

Flood Risk Management Requirements
Report #3 for Water Year 2021
Issue Date: 05 March 2021

A. Purpose of Flood Risk Management Requirements. These requirements provide maximum end-of-month reservoir elevations and/or minimum outflows for flood risk management projects in the Columbia River Basin. These requirements are for use by U.S. Army Corps of Engineers, Bureau of Reclamation, Idaho Power, Energy Keepers, BC Hydro and Bonneville Power Administration for operations planning and include all formally approved deviations to date. Any deviation from the flood risk management requirements herein will require approval from the Chief, Columbia Basin Water Management Division (CBWM) per the Northwestern Division's (NWD) Deviation Policy (NWDR 1110-2-6). Requirements are in accordance with the Columbia River Treaty Flood Control Operating Plan (FCOP) and any project-specific water control manuals, with variations as described below. These flood risk management requirements will be revised and re-issued as new information becomes available.

B. List of Approved Flood Deviations from Water Control Manuals.
None are currently in effect.

Dworshak Reservoir to Grand Coulee Reservoir storage shifts of 253 kaf and 565 kaf have been applied to the March 31 and April 15 flood risk management requirements, respectively.

C. Flood Risk Management Requirements

These requirements have been prepared using the most recent official seasonal volume forecasts. The April-August volume forecast at The Dalles Dam based on the March 2021 official forecast is 82,215 kaf. All other forecasts can be found in Table 2 or at:

<http://www.nwd-wc.usace.army.mil/report/colsum/>

Table 1 shows the flood risk management elevations, draft and flow limits for the evacuation, holding and refill periods. The Initial Controlled Flow (ICF) based on the March forecast is 286 kcfs. See the FCOP for how the ICF is computed. More details on the values used can be found at:

<http://www.nwd-wc.usace.army.mil/report/storcorr/>

D. System Flood Risk Management Refill Requirement Discussion.

No system refill requirements at this time.

E. Individual Project Flood Risk Management Requirements Discussion.

No specific individual requirements at this time.

Table 1. Flood Risk Management Requirements

Project	31 Jan	28 Feb	31 Mar	15 Apr	30 Apr ³	31 May ³	30 Jun ³	31 Jul ³
MCDB (kaf) ²	1662	2810	4080	4080	4080	2448	286	0
ARDB (ft)	1430.5	1422.9	1414.1	1414.1	1414.1	1423.9	1443.2	1444.0
DCDB (ft) ⁵	1839.3	1812.5 ⁵	1807.7 ⁵	1807.7	1807.7	1834.5	1877.3	1892.0
LIB (ft) ⁴	2408.1	2406.2	2401.0	2400.4	2399.9	n/a	n/a	2459.0
LIB (kcfs)	n/a	n/a	n/a	n/a	n/a	TBD	TBD	n/a
HGH (ft)	3543.9	3543.8	3534.1	3531.5	3528.8	n/a	n/a	3560.0
HGH (kcfs)	n/a	n/a	n/a	n/a	n/a	TBD	TBD	n/a
SKQ (ft)	n/a	n/a	n/a	2883.0	n/a	2890.0	2893.0	2893.0
ALF (ft) ¹	2060.0	2060.0	2056.0	n/a	2056.0	2062.5	2062.5	2062.5
GCL (ft)	1290.0	1290.0	1280.1	1264.9	1260.6	1275.9	1289.7	1290.0
BRN (ft)	2077.0	2055.7	2056.7	2060.3	2061.7	2074.8	2077.0	2077.0
DWR (ft)	1533.0	1536.2	1516.0	1523.5	1506.8	1569.9	1600.0	1600.0

Notes:

1. Albeni Falls flood risk management elevations are based on readings at the Hope gage.
2. KAF units refer to required flood risk management space (draft) in the reservoir.
3. Flood risk management requirements for May, June and July are based on estimated normal runoff shape. Under certain circumstances, the Refill Guide Curve (also known as Flood Control Refill Curve) procedure may be used to determine when refill is to begin at each project where applicable.
4. Per the Libby Dam WCM, Rule 1 of the VarQ operating procedures, releases will be limited to the hydraulic capacity of the powerhouse to the best extent possible.
5. Per the Duncan Storage Resevation Diagram, Duncan Reservoir is required to achieve its full flood risk management draft requirement of 1807.7 ft by 15 March.

Table 2. Water Supply Forecasts (Kaf)

Project	Forecast Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Current month Forecast % of Normal
MCDB	Apr-Aug	11920	11670	12116					110
ARDB	Apr-Aug	23266	22959	23544					107
DCDB	Apr-Aug	2170	2098	2186					109
LIB	Apr-Aug	6215	5979	5980					102
HGH	May-Sep	1820	1670	1805					107
SKQ ¹	Apr-Jul	5632	5499	5197					90
ALF ¹	Apr-Jul	10919	11323	11022					94
GCL ¹	Apr-Aug	55490	57326	55403					98
BRN ¹	Apr-Jul	4202	3959	4204					77
DWR	Apr-Jul	2843	2432	2855					118
TDA ¹	Apr-Aug	82416	83271	82215					94

Notes:

1. Official water supply forecasts for SKQ, ALF, GCL, BRN and TDA are the ESP 10-day-QPF median values published by the NWRFC on the following days for 2021: Jan 6, Feb 3, Mar 3, Apr 5, May 5, Jun 3.

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