

Assumptions:

- * Streamflows were adjusted to the May Early Final Water Supply Forecast for the period of May thru August of 59.5 MAF at The Dalles and shaped 59 different ways based on observed historical runoff.
- * Starting elevations were observed data from April 29, 2004.
- * Grand Coulee operates to meet Priest Rapids flow objective of 135 kcfs from May 1-31, then tries to refill by June 30. Grand Coulee drafts no lower than 1243 ft by 31 May, and no more than 1 to 1.5 feet/day (for bank stabilization) when operating to meet Priest Rapids flow objectives.
- * Hungry Horse targets elevation 3554 feet by 31 May with a minimum flow of 900 cfs, meets minimum flow of 3500 cfs at Columbia Falls, targets full in June, and drafts to 3540 ft by 31 Aug.
- * Brownlee targets 2077 ft by 31 May, 2076 ft by 30 June, 2070 ft by 31 July, and 2057 ft by 31 August.
- * Dworshak targets elevation 1590 feet by May 31 with a maximum release of 13 kcfs from May thru June. DWR targets full in June with a minimum flow of 1.5 kcfs, releases a maximum of 13 kcfs in July - August to meet LWG flow objectives, and targets 1520 ft by 31 Aug.
- * Libby targets 13.9 kcfs in May and 9.4 kcfs in June for Sturgeon, based on an Apr-Aug forecast of 5.1 MAF and a Tier 2 required pulse of 0.80 MAF. Minimum flow for bull trout in July and August is 7,000 cfs. Libby drafts to elevation 2449 ft by 31 July and 2439 ft by 31 Aug.

Results:

Priest Rapids Meets Flow Objectives of 135 kcfs from May 1 - Jun 30.

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)	Priest Rapids Adjusted for Banks Lake Pumping (kcfs)
May	59	141	140.6
Jun	39	144	128.2

*Note: the current QADJ model does not account for Banks Lake Pumping. ESP estimates 7.5 kcfs in May and 8.5 kcfs in June for Banks Lake, for a total of 16 kcfs. QADJ tries to meet 135 kcfs at PRD, so May flow at PRD will not change, but the GCL elevation will be decreased by the pumping volume, and will translate to a lesser flow in June to meet GCL refill. Adjusted June flow at PRD correlates to ESP flow in June with this logic.

Lower Granite Meets Flow Objectives of 85 kcfs in May, 73.3 kcfs in June, and 50 kcfs in Jul - Aug:

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)
May	21	79
Jun	22	69
Jul	4	42
Aug 15	0	36
Aug 31	0	22

Project Elevations - May 31

	Average (feet)	Median (feet)
Libby	2424	2423
Hungry Horse	3552	3554
Grand Coulee	1276	1279
Dworshak	1590	1590

McNary Meets Flow Objectives of 220 kcfs from May 1 - Jun 30 and 200 kcfs from Jul 1 - Aug 31:

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)	McNary Adjusted for Banks Lake Pumping (kcfs)
May	12	205	205
Jun	8	196	180
Jul	0	148	
Aug 15	0	136	
Aug 31	0	111	

Projects Refill by 30 June:

	Occurrences out of 59 Years	Average Elevation on 30 Jun for 59 Years
Libby	13	2453
Hungry Horse	59	3560
Grand Coulee	59	1290
Dworshak	59	1600

	QADJ Period Average Flows (kcfs) (Not adjusted for Banks Lake Pumping)				
	MAY 1-31	JUN 1-30	JUL 1-31	AUG 1-15	AUG 16-31
LIB	14	10	19	16	13
HGH	2	4	6	5	4
GCL	120	118	104	98	88
PRD	141	144	116	104	93
DWR	5	5	14	14	6
BRN	15	10	9	13	8
LWG	79	69	42	36	22
MCN	205	196	148	136	111
TDA	218	205	153	140	114
BON	220	206	155	142	116