

Summary of Columbia River Basin Flood Risk Management Requirements, 1-Mar
Issue Date: 05-Mar-2021

WY 2021

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)	2389.8	1400.2	2403.4	1812.1	3529.9	1276.0	2025.8	1533.3
Draft, kaf	7817.2	5067.7	2267.9	1220.1	669.4	1102.5	584.5	1052.3
Usable Stor. less Draft, kaf	4236.1	2032.2	2711.6	178.5	2311.5	4247.1	390.8	963.4

Draft Required to meet Mar. 31 Flood Risk Management

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Elevation Reduction, ft	-	-	2.4	4.4	-	-	-	17.3	-
Storage Reduction, kaf	-	-	81.4	49.9	-	-	-	229.1	-

1-Mar Water Supply Forecast

Project >>	MCDB	ARDB	LIB	DCDB	HGH	GCL	BRN	DWR	TDA
Apr-Jul, kaf	-	-	-	-	-	-	4204	2855	-
Apr-Jul %-Normal (2)	-	-	-	-	-	-	77%	118%	-
Apr-Jul Change, kaf (1)	-	-	-	-	-	-	245	423	-
Apr-Aug, kaf	12116	23544	5980	2186	-	55403	-	-	82215
Apr-Aug %-Normal (2)	110%	107%	102%	109%	-	98%	-	-	94%
Apr-Aug Change, kaf (1)	446	585	1	88	-	-1923	-	-	-1056
May-Sep, kaf	-	-	-	-	1805	-	-	-	-
May-Sep %-Normal (2)	-	-	-	-	107%	-	-	-	-
May-Sep Change, kaf (1)	-	-	-	-	135	-	-	-	-

System Draft Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys	DWR Loc
Jan. 31, kaf	-	-	-	-	-	-	-	-	1057
Feb. 28/29, kaf	-	-	-	-	-	-	-	-	1013
Mar. 15, kaf	-	-	-	1270	-	-	-	-	-
Mar. 31, kaf	4080	3600	2349	1270	582	790	265	1281	1281
Apr. 15, kaf	-	-	-	-	637	1925	222	1184	1183
Apr. 30, kaf	4080	3600	2384	1270	692	2227	205	1395	-

System Elevation Requirements

Project >>	MCDB	ARDB	LIB VarQ	DCDB	HGH VarQ	GCL	BRN	DWR Sys	DWR Loc
Jan. 31, ft	-	-	-	-	-	-	-	-	1533.0
Feb. 28/29, ft	-	-	-	-	-	-	-	-	1536.2
Mar. 15, ft	-	-	-	1807.7	-	-	-	-	-
Mar. 31, ft	-	1414.1	2401.0	1807.7	3534.1	1280.1	2056.7	1516.0	1516.0
Apr. 15, ft	-	-	-	-	3531.5	1264.8	2060.3	1523.5	1523.5
Apr. 30, ft	-	1414.1	2399.9	1807.7	3528.8	1260.6	2061.7	1506.8	-

Flood Risk Management Summary at The Dalles, Oregon

Parameter	Chart (3)	kaf	kcfs
The Dalles Apr-Aug Forecast	-	82215	-
The Dalles May-Aug Forecast	-	69246	-
Upstream Storage Correction	#2	22773	-
Corrected The Dalles May-Aug Forecast	-	46473	-
Initial Controlled Flow, ICF	#1	-	286
Estimated Unregulated Peak Discharge	#1-A	-	500

Notes:

- 1 Change in official forecast from the previous month.
- 2 All %-Normal values are based on 30-year (1981-2010) 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 Ron Malmgren 503-808-3975, or Ron Thomasson 503-808-3994, or Tom Chisholm 503-808-3958.

Summary of Columbia River Basin Flood Risk Management Requirements, 1-Mar

WY 2021

Maximum Flood Risk Storage Shift from DWR and/or BRN to GCL																		
	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 Draft - Granted (kaf)	DWR / GCL FC Draft - 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 Draft - Granted (kaf)	BRN / GCL FC Draft - 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	1045	1057	0	0	1057	1533.0	0	1290.0	2798	0	0	0	2077.0	0	1290.0
Feb. 28/29	0	2798	2798	1008	1013	0	0	1013	1536.2	0	1290.0	2798	0	276	276	2055.7	0	1290.0
Mar. 31	537	3898	3361	1534	1281	253	253	1281	1516.0	790	1280.1	3108	0	265	265	2056.7	790	1280.1
Apr. 15	1360	2414	1054	1749	1183	565	565	1184	1523.5	1925	1264.8	489	0	222	222	2060.3	1925	1264.8
Apr. 30 b	2227	2227	0	1395	-	0	0	1395	1506.8	2227	1260.6	0	0	0	205	2061.7	2227	1260.6
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 Ron Malmgren 503-808-3975, Kasi Whorley 503-808-3950, or Ron Thomasson 503-808-3994, or Tom Chisholm 503-808-3958.

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