

QADJ RESULTS (MARCH FINAL VERSUS MID-MONTH)

Run Assumptions:

Both runs:

- * Grand Coulee operates to meet 70 kcfs at Priest Rapids Feb - Apr 30. Coulee attempts to meet McNary flows of 220 kcfs in May to draft limit of El. 1260, and targets El. 1288, 1285, 1280, and 1278 in June, July, Aug 15, and Aug 30. .
- * Hungry Horse operates to VARQ, meets flows at Columbia Falls, targets full in June, El. 3550 in July and 3540 by 31 Aug.
- * Brownlee operates to flood control elevations.

MAR 18 Run additional assumptions:

- * Streamflows were adjusted to the **March Final** Water Supply Forecast and shaped 59 different ways based on observed historical runoff.
- * Starting Elevations were actual Feb 28th ending elevations
- * Dworshak meets flood control, targets full in June, releases 14 kcfs cfs in Jul - Aug for LWG and targets 1520 ft by 31 Aug.
- * Libby operates on minimum flow (4000 cfs) or VARQ flood control March - June. Targets El. 2454 in July with minimum flow of 6000 cfs, targets El. 2449, and 2439 on Aug 15 and Aug 30.

MAR 24 Run additional assumptions:

- * Streamflows were adjusted to the **March Mid-Month** Water Supply Forecast and shaped 59 different ways based on observed historical runoff.
- * Starting Elevations were forecasted 31 March ending elevations
- * Dworshak releases 15 kcfs in April, targets full in June, releases 14 kcfs in Jul - Aug for LWG and targets 1520 ft by 31 Aug.
- * Libby operates on minimum flow (4 kcfs) or VARQ flood control Mar - Apr, **conducts a sturgeon pulse operation** in May - Jun, targets El. 2454 in July with minimum bull trout flow of 7 kcfs, targets El. 2449, and 2439 on Aug 15 and Aug 30.

Results:

LOWER GRANITE:

QADJ Targets based on the March Final Lower Granite WSF of 14.6 MAF were 85 kcfs from 3 Apr - 20 Jun and 50 kcfs from 21 June - 31 Aug.

QADJ Targets based on the March Mid-Month L. Granite WSF of 16.6 MAF were 87.3 kcfs from 3 Apr - 20 Jun and 50.3 kcfs from 21 June - 31 Aug.

	Average Flows in kcfs			No. Times Meeting Targets	
	QADJ Target	MAR 18 RUN	MAR 24 RUN	MAR 18 RUN	MAR 24 RUN
APR1	85 / 87.3	47	63	1	3
APR2	85 / 87.3	59	74	4	13
MAY	85 / 87.3	84	87	29	31
JUN	73.3 / 74.9	74	81	30	37
JUL	50 / 50.3	40	42	4	7
AUG1	50 / 50.3	35	37	0	0
AUG2	50 / 50.3	22	25	0	0
APR1-JUN	81.2 / 83.2	71	79	0	4

SEASONAL SPRING FLOWS	
* Lower Granite flow targets for the Apr - Jun period averaged 81.2 kcfs with the March Final and averaged 83.2 kcfs with the Mid-Month.	
* These flows were calculated by averaging 81 days (1 Apr - 20 Jun) at 85 kcfs (or 87.3 kcfs) and 10 days (21 - 30 Jun) at 50 kcfs (or 50.3 kcfs).	
* In the MAR 18 RUN, the QADJ Apr-Jun Lower Granite flows averaged 71 kcfs and the objectives were not met in any of the 60 years modeled.	
* In the MAR 24 RUN, the QADJ Apr-Jun Lower Granite flows averaged 79 kcfs and the seasonal flow objectives were met in 4 of the 60 years.	

PRIEST RAPIDS:

	Average Flows in kcfs			No. Times Meeting Targets	
	QADJ Target	MAR 18 RUN	MAR 24 RUN	MAR 18 RUN	MAR 24 RUN
AP1	70	74	80	59	59
APR	135	84	97	1	5
MAY	135	139	158	43	58
JUN	135	102	121	2	55

McNARY:

	Average Flows in kcfs			No. Times Meeting Targets	
	QADJ Target	MAR 18 RUN	MAR 24 RUN	MAR 18 RUN	MAR 24 RUN
APR2	220	138	163	0	3
MAY	220	212	227	28	46
JUN	220	172	219	4	28
JUL	200	138	154	0	1
AUG1	200	128	137	0	0
AUG2	200	105	113	0	0

REFILL:

	30 June Elevation			No. Times Meeting Targets	
	QADJ Target	MAR 18 RUN	MAR 24 RUN	MAR 18 RUN	MAR 24 RUN
Libby	2459	2457.0	2456.2	31	29
Hungry Horse	3560	3555.4	3560.0	2	59
Grand Coulee	1288	1288.0	1288.0	59	59
Dworshak	1600	1599.9	1600.0	58	59