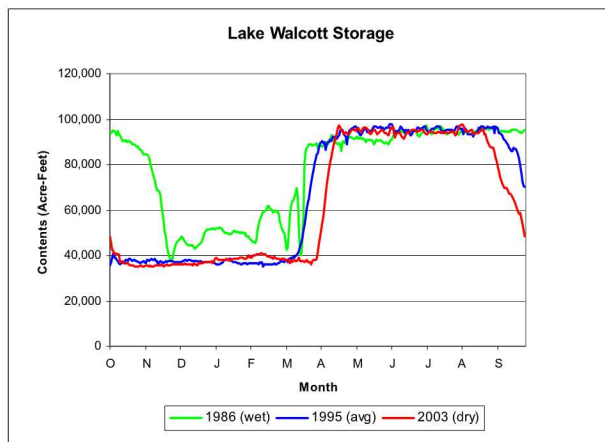
Summary hydrographs of maximum, median, and minimum storage and outflows by month



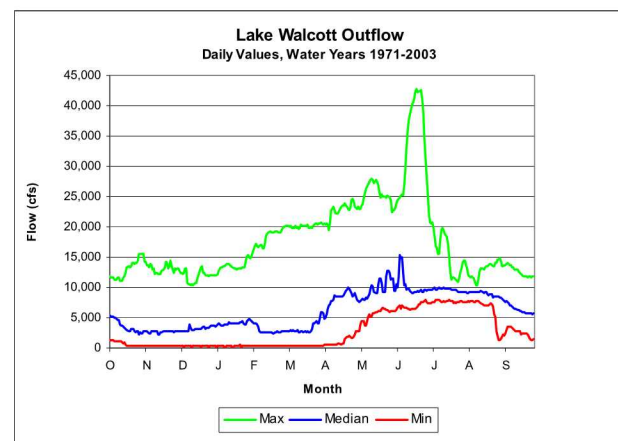
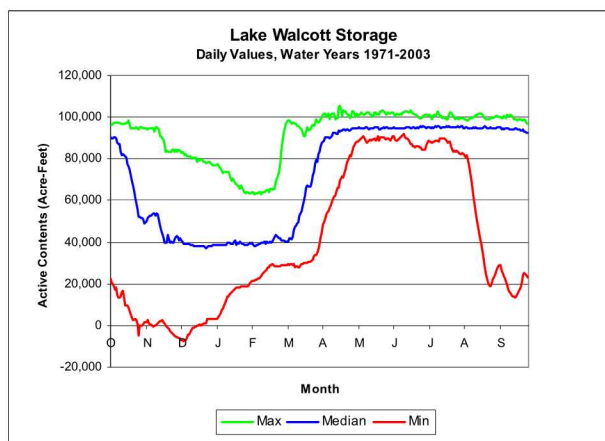
Minidoka Dam and Lake Walcott – Minidoka Project, ID-WY



Typical storage and outflows for dry, average, and wet years



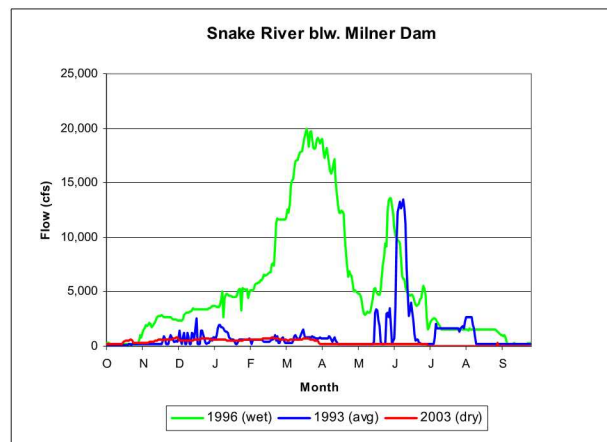
Summary hydrographs of maximum, median, and minimum storage and outflows by month



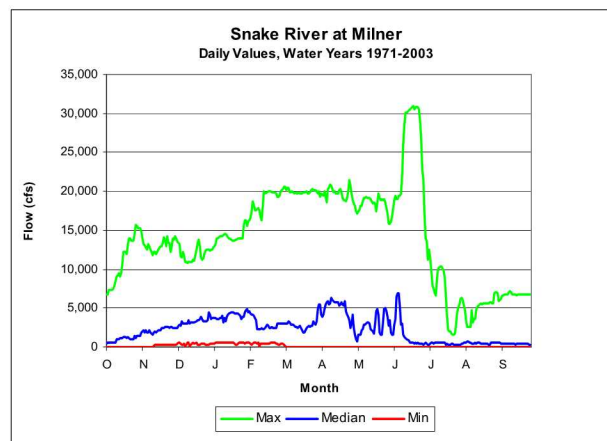
Milner Dam and Pool (Private) – Minidoka Project, ID-WY



Typical outflows for dry, average, and wet years



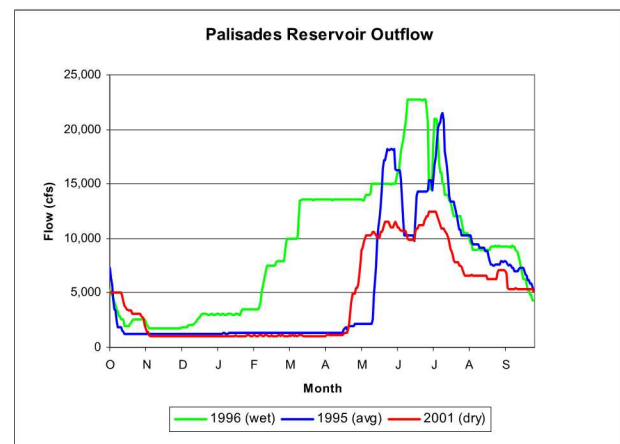
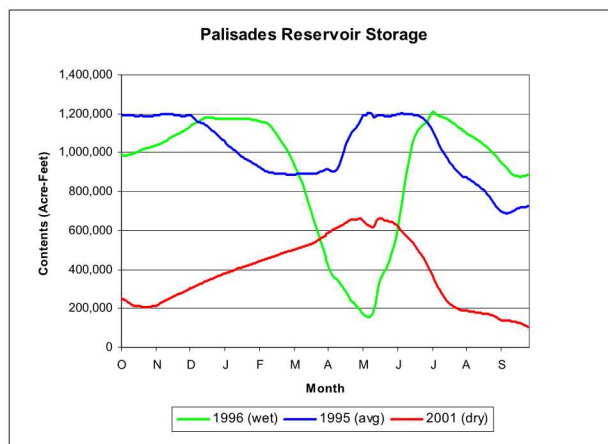
Summary hydrographs of maximum, median, and minimum outflows by month



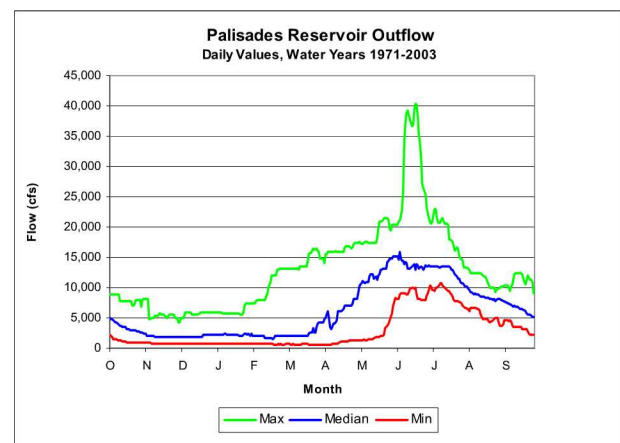
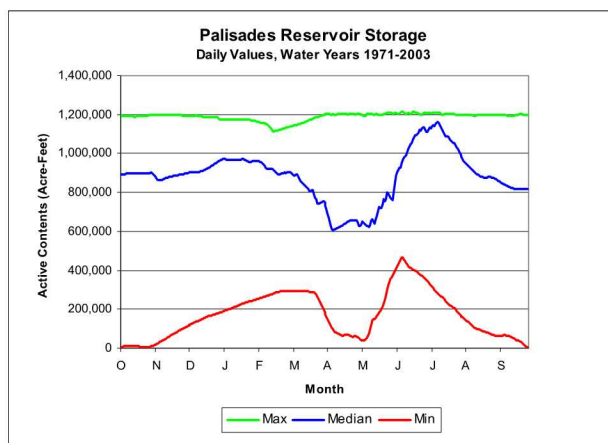
Palisades Dam and Reservoir – Palisades Project, ID



Typical storage and outflows for dry, average, and wet years



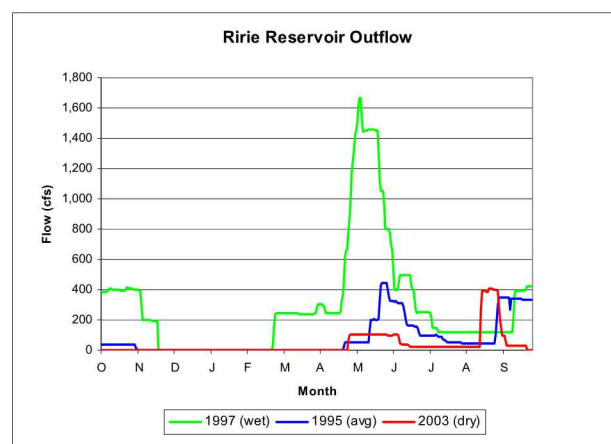
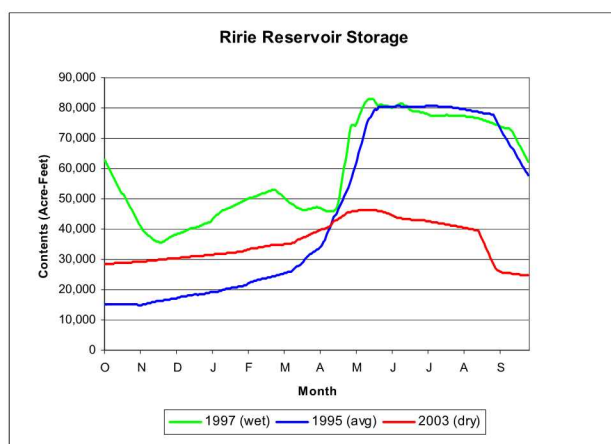
Summary hydrographs of maximum, median, and minimum storage and outflows by month



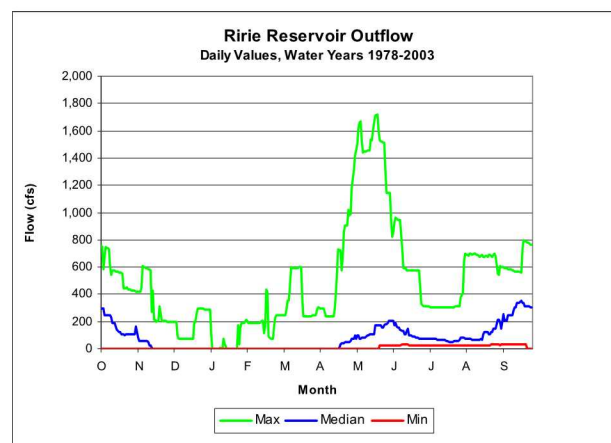
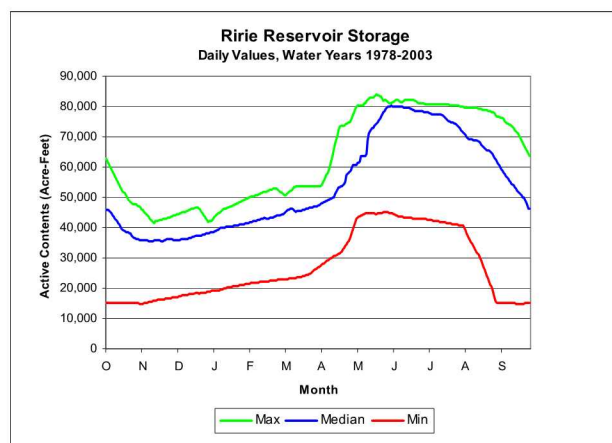
Ririe Dam and Reservoir (USACE) – Ririe Project, ID



Typical storage and outflows for dry, average, and wet years



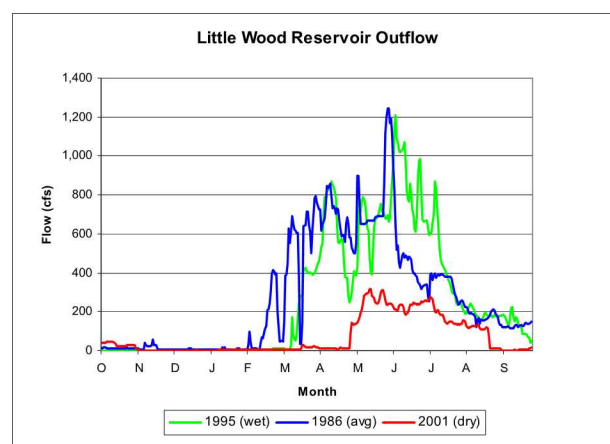
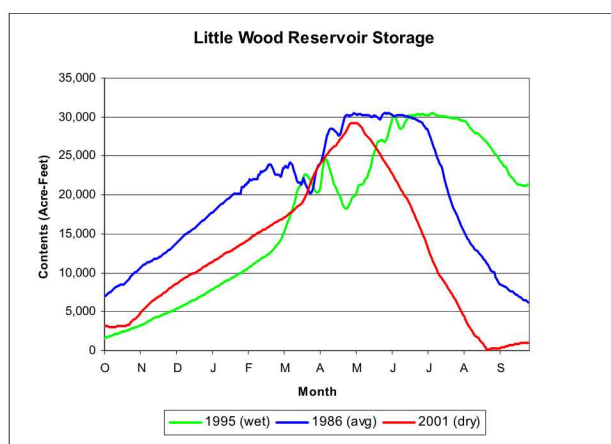
Summary hydrographs of maximum, median, and minimum storage and outflows by month



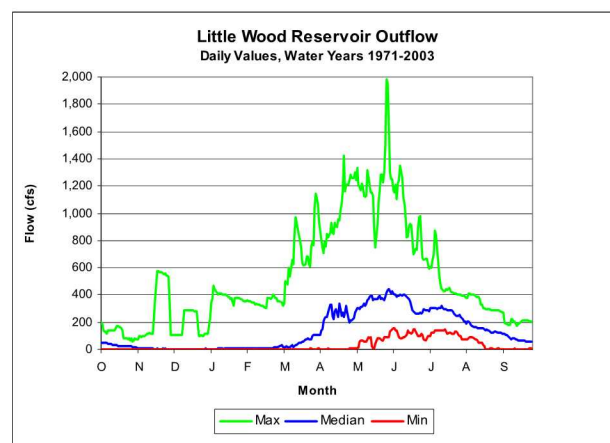
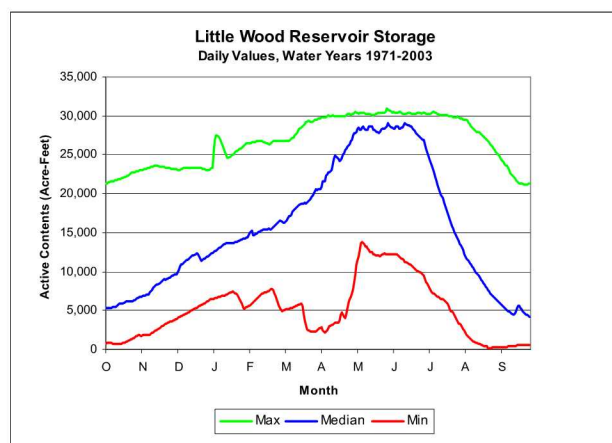
Little Wood River Dam and Reservoir – Little Wood River Project, ID



Typical storage and outflows for dry, average, and wet years



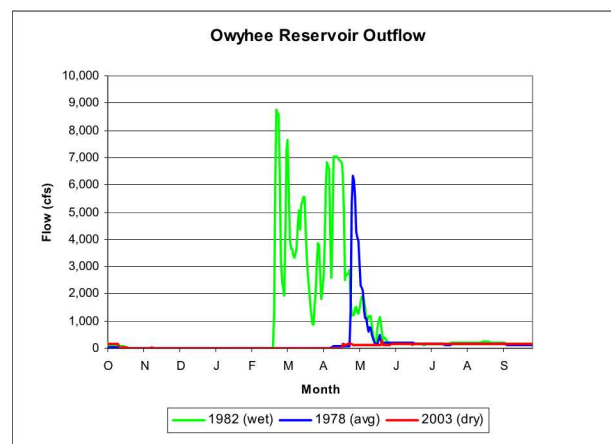
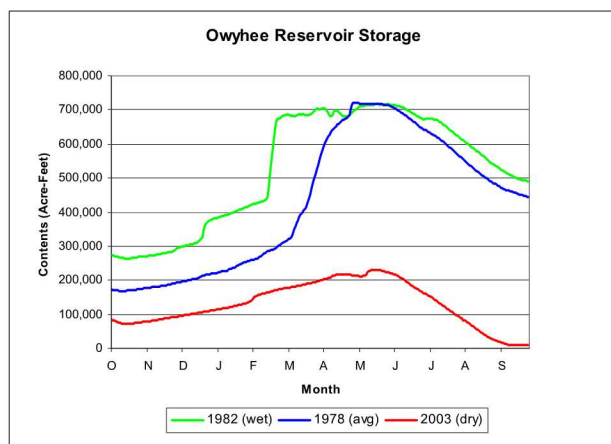
Summary hydrographs of maximum, median, and minimum storage and outflows by month



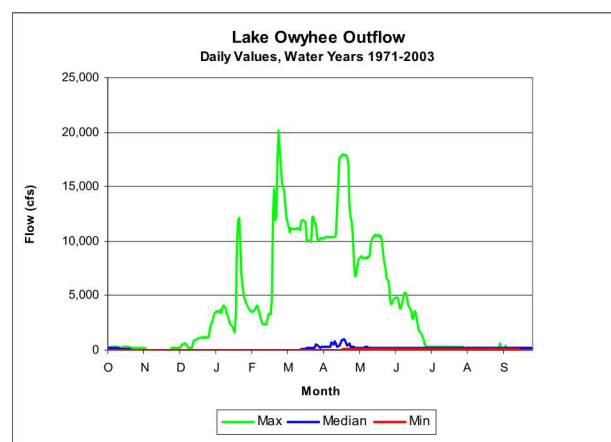
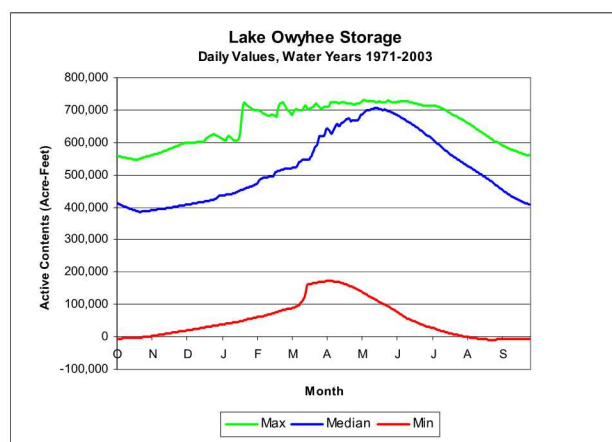
Owyhee Dam and Lake Owyhee – Owyhee Project, OR



Typical storage and outflows for dry, average, and wet years



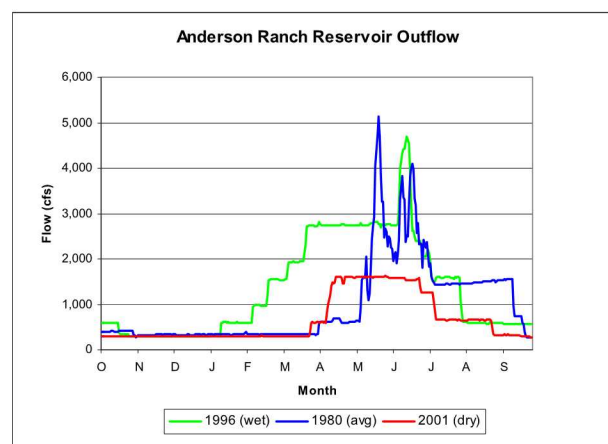
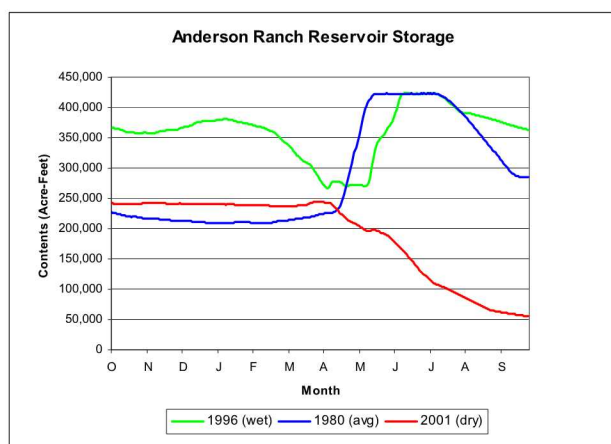
Summary hydrographs of maximum, median, and minimum storage and outflows by month



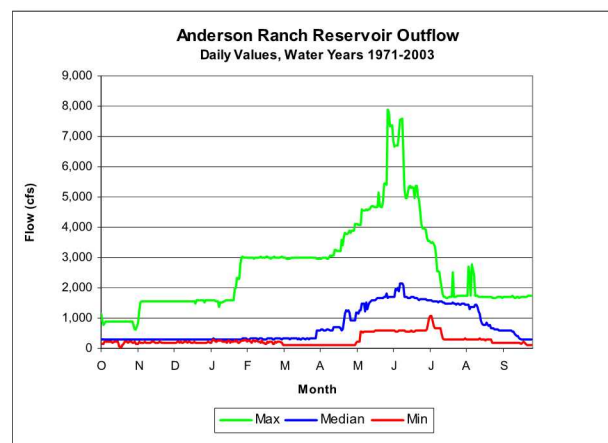
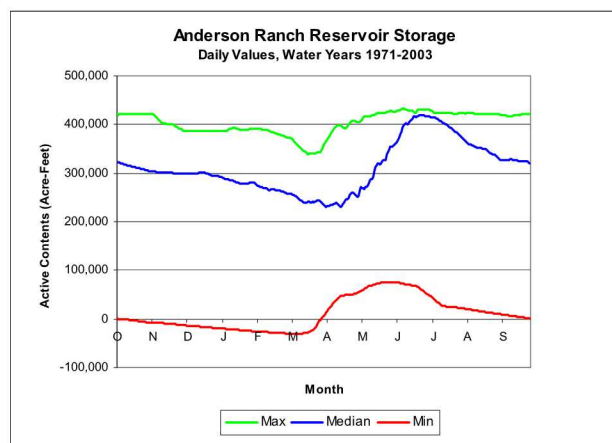
Anderson Ranch Dam and Reservoir – Boise Project, ID



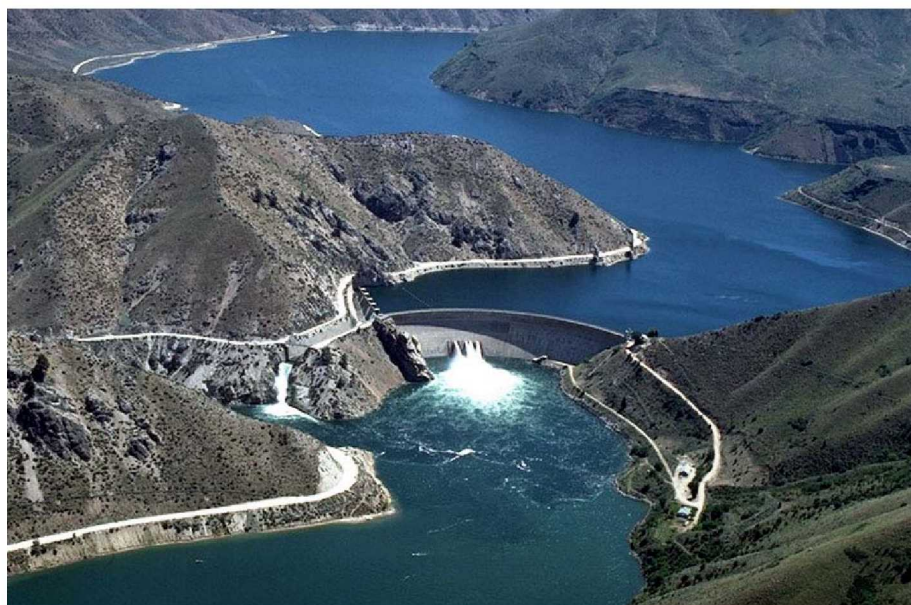
Typical storage and outflows for dry, average, and wet years



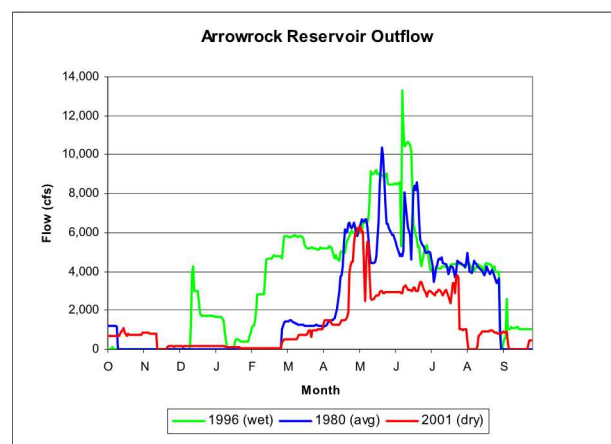
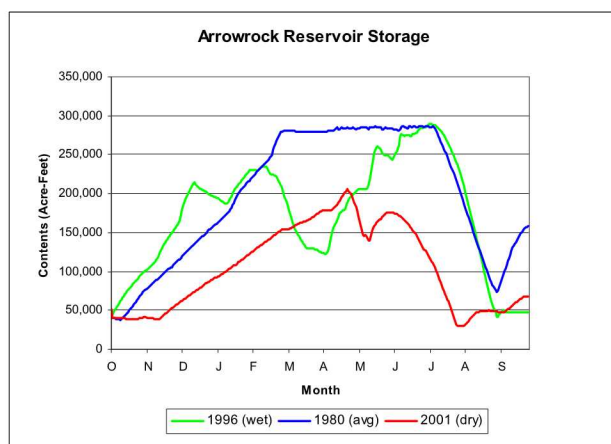
Summary hydrographs of maximum, median, and minimum storage and outflows by month



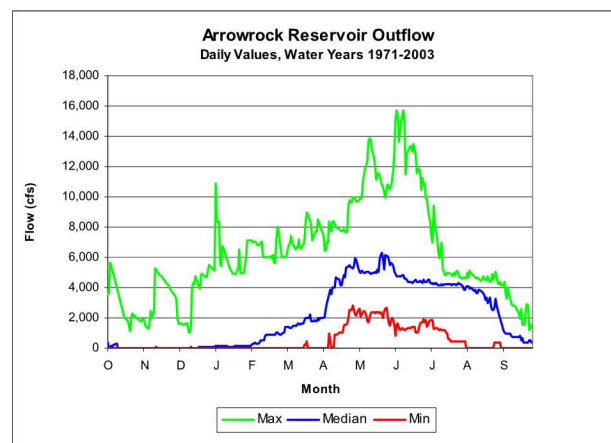
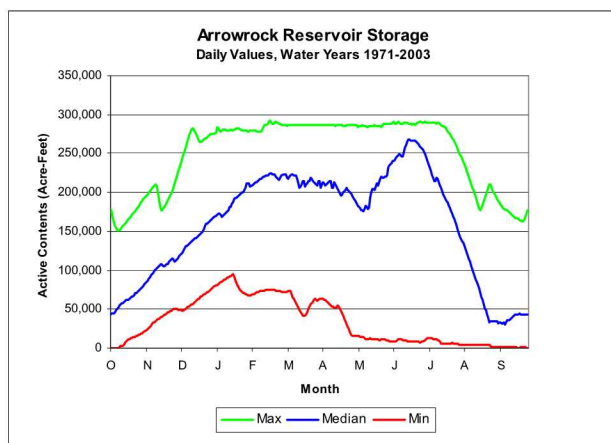
Arrowrock Dam and Reservoir – Boise Project, ID



Typical storage and outflows for dry, average, and wet years



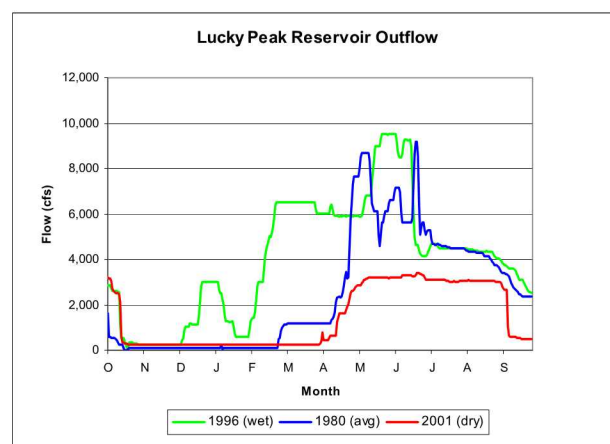
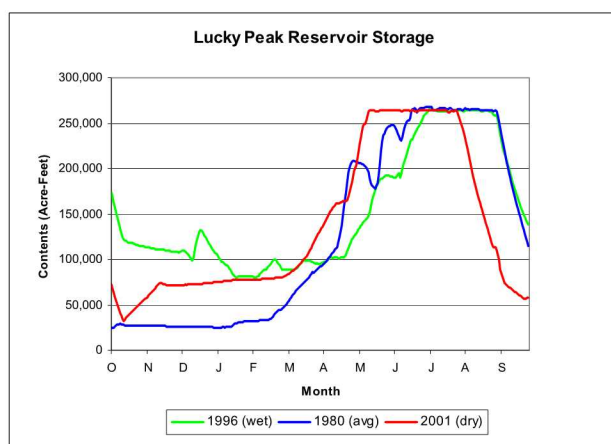
Summary hydrographs of maximum, median, and minimum storage and outflows by month



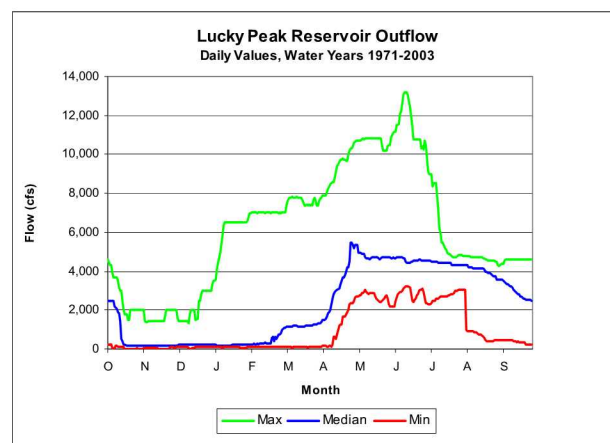
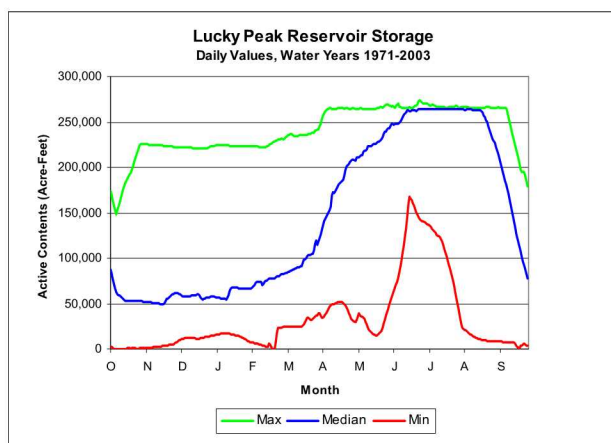
Lucky Peak Dam and Reservoir (USACE) – Boise Project, ID



Typical storage and outflows for dry, average, and wet years



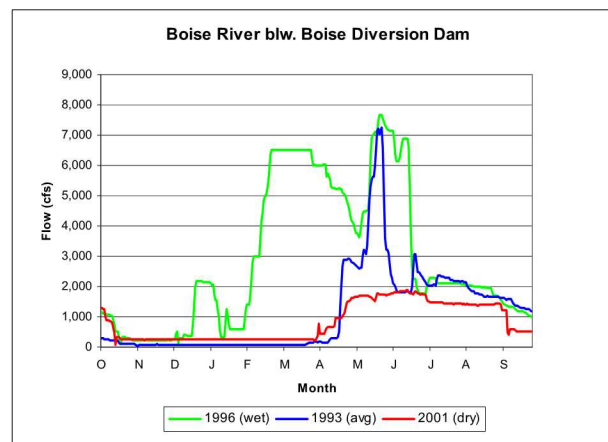
Summary hydrographs of maximum, median, and minimum storage and outflows by month



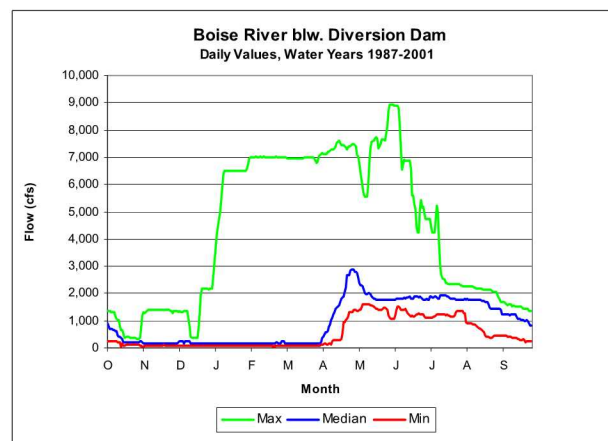
Boise River Diversion Dam – Boise Project, ID



Typical outflows for dry, average, and wet years



Summary hydrographs of maximum, median, and minimum outflows by month



Hubbard Dam – Boise Project, ID

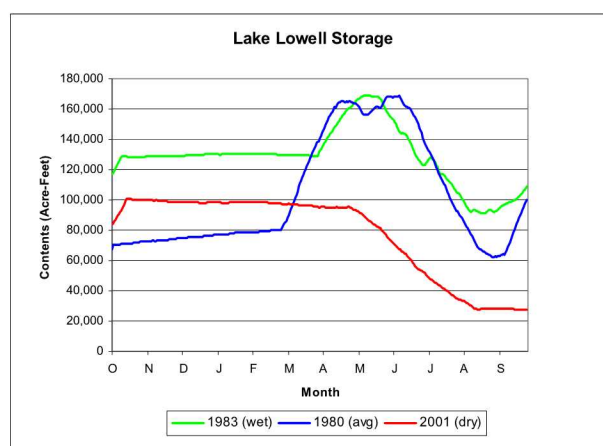


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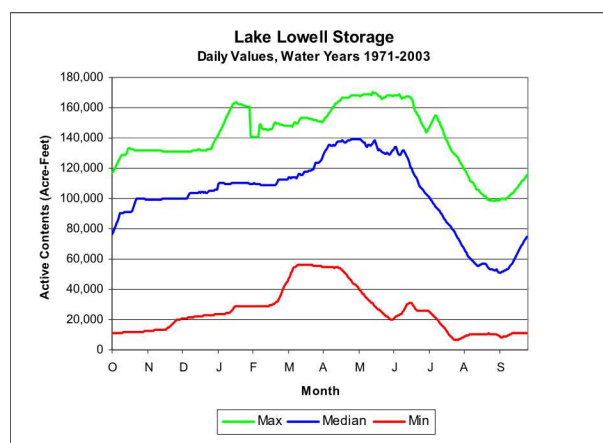
Deer Flat Dams and Lake Lowell – Boise Project, ID



Typical storage for dry, average, and wet years



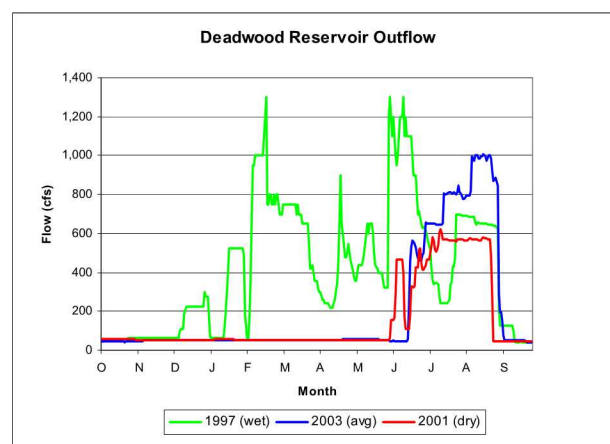
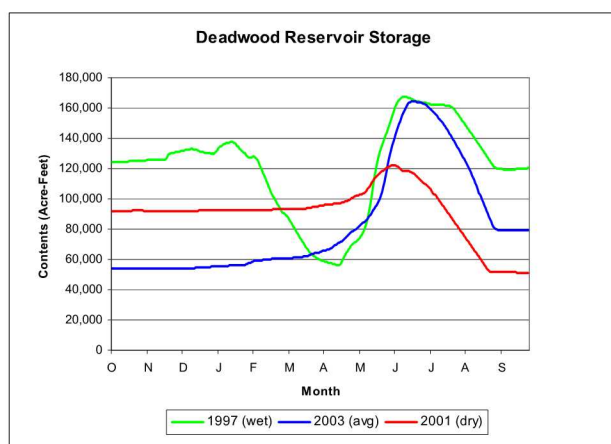
Summary hydrographs of maximum, median, and minimum storage by month



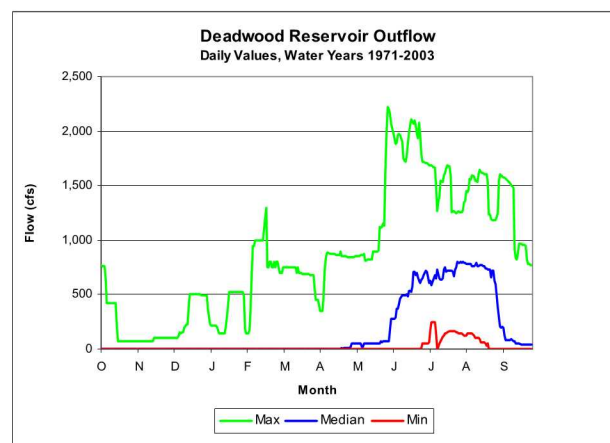
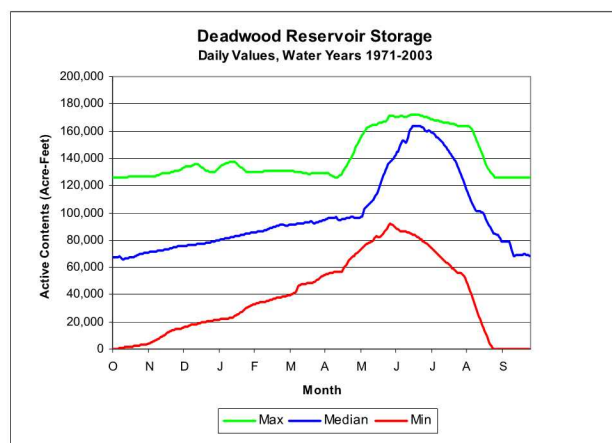
Deadwood Dam and Reservoir – Boise Project, ID



Typical storage and outflows for dry, average, and wet years



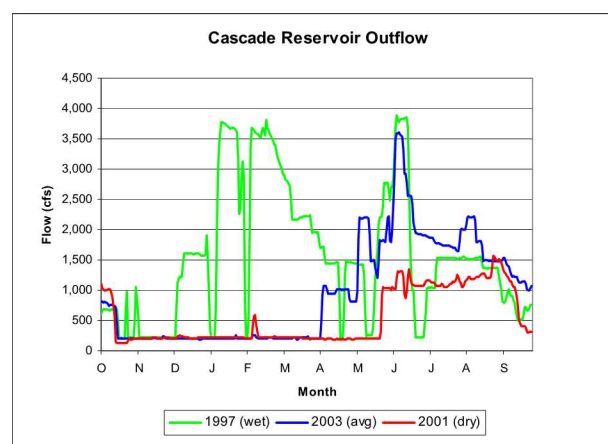
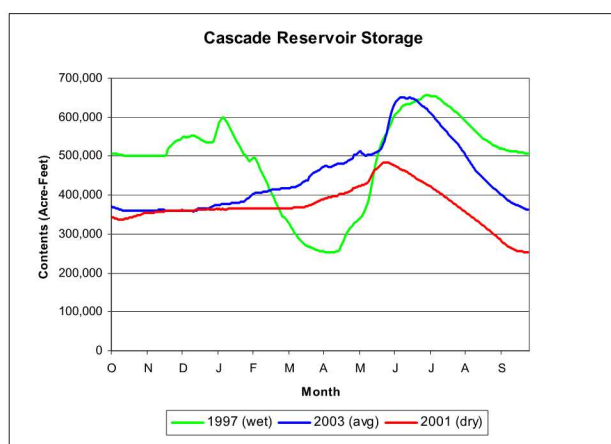
Summary hydrographs of maximum, median, and minimum storage and outflows by month



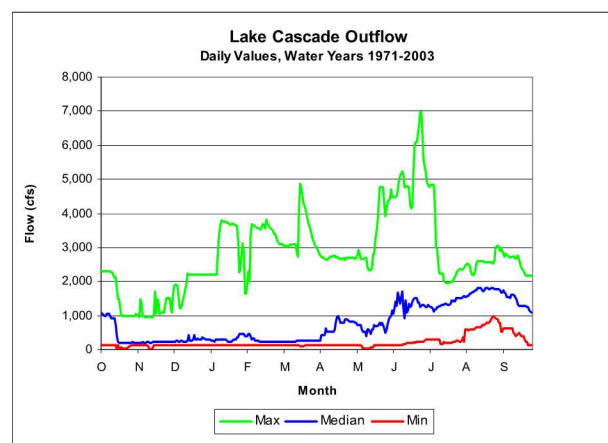
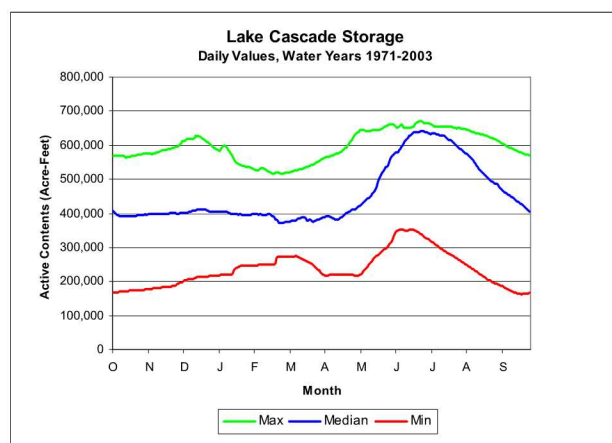
Cascade Dam and Lake Cascade – Boise Project, ID



Typical storage and outflows for dry, average, and wet years



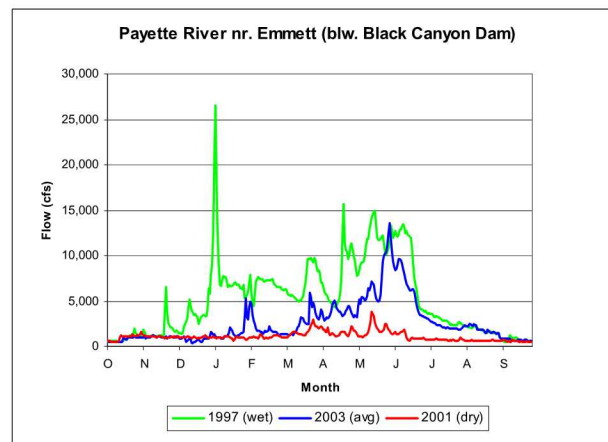
Summary hydrographs of maximum, median, and minimum storage and outflows by month



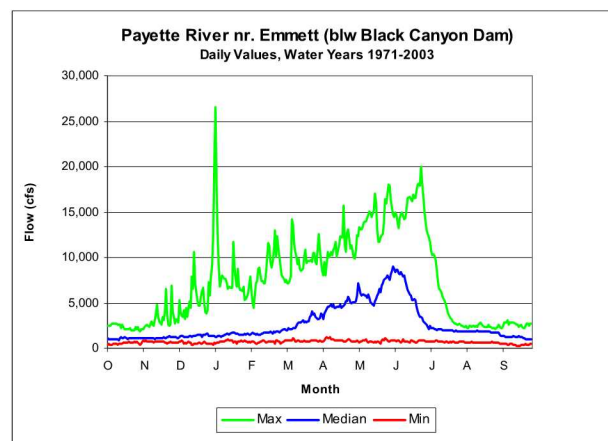
Black Canyon Dam – Boise Project, ID



Typical outflows for dry, average, and wet years



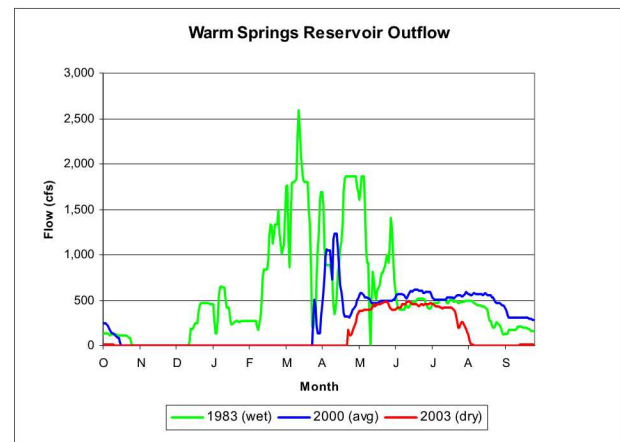
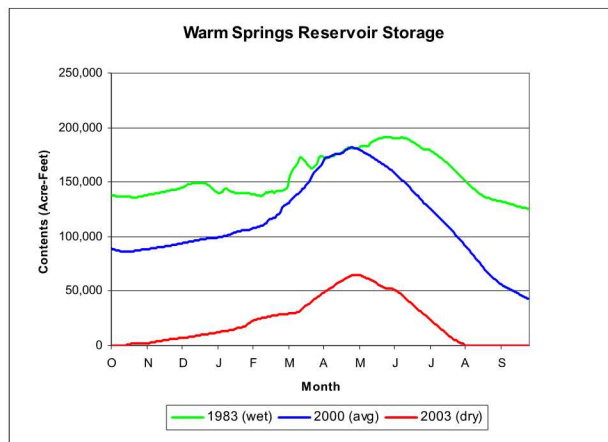
Summary hydrographs of maximum, median, and minimum outflows by month



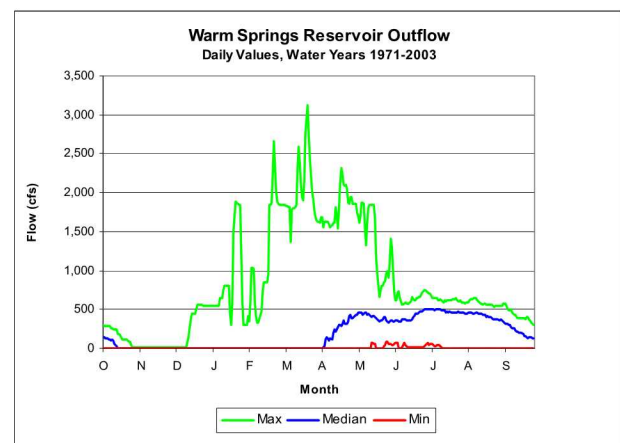
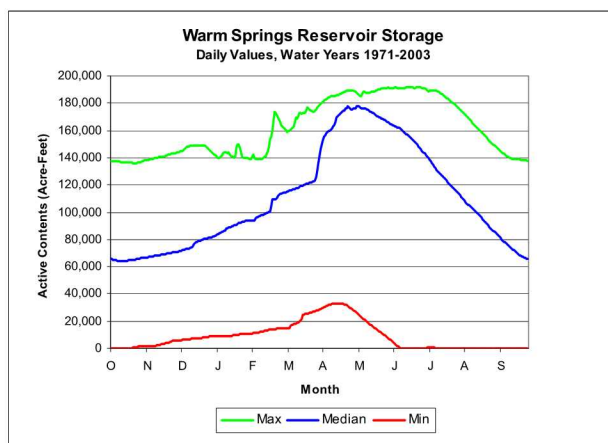
Warm Springs Dam and Reservoir – Vale Project, OR



Typical storage and outflows for dry, average, and wet years



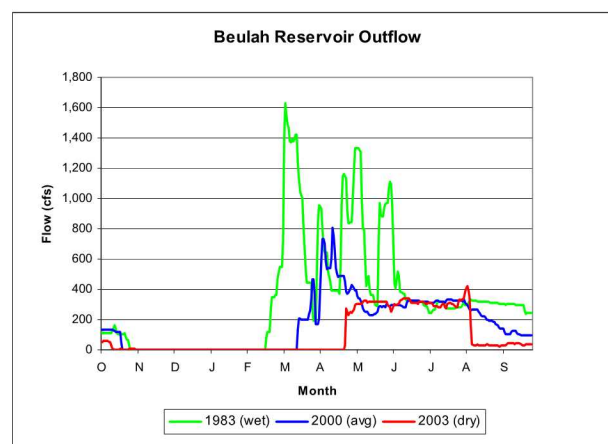
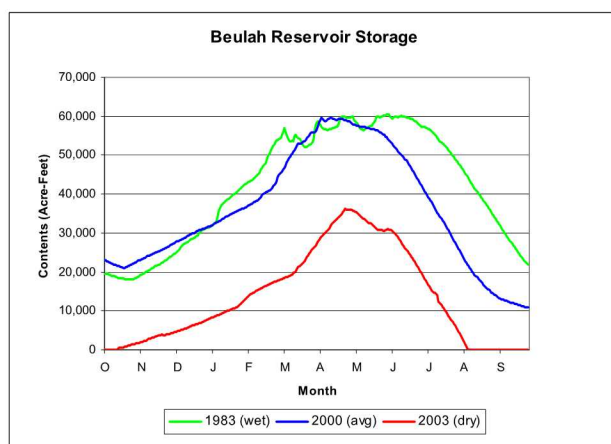
Summary hydrographs of maximum, median, and minimum storage and outflows by month



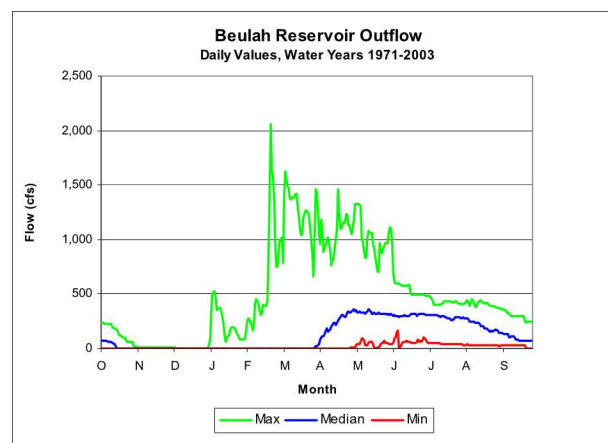
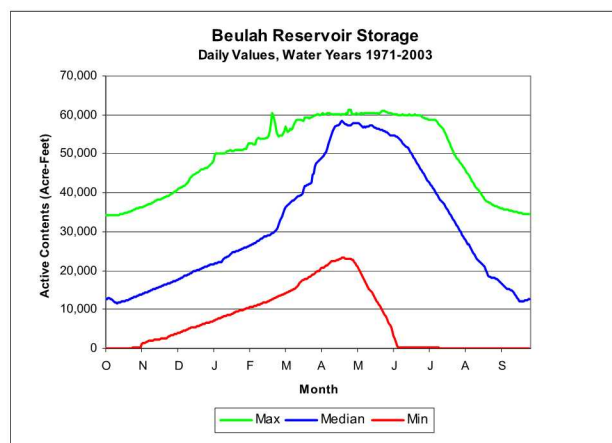
Agency Valley Dam and Beulah Reservoir – Vale Project, OR



Typical storage and outflows for dry, average, and wet years



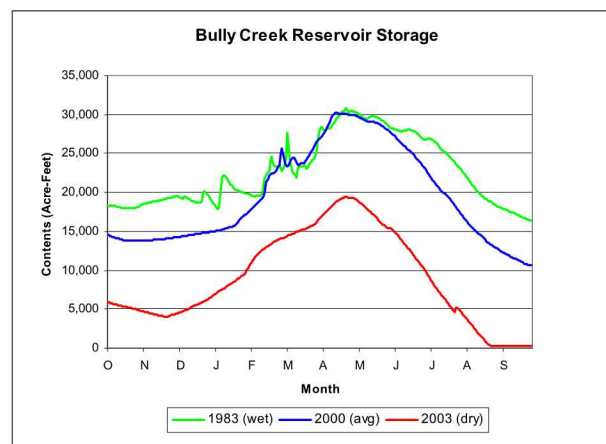
Summary hydrographs of maximum, median, and minimum storage and outflows by month



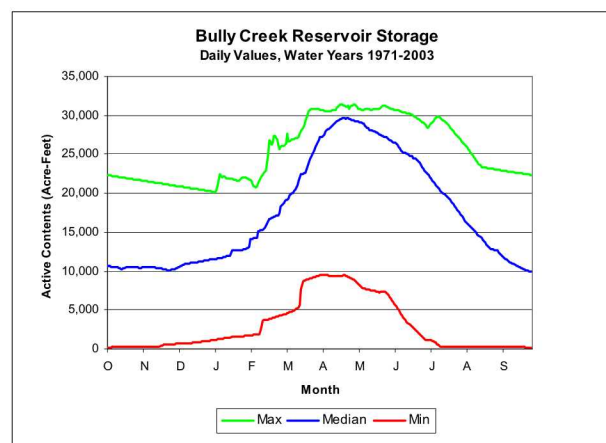
Bully Creek Dam and Reservoir – Vale Project, OR



Typical storage for dry, average, and wet years



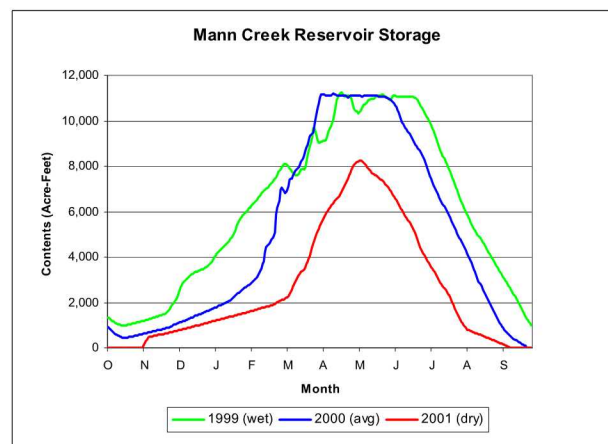
Summary hydrographs of maximum, median, and minimum storage by month



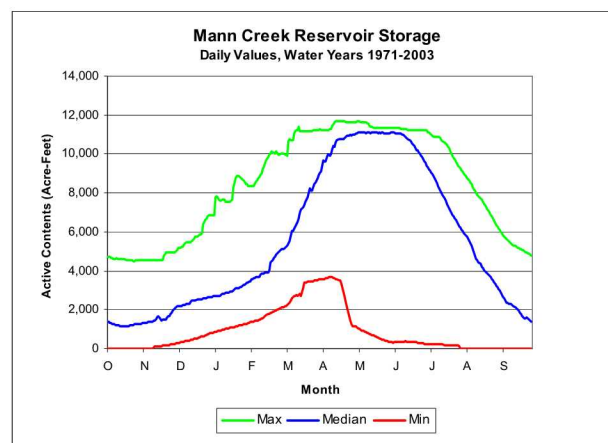
Mann Creek Dam and Reservoir – Mann Creek Project, ID



Typical storage for dry, average, and wet years



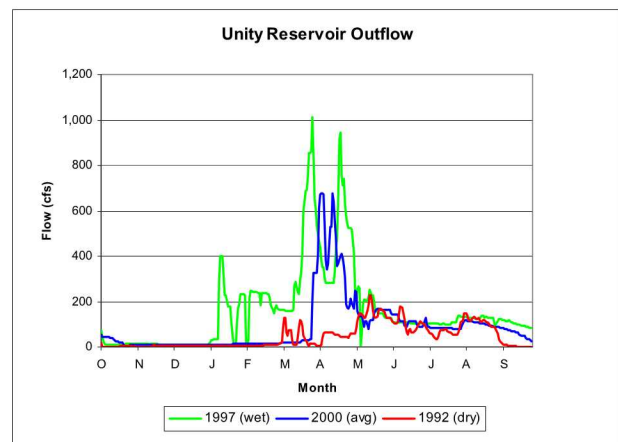
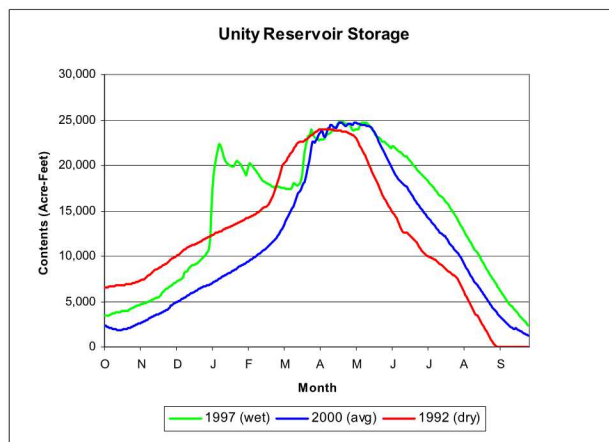
Summary hydrographs of maximum, median, and minimum storage by month



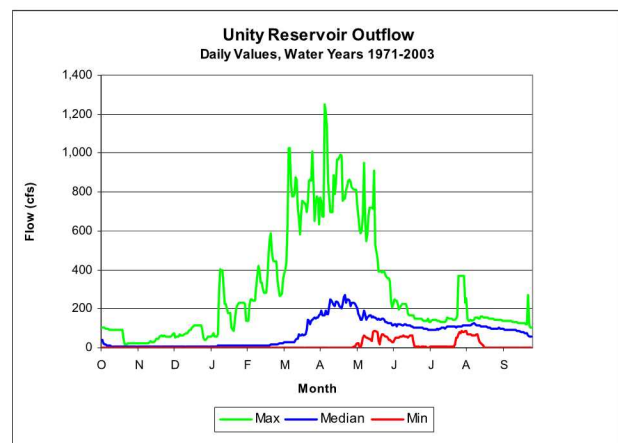
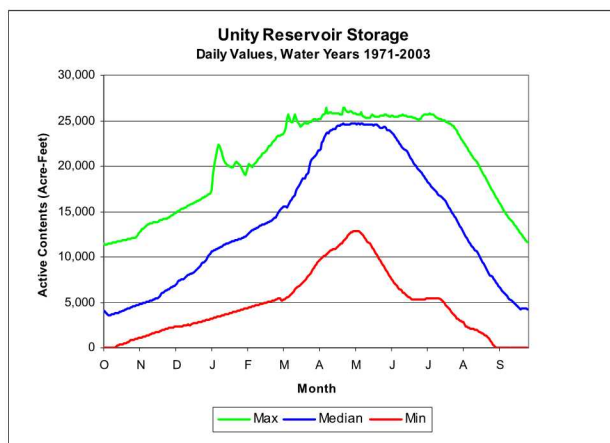
Unity Dam and Reservoir - Burnt River Project, OR



Typical storage and outflows for dry, average, and wet years



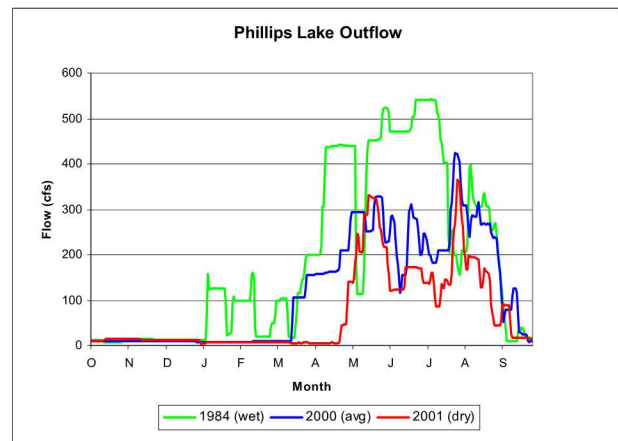
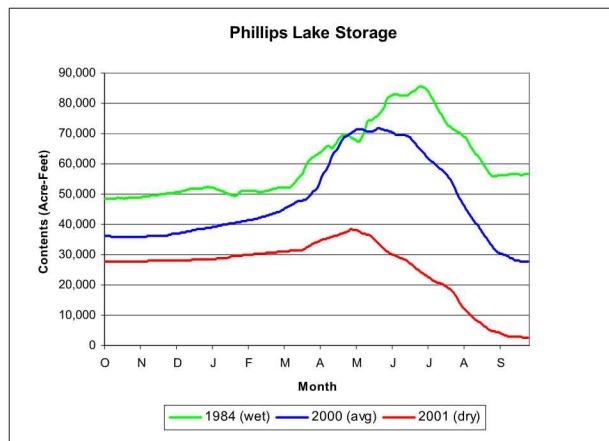
Summary hydrographs of maximum, median, and minimum storage and outflows by month



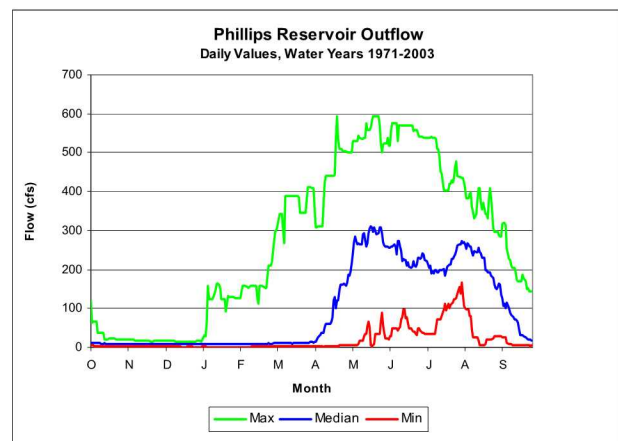
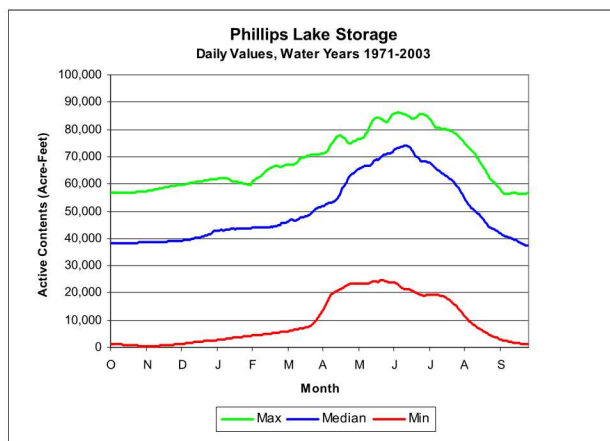
Mason Dam and Phillips Lake – Baker Project, OR



Typical storage and outflows for dry, average, and wet years



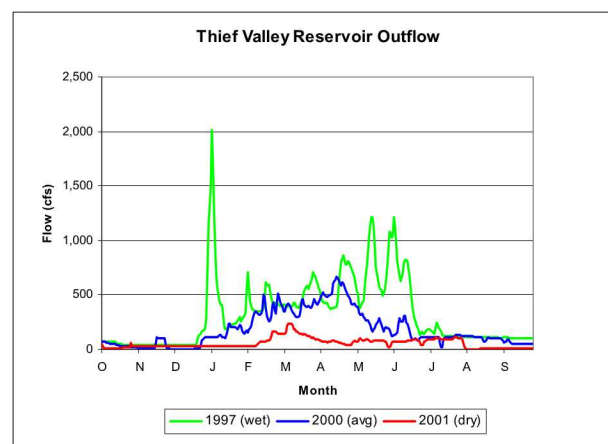
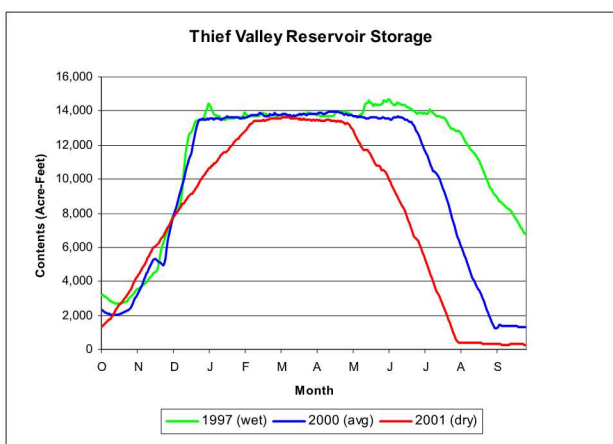
Summary hydrographs of maximum, median, and minimum storage and outflows by month



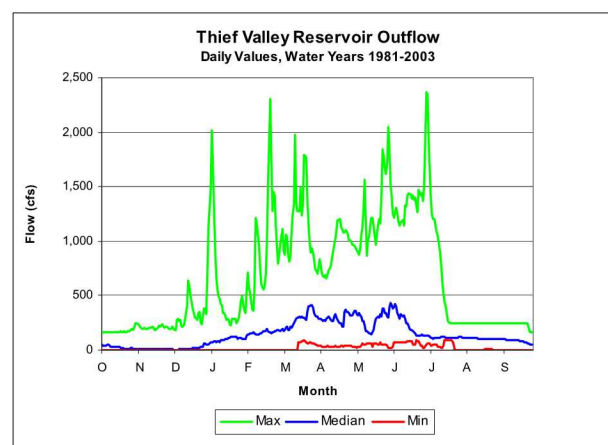
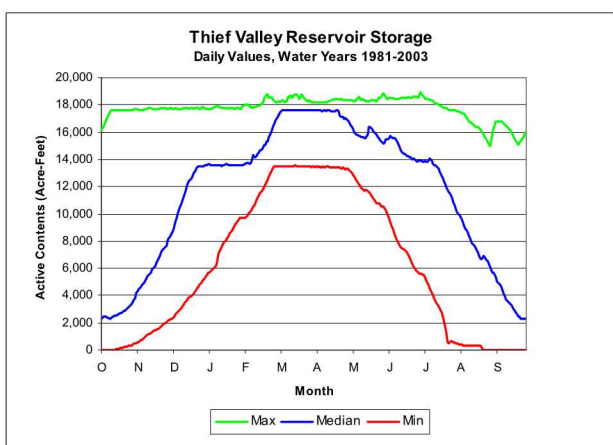
Thief Valley Dam and Reservoir – Baker Project, OR



Typical storage and outflows for dry, average, and wet years



Summary hydrographs of maximum, median, and minimum storage and outflows by month



APPENDIX C.
RIVER MILE INDEX:
UPPER SNAKE RIVER BASIN
ABOVE BROWNLEE RESERVOIR

The following list is a greatly reduced river mile index for the Snake River and tributaries between Brownlee Dam and the headwaters. The mouth of the Snake River is located at river mile 324.3 of the Columbia River (confluence with the Columbia River), i.e., 324.3 miles upstream from the mouth of the Columbia River at the Pacific Ocean. River mileage numbers are compiled from USGS official documents, available at <http://water.usgs.gov/waterwatch/>. For Idaho locations, information is located at <http://waterdata.usgs.gov/id/nwis/current?type=flow> and available by selecting the individual river locations.

<u>SNAKE RM</u>	<u>DESCRIPTION</u>	<u>DRAINAGE AREA</u> <i>(sq. mi.)</i>	<u>WATER ELEVATION</u> <i>(feet)</i>
988.9	Jackson Lake Dam; Gauge 13010065	807	6769
988.7	Gauge 13011000	807	6372
893.2	Palisades Dam and Powerplant; Gauge 13032450	5,208	5620
900.2	Irwin Gauge 13032500	5,225	5360
853.6	Heise Gauge 13037500	5,752	5019
832.5	Henrys Fork [of the Snake River] (R bank)	3,010	4800
11.0	South Fork Teton River (L bank)		
20.2	North Fork Teton River [mainstem]		
19.9	site of Teton Dam	853	5025
38.7	Falls River (L bank)		
0.0	Mouth	580	5030
31.8	Idaho—Wyoming boundary		
46.7	Cascade Creek (L bank)		
48.4	Grassy Creek (R bank)		
0.5	Grassy Lake Dam; Gauge 13046500	10	7210
91.7	Island Park Dam; Gauge 13042000	481	6302
117.1	Gauge 13039500	99	6452
117.4	Henry's Lake; Gauge 13039000	99	6472
800.5	City of Idaho Falls Dam and Powerplant (upper)		4735—4714
796.5	Willow Creek (L bank)		4690
18.5	Gauge 13057940	627	4940
20.5	Ririe Dam		
795.9	City of Idaho Falls Lower No. 1 Powerplant	9,760	4694—4672
794.0	City of Idaho Falls Dam and Powerplant (lower)	9,760	4762—4654
714.1	American Falls Dam, powerplants; Gauge 13077000	13,580	4273—4554
673.5	Minidoka Dam; Gauge 13081500	15,700	4195
	North Side Canal (Minidoka I.D.); South Side Canal (Burley I.D.)		
639.2	Milner—Gooding Canal (R bank)		
639.1	Milner Diversion Dam (private), Twin Falls	17,780	4135
614.7	Shoshone Falls		3362—3148

APPENDIX C

<u>Snake RM</u>	<u>Description</u>	<u>Drainage Area</u> (sq. mi.)	<u>Water Elevation</u> (feet)
571.4	Malad River, a.k.a. Big Wood River (R Bank)		
	0.0 Mouth	2,070	2734
	0.1 69 kV overhead transmission line		
	0.2 Lower Malad Powerplant		2881—2720
	0.5 I—80 (Hwy. 30) Bridge		
	7.2 Gauge 13152500, near Gooding		
	11.9 Little Wood River (L bank)		
	0.0 Mouth	680	3430
	46.0 Gauge 13151000, near Richfield	570	4273
	75.5 Gauge 13148500, near Carey	312	4994
	78.8 Little Wood River Dam; Gauge 13148200	276	5237
	67.5 Magic Dam and Reservoir	1600	4798
	72.5 Camas Creek (R bank)		
494.0	C.J. Strike Dam and Powerplant (Idaho Power Company); Gauge 13171500		
457.7	Swan Falls Dam and Powerplant (Idaho Power Company)		
392.6	Owyhee River (L bank)		
	0.0 Mouth	11,340	2180
	27.3 Owyhee Dam; Gauge 13183000	11,160	2670
	122.9 Jordan Creek		
	0.0 Mouth	1,300	3350
	26.1 Cow Creek		
	0.0 Mouth	330	4120
	48.7 Antelope Feeder Canal		
	286.0 Wild Horse Reservoir; Gauge 13174000	209	6189
392.3	Boise River		
	0.0 Mouth	4,130	2117
	3.8 Gauge 13213000, Parma, ID	3,970	2200
	14.0 Gauge 13212500, Notus, ID	3,820	2291
	16.4 Eureka Canal		
	21.1 U.S. Hwys. 20, 26, and 30, Interstate 80N, Caldwell, ID		
	21.9 Farmers Cooperative Sebree Canal		
	32.4 Caldwell Highline Canal		
	31.2 Gauge 13210050, near Middleton	3,050	
	38.0 Lower end of Eagle Island South		
	Channel of Boise River past Eagle Island		
	1.2 Phyllis Canal		
	5.8 Warm Springs Canal		
	40.4 Middleton Canal		
	41.2 Mason—Catlin Canal		
	41.7 Dry Creek		
	46.0 Dry Creek Canal		
	46.4 Upper end of Eagle Island		

<u>Snake RM</u>	<u>Description</u>	<u>Drainage Area</u> <i>(sq. mi.)</i>	<u>Water Elevation</u> <i>(feet)</i>
	47.5 Glenwood Bridge and Gauge 13206000		
	50.4 Farmers Union Canal		
	51.5 Fairview Bridge — Boise, ID		
	52.0 Settlers Canal — Diversion Dam		
	52.8 Gauge at Boise, ID	2,760	2680
	53.7 Broadway Bridge — Boise, ID		
	55.9 City Canal — Diversion Dam		
	56.7 Cruzen—Perrant Canal		
	58.3 Ridenbaugh Canal — Diversion Dam		
	58.8 Gauge 13203700, at Barber	2,690	2753
	59.0 Barber Dam	2,690	2767
	61.4 Boise River Diversion Dam — New York Canal; Gauge 13203510		
	64.0 Gauge 13202000, near Boise	2,680	2827
	64.0 Lucky Peak Dam; Gauge 13201500	2,680	3060
	70.5 Mores Creek		
	5.8 Gauge 13200000		426
	23.8 Idaho City, ID		
	75.4 Arrowrock Dam; Gauge 13194000	2,210	3216
	79.4 South Fork Boise River		
	0.0 Mouth	1,304	3210
	26.1 Danskin Bridge	928	3854
	41.5 Gauge 131905000		
	43.5 Anderson Ranch Dam; Gauge 13190000	980	4196
	44.9 Little Camas Creek		
	59.0 Gauge 13186000, near Featherville	635	4220
	88.5 Gauge 13185000, near Twin Springs	830	3254
	97.3 North Fork Boise River		
	0.0 Mouth	382	3474
	97.3 Middle Fork Boise River (mainstem)	382	3474
	129.0 Atlanta, ID		
368.2	Malheur River (L bank)		
	0.0 Mouth	4,680	2140
	19.3 Willow Creek (L bank)		
	0.0 Mouth	640	2210
	38.8 Willow Creek Dam; Gauge 13230000	290	3146
	20.3 Bully Creek (L bank, 4th order)		
	0.0 Mouth	640	2230
	12.5 Bully Creek Dam; Gauge 13226800	547	2516
	92.2 North Fork Malheur River (L bank)		
	0.0 Mouth	540	
	14.5 Agency Valley Dam; Gauge 13217500	440	3340
	113.0 Warm Springs Dam; Gauge 13215000	1,100	3406

APPENDIX C

<u>SNAKE RM</u>	<u>DESCRIPTION</u>	<u>DRAINAGE AREA</u> <i>(sq. mi.)</i>	<u>WATER ELEVATION</u> <i>(feet)</i>
365.0	Payette River		
0.0	Mouth	3,270	2120+
4.1	Gauge 13251000, near Payette	3,240	2144
8.3	Big Willow Creek		
34.2	Fuller Island		
34.2	Check Dam – Farmers Co-op Canal		
37.2	Check Dam – Last Chance Canal		
38.4	Gauge 132495000, near Emmett	2,680	2404
38.7	Black Canyon Dam	2,680	2498
38.7	Canyon Canal & Black Canyon Canal		
43.6	Squaw Creek		
0.0	Mouth	330	2498
8.8	Diversion Dam		
47.7	State Hwy. 15 Bridge — Montour, ID		
57.0	State Hwy. 15 Bridge — Horseshoe Bend, ID	2,247	
57.7	Idaho Power Company Diversion Canal (R bank)		
60.8	Gauge 13247500, near Horseshoe Bend	2,230	2631
72.4	Banks, ID		
72.9	North Fork Payette River		
2.8	Gauge 13246000, near Banks	933	3088
16.0	Gauge 13245500, near Smiths Ferry	893	4510
31.2	Big Creek		
38.6	Gauge 13245000, at Cascade	626	4743
39.9	Powerplant, Idaho Power Company		
40.2	Cascade Dam ; Gauge 13244300	620	4828
52.0	Gold Fork River		
0.0	Mouth	185	4828
6.9	Gauge 13243500, near Roseberry	143	4870
7.5	Gold Fork Diversion Dam		
8.0	Gold Fork Dam	140	
53.9	Lake Fork		
0.0	Mouth	90	4828
17.5	Gauge 13242500, at McCall	64	5080
18.0	Lake Fork Dam; Gauge 13241000	64	5117
75.4	Payette Lakes Dam	144	4990
72.9	State Hwy. 15 Bridge at Banks, ID	1,260	2790
80.3	Middle Fork Payette River		
0.0	Mouth	340	2992
21.4	Silver Creek		
80.3	South Fork Payette River (continues mainstem river miles)	860	2992
103.5	Deadwood River		
0.0	Mouth	224	3690
23.4	Deadwood Dam; Gauge 13236500	112	5334
106.0	Gauge 13235000, Lowman	456	3794

<u>Snake RM</u>	<u>Description</u>	<u>Drainage Area</u> <i>(sq. mi.)</i>	<u>Water Elevation</u> <i>(feet)</i>
351.8	Weiser River (R bank)		2095
	0.0 Mouth	1,660	
	0.6 Monroe Creek		
	0.0 Mouth	45	
	6.8 Mann Creek (R bank)		
	0.0 Mouth	85	2160
	13.2 Mann Creek Dam	56	2766
	30.9 Origin		
	16.7 Crane Creek		
	0.2 Gauge 13265500, near Weiser	288	2243
	12.5 Crane Creek Reservoir; Gauge 13264000, near Midvale	242	3190
	44.4 Little Weiser River		
	0.0 Mouth	195	
	20.9 Inlet Canal C. Ben Ross Reservoir		
	75.4 West Fork Weiser River		
	8.2 Lost Creek		
	9.6 Lost Valley Reservoir	29	
327.7	Burnt River (L bank) (Brownlee normal pool elevation)		2077
	0.0 Burnt River at mouth	1,100	
	2.9 Gauge 13275000, at Huntington	1,093	2100
	37.1 Gauge 13274200, near Bridgeport	650	3225
	63.4 Road Bridge; Gauge 13273000, near Hereford	309	3759
	63.6 Unity Dam; Gauge 13272500		3820
	64.0 Unity Reservoir formed by confluence of South, Middle, West, and North forks of Burnt River		
295.7	Powder River (L bank) (Brownlee normal pool elevation)		2077
	0.0 Mouth		
	2.52 Gauge 13289500, near Robinette	1,660	
	69.9 Gauge 13285500, below Thief Valley Dam	910	3090
	70.0 Thief Valley Dam; Gauge 13285000		3133
	77.6 Gauge 13284500, near North Powder	860	3200
	80.0 North Powder River (L bank)		
	1.2 Gauge 13283000, near North Powder	129	3230±
	107.6 U.S. Hwy. 30 crossing near Baker; Gauge 13277000	351	3420
	116.2 Gauge 13275500, near Baker	219	3632
	122.0 Mason Dam		
	133.7 McCully and Cracker Creeks form Powder River at Sumpter		4420
285.0	Brownlee Dam (normal pool elevation)	72,590	2077

APPENDIX D.
STREAM GAUGES INDEX

River Mile^{1/}	Hydromet Code	USGS Station number	Station Name (USGS)
Upper Snake River Basin above Lorenzo, ID			
988.9	FLGY	13010065	Snake River above Jackson Lake at Flagg Ranch WY
988.7	JCK	13011000	Snake River near Moran WY
0.5	PCKY	13011500	Pacific Creek at Moran WY
0.5	BFKY	13011900	Buffalo Fork above Lava Creek near Moran WY
	MSEY	13013650	Snake River at Moose WY
0.7	GROY	13015000	Gros Ventre River at Zenith WY
938.9	JSKY	13018750	Snake River below Flat Creek near Jackson WY
917.5	ALPY	13022500	Snake River above Reservoir near Alpine WY
	GREY	13023000	Greys River above Reservoir near Alpine WY
	SALY	13027500	Salt River above Reservoir near Etna WY
900.2	PALI	13032500	Snake River near Irwin ID
853.6	HEII	13037500	Snake River near Heise ID
	DRYI	13038000	Dry Bed near Ririe ID
837.9	LORI	13038500	Snake River at Lorenzo ID
Henrys Fork Basin			
117.4	HEN	13039000	Henrys Lake near Lake ID
117.1	HENI	13039500	Henrys Fork near Lake ID
100.9	HGCI	13041010	Henrys Fork below Coffee Pot Rapids near Macks Inn ID
91.5	ISLI	13042500	Henrys Fork near Island Park ID
44.2	HFAI	13046000	Henrys Fork near Ashton ID
	FAI	13046995	Falls River above Yellowstone Canal near Squirrel ID
19.8	FALI	13047500	Falls River near Squirrel ID
	FRAI	13047600	Falls River near Ashton ID
0.8	CHEI	13049500	Falls River near Chester ID
32.4	ANTI	13050500	Henrys Fork at St Anthony ID
Teton River Basin			
56.3	DGGI	13052200	Teton River above South Leigh Creek near Driggs ID
32.4	TEAI	13055000	Teton River near St Anthony ID
	NFTI	13055250	North Fork Teton River near Sugar City ID
19.1	TTXI	13055340	South Fork Teton River near Rexburg ID
9.2	REXI	13056500	Henrys Fork near Rexburg ID

^{1/} River Mileage shown is from USGS official documents, available on <http://water.usgs.gov/waterwatch>

River Mile	Hydromet Code	USGS Station number	Station Name (USGS)
Snake River Basin from Menan, ID, to CJ Strike Reservoir			
890.0	MNNI	13057000	Snake River near Menan ID
	GWSI	13057132	Great Western Spillback near Idaho Falls ID
805.0	SIFI	13057155	Snake River above Eagle Rock near Idaho Falls ID
	n/a	13057500	Grays Lake Outlet near Herman ID
18.5	WTXI	13057940	Willow Creek below Tex Creek near Ririe ID
	SNDI	13058510	Sand Creek above Willow Creek Diversion near Ucon ID
	WIFI	13058520	Willow Creek Floodway Channel near Ucon ID
	WFWI	13058529	Willow Creek Floodway Channel at Mouth near Idaho Falls ID
	WILI	13058530	Willow Creek below Floodway Channel near Ucon ID
787.8	SHYI	13060000	Snake River near Shelley ID
764.3	SNAI	13062500	Snake River at Blackfoot ID
	BARI	13063000	Blackfoot River above Reservoir near Henry ID
30.5	n/a	13066000	Blackfoot River near Shelley ID
	BBYI	13068495	Blackfoot River Bypass near Blackfoot ID
3.4	BLFI	13068500	Blackfoot River near Blackfoot ID
750.1	BFTI	13069500	Snake River near Blackfoot ID
55.5	TOPI	13073000	Portneuf River at Topaz ID
16.8	PIHI	13075500	Portneuf River at Pocatello ID
	PTYI	13075910	Portneuf River near Tyhee ID
	SPSI	13075983	Spring Creek at Sheepskin Road near Fort Hall ID
714.1	AMFI	13077000	Snake River at Neeley ID
673.5	MINI	13081500	Snake River near Minidoka ID (at Howells Ferry)
638.7	MILI	13087995	Snake River Gaging Station at Milner ID
546.6	SKHI	13154500	Snake River at King Hill ID
494.0	CJS	13171500	CJ Strike Reservoir near Grand View ID
Malad [Big Wood] River Basin			
91.0	HALI	13139500	Big Wood River at Hailey ID
83.0	LWOI	13147900	Little Wood River above High Five Creek near Carey ID
75.5	WODI	13148500	Little Wood River near Carey ID
Owyhee River Basin			
52.5	n/a	13178000	Jordan Creek above Lone Tree Creek near Jordan Valley OR
122.4	ROMO	13181000	Owyhee River near Rome OR
27.3	OWY	13183000	Owyhee River below Owyhee Dam OR

River Mile	Hydromet Code	USGS Station number	Station Name (USGS)
Boise River Basin			
88.5	BTSI	13185000	Boise River near Twin Springs ID
59.0	BRFI	13186000	SF Boise River near Featherville ID
41.5	ANDI	13190500	SF Boise River at Anderson Ranch Dam ID
5.8	MORI	13200000	Mores Creek above Robie Creek near Arrowrock Dam ID
64.0	LUC	13201500	Boise River at Lucky Peak Dam ID
	COTI	13204640	Cottonwood Creek Below Fivemile Creek near Boise ID
47.5	BIGI	13206000	Boise River at Glenwood Bridge near Boise ID
42.8	BSCI	13206305	Boise River South Channel at Eagle ID
3.8	PARI	13213000	Boise River near Parma ID
Malheur Basin – Eastern OR			
113.0	WARO	13215000	Malheur River below Warm Springs Reservoir near Riverside OR
14.5	BEUO	13217500	North Fork Malheur River at Beulah OR
	VALO	13233300	Malheur River below Nevada Dam near Vale OR
Payette River Basin			
106.0	PRLI	13235000	SF Payette River at Lowman ID
23.4	DEDI	13236500	Deadwood River below Deadwood Reservoir near Lowman ID
1.4	MFPI	13237920	Middle Fork Payette River near Crouch ID
75.4	PAY	13238500	Payette Lake at McCall ID
75.2	PAYI	13239000	NF Payette River at McCall ID
60.8	HRSI	13247500	Payette River near Horseshoe Bend ID
38.4	EMMI	13249500	Payette River near Emmett ID
25.0	PLEI	13250000	Payette River near Letha ID
4.1	PRPI	13251000	Payette River near Payette ID
Weiser River Basin			
48.6	CAMI	13258500	Weiser River near Cambridge ID
0.2	CRWI	13265500	Crane Creek at Mouth near Weiser ID
14.9	WSRI	13266000	Weiser River near Weiser ID
Lower Snake River Basin			
385.2	SNYI	13213100	Snake River at Nyssa OR
351.3	WEII	13269000	Snake River at Weiser ID
	HCDI	13290450	Snake River at Hells Canyon Dam ID-OR State Line
	ANAW	13334300	Snake River near Anatone WA

APPENDIX E.

SPACEHOLDER CONTRACTS:

MINIDOKA AND PALISADES PROJECTS

AND BOISE PROJECT

E.1 Minidoka and Palisades Projects

Spaceholders	American Falls Reservoir (acre-feet)	Jackson Lake (acre-feet)	Palisades Reservoir (acre-feet)	Total Space (acre-feet)
<i>Lower Valley Organizations</i>				
A&B ID	46,826		90,800	137,626
American Falls Reservoir Dist. ^{1/}	445,577	13,042		458,619
American Falls Reservoir Dist. 2	393,550			393,550
Burley ID ^{2/}	155,395		39,200	194,595
Hillsdale ID	40,482			40,482
Idaho Power Co.	44,275			44,275
Milner ID	44,951		44,500	89,451
Minidoka ID ^{2/}	82,216	186,030	35,000	303,246
North Side Canal Co., Ltd. ^{3/}	116,471	312,007	116,600	545,078
<i>Upper Valley Organizations</i>				
Aberdeen-Springfield Canal Co. ^{3/}	29,771	57,661	143,278	230,710
Andrus, Ray	187	110		297
Artesian Irrigation, Inc.	2,794			2,794
Blackfoot Irrigating Co.	12,558	7,370	4,050	23,978
Burgess Canal & Irrigating Co.	9,343	10,603	31,400	51,346
Butte & Market Lake Canal Co.	4,591	2,695	44,000	51,286
Clement Brothers, a partnership	70	196		266
Corbett Slough Ditch Co.	3,342	1,961	6,300	11,603
Dilts Irrigation Co., Ltd.	871	511	1,200	2,582
Enterprise Canal Co., Ltd.	8,779	11,252	19,600	39,631
Enterprise ID	10,024	5,883		15,907
Falls ID	22,925		40,900	63,825
Harrison Canal & Irrigation Co.	11,832	11,943	23,500	47,275
Idaho ID	22,541	13,230	58,800	94,571
Lenroot Canal Co.	3,805	5,234	7,850	16,889
Michaud Div., Fort Hall Indian Res.	46,931		83,900	130,831
New Sweden ID	27,290	22,516	37,000	86,806
Osgood Canal Co., Ltd.	3,930	7,771		11,701
Peoples Canal & Irrigation Co.	21,070	20,365	35,000	76,435
Poplar ID	662	1,589	1,550	3,801
Progressive ID	12,284	7,209	28,500	47,993
Reid Canal Co.	2,507	1,472	3,150	7,129
Rudy Canal Co., Ltd.	2,606	3,530	15,700	21,836
Snake River Valley ID	25,942	30,225	35,300	91,467
Trego Ditch Co.	1,293	758	3,200	5,251
Woodville Canal Company	5,949	3,491	6,000	15,440

Table continued on following page.

Spaceholders	American Falls Reservoir (acre-feet)	Jackson Lake (acre-feet)	Palisades Reservoir (acre-feet)	Total Space (acre-feet)
<i>Organizations Without Space in American Falls Reservoir</i>				
Butler Island Canal Co., Ltd.			250	250
City of Pocatello			50,000	50,000
Clark & Edwards Canal or Irrigation. Co.			800	800
Craig-Mattson Canal Co.			1,440	1,440
Danskin Ditch Co.			2,350	2,350
F.M.C. Corporation			5,000	5,000
Farmers Friend Canal Co., Ltd.		2,000	9,400	11,400
Island Irrigation. Co.			4,700	4,700
J. R. Simplot Co.			2,500	2,500
Labelle Irrigation. Co.			800	800
Liberty Park Irrigation. Co.			2,350	2,350
Long Island Irrigation. Co.			5,000	5,000
Lower Slough Canal Co., Ltd.		1,040	1,600	2,640
Mitigation, Inc. ^{4/}			18,980	18,980
New Lava Side Ditch Co.			11,750	11,750
North Rigby Irrigation. & Canal Co.			1,200	1,200
Owners Mutual Irrigation. Co.		200		200
Palisades Water Users, Inc.			53,630	53,630
Parks & Lewisville Canal Irrigation. Co.			5,500	5,500
Parsons Ditch Co., Ltd.			994	994
Rigby Canal & Irrigation. Co.			6,300	6,300
Riverside Ditch Co.			1,500	1,500
Sunnydell ID		4,000	6,300	10,300
Texas Slough Irrigation. Canal Co.			2,350	2,350
Twin Falls Canal Co. ^{3/}		97,183		97,183
Watson Slough Irrigation. Co. & Watson Slough Ditch Co., Ltd.			2,056	2,056
Wearyrick Ditch Co.			600	600
West Labelle Irrigation. Co.			1,000	1,000
West Side Mutual Canal Co.			2,350	2,350
Wyoming, State of			33,000	33,000
<i>Contracted Space Totals</i>	<i>1,663,640</i>	<i>843,077</i>	<i>1,189,978</i>	<i>3,696,695</i>
<i>Uncontracted Space Totals</i>	<i>8,951</i>	<i>3,923</i>	<i>10,022</i>	<i>22,896</i>
Total Active Capacity^{5/}	1,672,590	847,000	1,200,000	3,719,590
<p>^{1/} American Falls Reservoir District holds: 22,492 af in American Falls Reservoir and 13,042 af in Jackson Lake for Aberdeen-Springfield Canal Co.; 274,338 af in American Falls for North Side Canal Co.; and 148,747 af in American Falls for Twin Falls Canal Co.</p> <p>^{2/} Burley ID holds 33.5 percent and Minidoka ID holds 66.5 percent of the water accruing to store in Lake Walcott (Minidoka Dam), which is not accounted for in this table. Lake Walcott has an active storage capacity of 95,200 af. Winter power releases may be curtailed by the USBR to make additional water available for storage purposes in American Falls, Island Park, and Palisades Reservoirs in any year when these reservoirs fail to fill. The first 45,000 af of such curtailed saved water is credited to Island Park. Crediting is contingent upon spaceholders paying for power replacement.</p> <p>^{3/} Also has space through American Falls Reservoir District.</p> <p>^{4/} Mitigation, Inc. also holds 80,500 af in Ririe Reservoir.</p> <p>^{5/} Totals for American Falls and Total Space columns do not add due to rounding. Fremont-Madison ID holds 135,000 af of the storage capacity in Island Park Reservoir and 15,200 af in Grassy Lake, which are not accounted for in this table and make up the Upper Snake River Storage Division of the Minidoka Project.</p>				

E.2 Boise Project, Arrowrock Division

Spaceholders	Anderson Ranch Reservoir (acre-feet)	Arrowrock Reservoir (acre-feet)	Lucky Peak Reservoir (acre-feet)	Total Space (acre-feet)
Ballentyne Ditch Company	367		1,300	1,667
Boise City Canal Company			1,000	1,000
Boise Project Board of Control				
Big Bend Irrigation District	3,797	2,533		6,330
Boise-Kuna Irrigation District	109,538	71,386		180,924
Nampa & Meridian Irrigation District	90,758	58,201		148,959
(Ridenbaugh Canal)		3,794		3,794
New York Irrigation District	40,051	26,014		66,065
Wilder Irrigation District	122,195	83,187		205,382
Boise Valley Irrigation Ditch Company	939		2,500	3,439
Canyon County Water Company			6,000	6,000
Capitol View Irrigation District	449			449
Eagle Island Water Users Association			1,718	1,718
Eureka Water Company			2,800	2,800
Farmers Union Ditch Company	5,593	2,779	10,000	18,372
Farmers' Cooperative Ditch Company		1,146		1,146
J.R. Simplot Company & Micron Tech.	3,000			3,000
Middleton Irrigation Association, Inc.			6,380	6,380
Middleton Mill Ditch Company			4,620	4,620
New Dry Creek Ditch Company	1,266		3,000	4,266
New Union Ditch Company			1,400	1,400
Pioneer Ditch Company	2,123		500	2,623
Pioneer Irrigation District	24,986	20,326	16,000	61,312
Settlers Irrigation District	5,675	2,668	10,000	18,343
South Boise Mutual Irrigation	531			531
South Boise Water Company			700	700
Thurman Mill Ditch Company			800	800
Trinity Springs, Ltd.	800			800
United States Forest Service		190		190
United Water Idaho	1,000		800	1,800
Village of Garden City			1,500	1,500
Reacquired Flow Augmentation			40,932	40,932
Uncontracted	6			6
Uncontracted Streamflow Maintenance			152,300	152,300
Total Active Capacity	413,074	272,224	264,250	949,548

E.3 Boise Project, Payette Division

Spaceholders	Lake Cascade (acre-feet)	Deadwood Reservoir (acre-feet)	Total Space (acre-feet)
Amyx, Heffner, or Heffner		266	266
Black Canyon Irrigation District	238,664		238,664
Bruce, James		130	130
Canaday, Michael	480	600	1,080
Curtis, John		92	92
Dahlstrom, Blaine & Jane	16		16
Edwards, Charles	1,566		1,566
Emmett Irrigation District	9,947	51,101	61,048
Farmers Coop. Irrigation Company, Ltd.	38,493		38,493
Gatfield, Eugene		1,200	1,200
Hunter, Robert		375	375
Kuenzli, Ronald L. & Ida Marie		880	880
Landis, Rodna E.		640	640
Lowe, Michael	42		42
Lower Payette Ditch Company	9,947		9,947
McConnel, Alva Lon	637	258	895
McConnel, Alva B.		450	450
Nicholson, Thomas P. & Diana R.		469	469
Noble Ditch Co., Ltd.	9,947		9,947
Reay, David B.	21		21
Shelly Acres Homeowners' Association	627		627
Snyder, Marion	63		63
Thornton, John		75	75
<i>Subtotal</i>	<i>310,450</i>	<i>56,536</i>	<i>366,986</i>
<i>Uncontracted Space</i>	<i>336,011</i>	<i>104,464</i>	<i>440,475</i>
Total Active Capacity	646,461	161,000	807,461