

Summary of Columbia River Basin Flood Risk Management Requirements, 1-Mar
Issue Date: 07-Mar-2023

WY 2023

Project Limits

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR
Maximum Elevation, ft	2475.0	1444.0	2459.0	1892.0	3560.0	1290.0	2077.0	1600.0
Minimum Elevation, ft	2320.0	1378.0	2287.0	1794.2	3336.0	1208.0	1976.0	1445.0
Usable Storage, kaf	12053.3	7100.0	4979.5	1398.6	2981.0	5349.6	975.3	2015.7
Usable Storage, ksfd	6076.9	3579.6	2510.5	705.1	1502.9	2697.1	491.7	1016.3

Feb. 28/29 Project Conditions

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR
Elevation, ft (MSL)	2381.0	1401.5	2405.7	1820.3	3519.0	1258.8	2032.3	1519.6
Draft, kaf	8439.8	4933.8	2188.0	1119.0	890.9	2353.5	522.3	1235.0
Usable Stor. less Draft, kaf	3613.5	2166.2	2791.5	279.6	2090.1	2996.1	453.1	780.7

Draft Required to meet Mar. 31 Flood Risk Management

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Elevation Reduction, ft	-	-	-	1.2	-	-	-	-	-
Storage Reduction, kaf	-	-	-	14.7	-	-	-	-	-

1-Mar Water Supply Forecast

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Apr-Jul, kaf	-	-	-	-	-	-	4302	2344	-
Apr-Jul %-Normal (2)	-	-	-	-	-	-	84%	95%	-
Apr-Jul Change, kaf (1)	-	-	-	-	-	-	108	227	-
Apr-Aug, kaf	10096	20584	5298	1864	-	49697	-	-	74038
Apr-Aug %-Normal (2)	90%	93%	87%	91%	-	85%	-	-	83%
Apr-Aug Change, kaf (1)	449	1316	227	96	-	1640	-	-	1247
May-Sep, kaf	-	-	-	-	1760	-	-	-	-
May-Sep %-Normal (2)	-	-	-	-	99%	-	-	-	-
May-Sep Change, kaf (1)	-	-	-	-	10	-	-	-	-

System Draft Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys (3)	DWR Loc
Jan. 31, kaf	1146	1244	2054	829	418	0	0	827	827
Feb. 28/29, kaf	1882	1782	1678	1038	429	0	219	808	808
Mar. 15, kaf	-	-	-	1134	-	-	-	-	-
Mar. 31, kaf	2910	2576	1821	1134	534	648	130	812	812
Apr. 15, kaf	-	-	-	-	581	847	80	656	656
Apr. 30, kaf	2910	2576	1855	1134	628	599	15	966	-

System Elevation Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys (3)	DWR Loc
Jan. 31, ft	-	1434.2	2409.5	1841.3	3541.7	1290.0	2077.0	1549.5	1549.5
Feb. 28/29, ft	-	1429.8	2419.6	1826.5	3541.2	1290.0	2060.5	1550.8	1550.8
Mar. 15, ft	-	-	-	1819.1	-	-	-	-	-
Mar. 31, ft	-	1423.1	2415.9	1819.1	3536.4	1281.9	2067.6	1550.5	1550.5
Apr. 15, ft	-	-	-	-	3534.2	1279.4	2071.3	1561.2	1561.2
Apr. 30, ft	-	1423.1	2415.0	1819.1	3531.9	1282.6	2076.0	1539.6	-

Flood Risk Management Summary at The Dalles, Oregon

Parameter	Chart (3)	kaf	kcfs
The Dalles Apr-Aug Forecast	-	74038	-
The Dalles May-Aug Forecast	-	61902	-
Upstream Storage Correction	#2	20282	-
Corrected The Dalles May-Aug Forecast	-	41620	-
Initial Controlled Flow, ICF	#1	-	251
Estimated Unregulated Peak Discharge	#1-A	-	442

Notes:

- 1 Change in official forecast from the previous month.
 - 2 All %-Normal values are based on 30-year (1991-2020) Runoff Volume averages as determined by the Northwest River Forecast Center.
 - 3 Columbia River Treaty Flood Control Operating Plan, Corps of Engineers, Northwestern Division, Corps of Engineers, 2003.
 - 4 Dworshak and Grand Coulee System Numbers include shift if applicable, when shift is maximal the System values at Dworshak are the same as Local
- Questions?** Contact Kasi Whorley 503-808-3950 or Haytham Oueidat 503-808-3740.

Maximum Flood Risk Storage Shift from DWR and/or BRN to GCL																		
Date	GCL Non-Shifted FC Draft (kaf)	GCL Maximum Draft Limit (kaf)	GCL Maximum Shift Potential (kaf)	DWR FC Draft - System (kaf)	DWR FC Draft - Local (kaf)	DWR FC Shift - Granted (kaf)	DWR / GCL FC Shift - Allowable (kaf)	DWR Shifted FC Draft (kaf)	DWR Shifted FC Elevation (ft)	GCL Shifted FC Draft (w/DWR Shift) (kaf)	GCL Shifted FC Elevation (w/DWR Shift) (ft)	GCL Maximum Shift Potential remaining (kaf)	BRN FC Shift - Granted (kaf)	BRN / GCL FC Shift - Allowable (kaf)	BRN Shifted FC Draft (kaf)	BRN Shifted FC Elevation (ft)	GCL Shifted FC Draft (w/DWR+BRN Shift) (kaf)	GCL Shifted FC Elevation (w/DWR+BRN Shift) (ft)
Jan. 31	0	2798	2798	820	827	0	0	827	1549.5	0	1290.0	2798	0	0	0	2077.0	0	1290.0
Feb. 28/29	0	2798	2798	794	808	0	0	808	1550.8	0	1290.0	2798	0	0	219	2060.5	0	1290.0
Mar. 31	537	4476	3939	923	812	111	111	812	1550.5	648	1281.9	3828	0	0	130	2067.6	648	1281.9
Apr. 15	537	2304	1767	966	656	310	310	656	1561.2	847	1279.4	1457	0	0	80	2071.3	847	1279.4
Apr. 30 b	599	599	0	966	-	0	0	966	1539.6	599	1282.6	0	0	0	15	2076.0	599	1282.6
Column Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Notes	-	a	2-1	-	-	4-5	Min 3,6	4-7	-	1+7	-	2-10	-	Min 12,13	-	-	10+14	-

Notes:

Under certain conditions the required flood risk draft at DWR and BRN may be shifted to GCL prior to 30-April. The shifted rule curve shown above represents the maximum allowable flood risk storage shift(s) for the current water year based on the current month's flood risk management requirements for each project and evacuation limitations at GCL; however, the actual volume shifted to GCL on any date is ultimately determined by the Bureau of Reclamation. The shift of volume for DWR to GCL has priority over the shift of volume from BRN to GCL in cases when GCL cannot accept the total combined volume.

- a The potential flood risk storage shift to GCL is limited to the operation at GCL above elevation 1252.3 ft (2744 kaf draft) at the end of February and elevation 1225.0 ft (4355 kaf draft) at end of March and 15-Apr, and also limited by the GCL maximum draft rate limit. All projects are to be at their non-shifted flood risk management draft requirements at the end of Apr.
- b No shift is allowed, all projects to be back to their non-shifted flood risk draft requirement by 30-April.

Questions? Contact Kasi Whorley 503-808-3950 or Haytham Oueidat 503-808-3740.

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