

## HYDRO OPERATING GUIDANCE FOR BALL MOUNTAIN DAM/EAGLE CREEK HYDRO

	Target Pool	Minimum Outflow	MODE 1 (Hydro On, Hydro Controls All Gates)	MODE 2 (Hydro On, Partial COE Control)	MODE 3 (Hydro Off, COE Controls All Gates)
<b>FISH PASSAGE SEASON</b> (November 1 thru June 15)	44 feet	The minimum aquatic base flow is the lesser of 90 cfs or inflow from June 1 thru Sept 30, 170 cfs or inflow from Oct 1 thru Mar 31, and 690 cfs or inflow from April 1 thru May 31	<ul style="list-style-type: none"> <li>• Turbine flow range = 34 to 684 cfs (Note 1)</li> <li>• Gate 2 max opening = 5.0 feet (1,700 cfs) (Note 2)</li> <li>• Fish passage max flow = 40 cfs. (Note 3)</li> <li>• Max total outflow = 2,384 cfs (Note 4)</li> </ul>	<ul style="list-style-type: none"> <li>• Turbine flow range = 34 to 684 cfs. (Note 1)</li> <li>• Max total outflow = 3,784 cfs with both turbine banks lowered (Note 5)</li> <li>• Max total outflow = 5,000 cfs with one turbine bank raised (Note 6, 7)</li> </ul>	<ul style="list-style-type: none"> <li>• No flow through turbines. Flow controlled by COE through any or all gates. Turbines raised or lowered.</li> <li>• Channel Capacity = 5,000 cfs</li> </ul>
<b>REST OF YEAR</b>	65 feet				

### NOTES:

1. At the minimum hydro operating pool of 35 feet, each turbine bank can pass between 34 and 222cfs. At the maximum hydro operating pool of 73 feet, each turbine bank can pass between 53 and 342 cfs.
2. At a max hydro operating pool of 73 feet, the flow through gate 2, open to 5 feet = 1,700 cfs.
3. The fish passage is operable between 34 and 45 feet. Each tube can pass 20 cfs, total = 40 cfs. At 46 feet the fish tubes close.
4. Max total outflow at 73 feet with full hydro control = 2,384 cfs = 1,700 cfs (gate 2 open to 5 feet) + 684 cfs (342 cfs x 2 modules). Fish passage is closed above 46 feet.
5. Max total outflow at 73 foot pool with COE control of gate 2 = 3,784 cfs = 3,100 cfs (gate 2 full open) + 684 cfs (342 cfs x 2 modules). Fish passage is closed above 46 feet.
6. To raise turbine modules, pressure must be equalized across the modules. The modules can be raised at any pool level, however, it is preferable to raise the modules when the operating platform and hoists are accessible below 77 feet.
7. With at least one turbine bank raised, the max total flow is limited by the 5,000 cfs channel capacity.