Summary of Columbia River Basin Flood Risk Management Requirements, 1-Apr **WY 2022**

Issue Date: 07-Apr-2022

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

Mar. 31 Project Conditions

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR
Elevation, ft (MSL)	2378.8	1400.9	2365.3	1802.1	3534.0	1251.9	2050.3	1530.9
Draft, kaf	8593.2	4996.3	3380.2	1329.0	583.7	2827.0	337.5	1085.0
Usable Stor. less Draft, kaf	3460.1	2103.7	1599.3	69.6	2397.3	2522.6	637.8	930.8

Draft Required to meet Apr. 30 Flood Risk Management

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Elevation Reduction, ft	-	-	-	-	-	1.1	-	-	-
Storage Reduction, kaf	-	-	-	-	-	75.6	-	-	-

1-Apr Water Supply Forecast

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Apr-Jul, kaf	-	-	-	-	-	-	3278	2367	-
Apr-Jul %-**Normal (2)**	-	-	-	-	-	-	64%	96%	-
Apr-Jul **Change**, kaf **(1)**	-	-	-	-	-	-	-394	-302	-
Apr-Aug, kaf	12727	24662	6992	2314	-	61846	-	-	86007
Apr-Aug %-**Normal (2)**	114%	111%	115%	113%	-	106%	-	-	96%
Apr-Aug **Change**, kaf **(1)**	-119	-297	20	-25	-	413	-	-	-379
May-Sep, kaf	-	-	-	-	1600	-	-	-	-
May-Sep %-**Normal (2)**	-	-	-	-	90%	-	-	-	-
May-Sep **Change**, kaf **(1)**	-	-	-	-	-100	-	-	-	-

System Draft Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys	DWR Loc
Jan. 31, kaf	1609	1749	2851	857	407	0	0	1122	1127
Feb. 28/29, kaf	2810	2603	3417	1215	471	0	299	1248	1248
Mar. 15, kaf	-	-	-	1270	-	-	-	-	-
Mar. 31, kaf	4080	3600	3209	1270	470	1442	237	1117	1116
Apr. 15, kaf	-	-	-	-	381	2395	111	681	681
Apr. 30, kaf	4080	3600	3238	1270	400	2903	0	960	-

System Elevation Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys	DWR Loc
Jan. 31, ft	-	1430.1	2384.6	1839.3	3542.2	1290.0	2077.0	1528.2	1527.8
Feb. 28/29, ft	-	1422.9	2363.9	1812.5	3539.3	1290.0	2053.7	1518.6	1518.6
Mar. 15, ft	-	-	-	1807.7	-	-	-	-	-
Mar. 31, ft	-	1414.1	2371.8	1807.7	3539.3	1271.5	2059.1	1528.6	1528.6
Apr. 15, ft	-	-	-	-	3543.4	1258.2	2069.1	1559.5	1559.5
Apr. 30, ft	-	1414.1	2370.7	1807.7	3542.5	1250.7	2077.0	1540.0	-

Flood Risk Management Summary at The Dalles, Oregon

Parameter	Chart (3)	kaf	kcfs
The Dalles Apr-Aug Forecast	-	86007	-
The Dalles May-Aug Forecast	-	71909	-
Upstream Storage Correction	#2	24090	-
Corrected The Dalles May-Aug Forecast	-	47819	-
Initial Controlled Flow, ICF	#1	-	298
Estimated Unregulated Peak Discharge	#1-A	-	527

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.

Questions? Contact Kasi Whorley 503-808-3950, Christina Urbanczyk 503-808-3979, or Tom Chisholm 503-808-3958.

PROCTOR.WILLIAM.DALE.1387297118

Digitally signed by PROCTOR.WILLIAM.DALE.1387297118

Date: 2022.04.07 11:30:55 -07'00'

Summary of Columbia River Basin Flood Risk Management Requirements, 1-Apr WY 2022

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	1122	1127	0	0	1127	***1527.8***	***0***	***1290.0***	2798	0	0	0	***2077.0***	***0***	***1290.0***
Feb. 28/29	0	2798	2798	1243	1248	0	0	1248	***1518.6***	***0***	***1290.0***	2798	0	0	299	***2053.7***	***0***	***1290.0***
Mar. 31	1262	4476	3214	1297	1116	**180**	180	**1117**	***1528.6***	***1442***	***1271.5***	3034	**0**	0	**237**	***2059.1***	***1442***	***1271.5***
Apr. 15	2076	3954	1878	1001	681	**320**	320	***681***	***1559.5***	***2395***	***1258.2***	1558	**0**	0	**111**	***2069.1***	***2395***	***1258.2***
Apr. 30 **b**	2903	2903	0	960	-	**0**	0	***960***	***1540.0***	***2903***	***1250.7***	0	**0**	0	***0***	***2077.0***	***2903***	***1250.7***
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, Christina Urbanczyk 503-808-3979, or Tom Chisholm 503-808-3958.

William Proctor, P.E.
Ch., Hydrologic Engineering and Power Branch