

MEMORANDUM FOR THE RECORD**SUBJECT: 24BON006 MFR Cascades Island Fishway Entrance Differentials**

On 29 January 2024, at approximately 1300, the Cascades Island (CI) Fish Valve (FV) 5-4 was found to be without power while Powerhouse Two (PH2) personnel attempted to close FV5-4 and FV5-3 for the purpose of cleaning the outer trash racks located on the south-facing wall of FV5-4. Currently, these outer trash racks are inundated with excessive debris loading on the intake gates, resulting in significant drawdowns of water within both the North and South Auxiliary Water System (AWS) Conduits. This drawdown, in combination with the inability to adjust FV5-4 to counteract the drawdown, has resulted in entrance differentials within the Cascades Island Fishway to fall below the FPP Criteria of 1.0 ft head differential. In addition, several diffusers within CI are currently either mechanically bound or experiencing electrical issues. A work order has been created for all these issues, but the diffusers with electrical issues are waiting for significant funding to repair and the diffusers with mechanical issues are awaiting repairs scheduled for the next Winter Maintenance season. All these combined failures are contributing to the low differential in the CI Entrance Bay. Upon further investigation, PH2 electricians identified that the main seeder cables failed within the conduit of FV 5-4, and repairs are underway, with an expected completion by the end of day (EOD) Wednesday, 31 January 2024.

Please refer to the entrance head criteria stated in the 2023 FPP:

2.4.2.4 Maintain head on all entrances in the range of 1'–2' (1.5' preferred).

2.4.2.5. Maximum head on PH1 attraction water intakes and trash racks at all ladder exits is 0.5'. Maximum head on all picket leads is 4". Remove debris as necessary.

3.1.6. Adult Fish Collection Systems. iv. Bonneville fishway auxiliary water systems consist of gravity flow and hydroelectric generating systems. Preventive maintenance and normal repair are carried out as needed throughout the year. Trash racks for the AWS intakes will be raked when drawdown exceeds criteria. When practicable, trash racks will be raked during the time of day when fish passage is least affected.

Sincerely,

Bonneville Fisheries