

Assumptions:

- * Streamflows were adjusted to the February Final Water Supply Forecast for the period of February thru August of 81.7 MAF at The Dalles (75% of average) and shaped 69 different ways based on observed historical runoff.
- * Starting elevations were observed data from January 31, 2005.
- * Grand Coulee helps meet Vernita Bar minimum flow objective of 65 kcfs in Feb-Mar drafting to elevation 1255.0 ft in March for drum gate maintenance. Coulee holds elevation 1255 ft through April and fills to 1290 in June. Summer BiOp drafts are 1285 ft in July and 1280 ft in August.
- * Hungry Horse operates to VARQ flood control or minimum flow from Jan - May and meets minimum flow of 3400 cfs at Columbia Falls, targets full in June, and drafts to 3540 ft by 31 Aug.
- * Brownlee operates to flood control elevations, which is elevation 2077 ft (or full pool).
- * Dworshak targets elevation 1585.7 ft in Mar, 1594.4 ft by 15 Apr through May, based on a GCL/DWR shifted flood control operation and maximum releases of 15 kcfs in April and 13 kcfs May-Jun. DWR targets full in June and targets 1534 ft by 31 Aug.
- * Libby operates on minimum flow or VARQ flood control Jan - Apr. Targets 13,900 cfs in May and 10,800 cfs in June for Sturgeon, based on an Apr-Aug forecast of 5.644 MAF and a Tier 3 required pulse of 0.88 MAF. Targets full in July with a minimum flow of 7,000 cfs for bull trout. Drafts to 2439 ft by 31 Aug.

Results:

Priest Rapids Meets Flow Objectives of 65 kcfs from Feb - Apr 15 and 135 kcfs from Apr 16 - Jun.

Month	Occurrences out of 69 Years	Average Flow for 69 Years (kcfs)
Feb	69	95
Mar	69	88
Apr 15	47	74
Apr 30	10	102
May	50	150
Jun	69	147

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

Month	Occurrences out of 69 Years	Average Flow for 69 Years (kcfs)
Apr 30	2	50
May	12	72
Jun	15	64
Jul	1	34
Aug 15	0	26
Aug 31	0	25

Bonneville Meets Flow Objectives of 125 kcfs in Feb - Apr:

Month	Occurrences out of 69 Years	Average Flow for 69 Years (kcfs)
Feb	58	142
Mar	49	139
Apr 15	45	136
Apr 30	60	168

McNary Meets Flow Objectives of 220 kcfs from Apr 15 - Jun 30 and 200 kcfs in Jul - Aug:

Month	Occurrences out of 69 Years	Average Flow for 69 Years (kcfs)
Apr 30	3	149
May	20	206
Jun	30	221
Jul	3	167
Aug 15	0	137
Aug 31	0	130

Projects Refill by 30 June:

Month	Occurrences out of 69 Years	Average Elevation on 30 Jun for 69 Years
Libby	59	2458
Hungry Horse	69	3560
Grand Coulee	69	1290
Dworshak	68	1600

Period Average Flows (kcfs)

	FEB 1-28	MAR 1-31	APR 1-15	APR 16-30	MAY 1-31	JUN 1-30	JUL 1-31	AUG 1-15	AUG 16-31
LIB	4.0	4.0	4.0	4.0	14.4	15.2	17.7	20.4	22.8
HGH	2.2	2.0	0.8	1.1	7.5	6.1	6.7	8.6	0.8
GCL	89	82	67	91	130	155	136	112	105
PRD	95	88	74	102	150	178	147	119	110
DWR	1.6	1.6	1.6	2.5	8.6	5.2	9.8	9.9	10.2
BRN	9	11	12	13	12	11	8	9	8
LWG	23	29	41	50	72	64	34	26	25
MCN	125	124	121	149	206	221	167	137	130
BON	142	139	136	168	217	229	173	142	135

**MCNARY OUTFLOW
MAY-JUNE AVERAGE**

