

**Assumptions:**

- \* Streamflows were adjusted to the January Final Water Supply Forecast for the period of January thru August of 111 MAF at The Dalles and shaped 59 different ways based on observed historical runoff.
- \* Starting elevations were observed data from December 31, 2003.
- \* Grand Coulee helps meet Bonneville minimum flow objective of 125 kcfs in Jan-Mar drafting no lower than 1248.0 ft in Jan, 1253.7 ft in Feb, and 1246.2 ft in March. Operate to meet McNary flow objective of 250 kcfs drafting no lower than 1236 ft by Apr 15. Minimum draft elevations are based on a GCL/Dworshak shifted flood control and VECC/AER
- \* Hungry Horse operates to VARQ flood control or minimum flow from Jan - May and meets minimum flow of 3500 cfs at Columbia Falls, targets full in June, and drafts to 3540 ft by 31 Aug.
- \* Brownlee operates to flood control elevations.
- \* Dworshak targets elevation 1530.2 ft in Mar, 1528.8 ft by 15 Apr, and 1520.9 ft by 30 Apr, based on a GCL/DWR shifted flood control operation and maximum releases of 13 kcfs. 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 operates on minimum flow or VARQ flood control Jan - Apr. Targets 9,200 cfs in May and 15,600 cfs in June for Sturgeon, based on an Apr-Aug forecast of 5.71 MAF and a Tier 3 required pulse of 0.9 MAF. Targets full in July with a minimum flow of 8,000 cfs for bull trout. Drafts to 2439 ft by 31 Aug.

**Results:**

Priest Rapids Meets Flow Objectives of 70 kcfs in Jan - Apr 15 and 135 kcfs in Apr 16 - Jun.

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)
Feb	57	96
Mar	59	106
Apr 15	59	107
Apr 30	9	103
May	58	157
Jun	58	141

Grand Coulee meets the Apr 15 flood control target elevation of 1235.9 ft in all 59 years. GCL operates to meet Bonneville objective of 125 kcfs in Jan-Mar.

Lower Granite Meets Flow Objectives of 99.3 kcfs in Apr - May, 83.4 kcfs in June and 51.6 kcfs in Jul - Aug:

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)
Apr 30	16	83
May	40	105
Jun	43	96
Jul	26	48
Aug 15	0	40
Aug 31	0	31

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

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)
Feb	58	165
Mar	59	180
Apr 15	59	206
Apr 30	59	212

McNary Meets Flow Objectives of 250 kcfs in Apr 15 - Jun and 200 kcfs in Jul - Aug:

Month	Occurrences out of 59 Years	Average Flow for 59 Years (kcfs)
Apr 30	5	188
May	56	261
Jun	55	313
Jul	26	192
Aug 15	4	166
Aug 31	1	148

Projects Refill by 30 June:

Month	Occurrences out of 59 Years	Average Elevation on 30 Jun for 59 Years
Libby	46	2458
Hungry Horse	59	3560
Grand Coulee	59	1290
Dworshak	43	1595