

Pacific States Marine Fisheries Commission
2325 River Road, #4
The Dalles, OR 97058

Memo

To: Derick M, Kurt C.

From: Rick Martinson

Re: Dewatering structure dewatering for annual outage.

Date: January 11, 2022

On 1/10/2022, the dewatering structure for the PUD turbine on the north shore of The Dalles Dam was dewatered. I got into the structure for fish salvage and inspection around 10 am.

This year the PUD had authorization to take the bypass pipe out of service on October 1 to facilitate the construction of the new sampling facility. It wasn't taken down until December 7th, anticipating the contractor would start work on the 10th and the pipe would need to be cut.

The result, which we expected, was increased debris accumulation and increased fish delay, mostly shad, but some salmonids were expected to be impacted. Below is a summary of the fish found in the dewatering structure.

Table 1. Results of fish rescue/salvage.

	Species								Total Fish	
	Chinook		Rainbow Trout		Sculpin	Sucker	Yellow			
	Clipped	Unclipped					Bullhead	Lamprey	Juv Shad	
Normal	10	4	1	6	1	1				
Mortality	10							6	100	
Total	20	4	1	6	1	1		6	100	139

The photos below depict the debris accumulation, mostly grasses and beaver sticks. Obviously, if the exit is closed the debris is going to occlude the dewatering screens, especially at the downstream end, as shown in the pictures.

The debris was searched for salmonid mortalities and those found are included in the table above and depicted in the pictures below. The remaining dead fish in the debris are shad as are the majority of the fish impinged on the screen.

The morts in photo 1 are older and likely entered the dewatering structure some time ago. The morts in photo 2 are quite recent and may have been alive when the structure was dewatered, except for the fish at the bottom of the picture, it should have been lumped with the old morts. If the fish are stranded in an area with standing water (up to 1" in places) they can survive but if they are stranded in less water than that they likely will not survive unless the rescue effort is started immediately.

This year the rescue effort started about 2 – 2.5 hours after the structure was dewatered. This delay will be reduced as much as possible in future years.



Debris accumulation at top of inclined floor, dewatering structure exit.



Debris and dead shad on floor at down stream end of dewatering structure.



Photo 1. Older Chinook morts.



Photo 2. Fresh or more recent morts.



Photo 3. Pacific lamprey *macrophthalmia* morts.