

**MEMORANDUM FOR THE RECORD**

**SUBJECT: 13BON85 MFR BON AFF Dead fish test**

On 11 September, NOAA Fisheries recommended PIT tagging some AFF morts and releasing them into the Washington Shore fishway to see if any morts made it back to the Valve 15 trashrack.

On 12 September FPOM agreed with the test. University of Idaho and CRITFC were also on board with tagging morts and releasing them in the Washington Shore fishway.

As of 16 September 25 Chinook and coho were collected from the Valve 15 trashrack, examined to determine suitability for PIT tagging, tagged and released to the WS fishway. Lamprey morts would be collected and frozen but not tagged and released until later in the season to avoid conflict with the lamprey migration.

Comments from University of Idaho included the following on 12 September:

-----Original Message-----

*From:* Lee, Steven [<mailto:slee@uidaho.edu>]

*Sent:* Thursday, September 12, 2013 8:14 AM

*To:* Caudill, Christopher; John Whiteaker; Hausmann, Ben J NWP; Bissell, Brian M NWP; Royer, Ida M NWP; Mackey, Tammy M NWP

*Cc:* Traylor, Andrew NWP; Klatte, Bernard A NWP; Rerecich, Jonathan G NWP; Eppard, Matthew B NWP; Tackley, Sean C NWP

*Subject:* [EXTERNAL] RE: PIT tagging dead fish

*This could provide insight as to what is happening and we are happy to assist and hope we can figure some things out. However, to be clear, this is purely anecdotal.*

*A concern is that we are unable to mimic the behavior of a "dying" fish, and rather are seeing/mimicking the behavior of a dead fish drifting. If fish are dying within the ladder, then there is likely a time period of weakened swimming and attempted forward progress. This typically followed by a period of swimming motion but progress actually downstream. Fish have a tendency to move into slower areas to stay at equilibrium and simply continue to fall back. Think about a fish on a spawning bed after the work is done. Just want to be clear as to what we are doing and what it means,, not to be over-evaluated.*

*Some information about fallback or descending fish that do not then re-ascend the ladder may be useful to incorporate into any thinking about this. UI should have some RT data from fish released in the ladder, and PIT info in general may provide data as well. But it would take some serious data mining to get it narrowed down.*

*UI crew will touch base at AFF this morning and see what we can do. We want to figure out release strategy and speak to corps folks one more time prior to releasing fish. Also touch base with CRITFC folks.*

*Steve*

On 16 September University of Idaho provided the following update:

*One thing we noted was that the older (creamier) morts collected, tagged, and released had a tendency to float more and would be less likely to provide similar behavior as very recently dead or dying fish. Some fish we initially tagged had obviously been dead for some time. Since the trash rack has been cleaned better and more frequently now, we are tagging better condition fish (fresh to moderate) past two days; none of them have floated. Still getting new dead fish to tag daily.*

*We are releasing downstream of count window, but upstream of UMT/WA ladder junction. Some fish have been noted passing into UMT channel. So for sure, not all fish are going down same weirs as AFF bypass areas are.*

*To date we have released 25 fish (5 today), none of first 20 have been recollected on the rack. That said, the AFF has been non operational during all release days and times. With the AFF non operational there is likelihood that fish that did pass into the AFF return ladder could float onward toward and through the collection pool area while it is open (during non tagging times). While trapping, that area is blocked and fish more likely to collect on rack in AFF. Testing really needs to be done during both operational periods. I did note to corps biologists that dead fish were visible in collection pool at times. Have not seen dead fish in collection pool for past two days though.*

*Steve*

### **Conclusions from the test**

Files were uploaded on a daily basis.

No PIT tagged fish were recovered again on the Valve 15 trash rack.

AFF MORT DRIFT EVALUATION --- CAN DEAD FISH DRIFT INTO AFF TRASH RACK??  
 ALL FISH COLLECTED AT AFF Valve 15 TRASH RACK, PIT TAGGED, MARKED, AND THEN RELEASED UPSTREAM WITHIN LADDER.

Use for  
PIT ID

Sample	Date- 2013	PIT file name	PIT file record #	Release site	Release time	Tape color	species	length	clips/marks	condition code	comments	Recovered?
1	13-Sep	CCC13256.DED	1	below count window	12:30	green	CK	70	none	good		
2	13-Sep	CCC13256.DED	2	below count window	12:30	orange	CK	68	none	good		
3	13-Sep	CCC13256.DED	3	below count window	12:30	green	CK	69.5	none	moderate		
4	13-Sep	CCC13256.DED	4	below count window	12:30	orange	CK	90	AD	poor		
5	13-Sep	CCC13256.DED	5	below count window	12:30	green	CK	22	none	poor		
6	13-Sep	CCC13256.DED	6	below count window	12:30	orange	CK	32	none	moderate		
7	13-Sep	CCC13256.DED	7	below count window	12:30	green	CK	57	AD	good		
8	13-Sep	CCC13256.DED	8	below count window	12:30	orange	CK	85	AD	poor		
9	13-Sep	CCC13256.DED	9	below count window	12:30	green	CK	54	none	poor		
10	14-Sep	CCC13257.DED	1	below count window	12:45	green	CK	81.5	none	poor		NO
11	14-Sep	CCC13257.DED	2	below count window	12:45	orange	COHO	77	AD	moderate		NO
12	14-Sep	CCC13257.DED	3	below count window	12:45	green	COHO	66	AD	poor		NO
13	14-Sep	CCC13257.DED	4	below count window	12:45	orange	CK	70	none	good		NO
14	14-Sep	CCC13257.DED	5	below count window	12:45	orange	COHO	68	none	moderate		NO
15	14-Sep	CCC13257.DED	6	below count window	12:45	green	COHO	61	AD	poor		NO
16	14-Sep	CCC13257.DED	7	below count window	12:45	green	CK	77	AD	moderate		NO
17	15-Sep	CCC13258.DED	1	below count window	12:30	green	COHO	55	AD	poor		NO
18	15-Sep	CCC13258.DED	2	below count window	12:30	orange	CK	85	AD	moderate	descaled but firm	NO
19	15-Sep	CCC13258.DED	3	below count window	12:30	green	CK	61	none	good	fairly fresh	NO
20	15-Sep	CCC13258.DED	4	below count window	12:30	orange	CK	34.5	none	good	fresh	NO
21	16-Sep	CCC13259.DED	1	below count window	11:30	green	COHO	64	none	good	bright and fresh	NO
22	16-Sep	CCC13259.DED	2	below count window	11:30	orange	CK	97	none	moderate	descaled L side,	NO
23	16-Sep	CCC13259.DED	3	below count window	11:30	green	CK	81	AD	moderate	moderate condition	NO
24	16-Sep	CCC13259.DED	4	below count window	11:30	orange	COHO	63.5	AD	good	descaled both sides	NO
25	16-Sep	CCC13259.DED	5	below count window	11:30	green	CK	66.5	none	moderate	bright and nice	NO
26	18-Sep	CCC13261.DED	1	ABOVE W 67 north	10:45	green	CK	70	AD	good	fairly fresh but	NO
27	18-Sep	CCC13261.DED	2	ABOVE W 67 north	10:45	orange	CK	80	AD	poor	w/fungal patches	NO
28	19-Sep	CCC13262.DED	1	ABOVE W 67 north	9:55	orange	CK	82.5	none	moderate	fairly fresh	NO
29	19-Sep	CCC13262.DED	2	ABOVE W 67 north	9:55	orange	STHD	56	none	moderate	fairly soft, no open wounds	NO
											starting to turn into creamier stage	NO
											starting to turn into creamier stage	NO