

McCune, Kimberly

From: McCune, Kimberly
Sent: Friday, December 08, 2017 9:05 AM
To: Amanda Froberg; Amelia Johnson; Asher, Eli; Bob Rose; Brice Crayne; Bryce Glaser; Bryce Michaelis; Daniel Rawding; David Howe; Doyle, Jeremiah; Ed Meyer; Ferraiolo, Mark; Hudson, Michael; James Byrne (byrnejim7@gmail.com); James H Malinowski; 'Kale Bentley'; Karchesky, Chris; Kelley Jorgensen; Lesko, Erik; Mariah Stoll-Smith Reese; 'Melody Tereski'; 'Michelle Day'; Morgan, David; Nathan Reynolds; Olson, Todd; 'Patrick Lee'; Peggy Miller; Pienovi, Levi; Rhidian Morgan; Roberts, Aaron; 'Ruth Tracy'; Samuel Kolb; Serdar Carol; Shrier, Frank; Steve Manlow; Taylor Aalvik; Tim Romanski; Tom Wadsworth; Weatherly, Briana; Whitesel, Timothy
Cc: 'mbonoff@meridianenv.com'
Subject: Correction to July 2017 Decision Support Document; Cougar Creek Reach Length
Attachments: Memo_Cougar Creek Reach Length Correction and EDT Modeling.pdf

Attn: ACC Participants

The attached memorandum from Mike Bonoff, Meridian Environmental is for discussion at next week's ACC meeting. This memo is in response to a question by Mark Celedonia regarding available habitat in Cougar Creek. Based on Mark's review, Cougar Creek habitat was reduced from approximately 3 miles to 1.6 miles and the EDT model was re-run based on that correction.

Thank you.

Kimberly McCune

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To: Todd Olson, PacifiCorp
From: Mike Bonoff, Meridian Environmental
Date: December 7, 2017
Subject: Correction to July 2017 Decision Support Document: Cougar Creek Reach Length / Revised Lewis River EDT Results

Review of EDT modeling results conducted by Mark Celedonia (USFWS) suggested that the approximately 3 miles of available habitat reported for Cougar Creek in the June 2016 New Information Report, and subsequently presented in the Decision Support Document of July 2017, was incorrect. In the EDT model, Cougar Creek was broken into two reaches; upstream and downstream of the Panamaker Creek confluence. The reach downstream of Panamaker Creek, originally modeled as 8,973 feet (Cougar Creek 2), is incorrect. This reach is actually 1,877 feet in length. Combined with the upstream reach (Cougar 3), total habitat in Cougar Creek downstream of the natural passage barrier is now reduced from approximately 3 miles to 1.6 miles (Table 1).

Table 1. Original and corrected reach lengths for Cougar Creek.

EDT Reach	Description	Initial (ft)	Corrected (ft)
Cougar Creek 2	Panamaker to Yale Lake	8,973	1,877
Cougar Creek 3	Upstream of Panamaker	6,640	6,640
Total		15,613	8,517

The Lewis River EDT model has been re-run with the revised Cougar Creek reach lengths for all 5 passage + restoration alternatives developed, as described in the July 2017 Decision Support Document. Results differed slightly from those previously reported but did not change the best performing alternative in regard to adult abundance, spatial structure, productivity and diversity for spring Chinook, coho and winter steelhead. Both revised and original tables are shown below.

Revised Table 3.1-4; replaces the table previously shown on page 14 of the July, 2017 Decision Support Document:

Table 3.1 4. February 2, 2017 EDT model run results, Scenario 2 - revised per 1.6 miles Cougar Creek available habitat.

Alternative	Spring Chinook				Coho				Winter Steelhead				Total Abundance All Species
	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	
1A1	3,701	100%	5.76	86%	11,645	95%	7.59	80%	2,399	94%	12.81	82%	17,745
1A2	3,686	93%	6.40	86%	11,121	80%	8.18	86%	2,210	78%	14.51	85%	17,017
1B	3,483	100%	5.43	85%	10,782	95%	6.60	81%	2,160	94%	12.03	80%	16,425
2	2,761	100%	4.83	75%	8,310	100%	5.21	70%	1,910	100%	8.64	73%	12,981
3	3,911	93%	6.38	89%	12,153	80%	8.76	88%	2,280	78%	15.51	87%	18,344
Percent difference between alternatives and Alternative 2 (Full Passage No Habitat)													
Alternative	Spring Chinook				Coho				Winter Steelhead				Total Abundance All Species
	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	
1A1	34%	0%	19%	15%	40%	-5%	46%	15%	26%	6%	48%	12%	37%
1A2	33%	-7%	33%	15%	34%	-20%	57%	23%	16%	-22%	68%	16%	31%
1B	26%	0%	12%	13%	30%	-5%	27%	17%	13%	-6%	39%	9%	27%
2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	42%	-7%	32%	19%	46%	-20%	68%	27%	19%	-22%	79%	19%	41%

Table 3.1-4. as shown on page 14 in the July 28, 2017 Fish Passage Decision Support Document.

Alternative	Spring Chinook				Coho				Winter Steelhead				Total Abundance All Species
	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	
1A1	3,752	100%	5.76	86%	11,878	95%	7.6	80%	2,437	94%	12.81	82%	18,067
1A2	3,686	91%	6.40	86%	11,121	79%	8.2	86%	2,210	77%	14.51	85%	17,017
1B	3,532	100%	5.43	85%	11,011	95%	6.6	81%	2,196	94%	12.03	80%	16,739
2	2,800	100%	4.83	75%	8,445	100%	5.2	69%	1,943	100%	8.64	73%	13,188
3	3,911	91%	6.38	89%	12,153	79%	8.8	88%	2,280	77%	15.51	87%	18,344
Percent Difference Between Alternatives and Alternative 2 (Full Passage No Habitat)													
Alternative	Spring Chinook				Coho				Winter Steelhead				Total Abundance All Species
	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	Abundance	Spatial	Productivity	Diversity	
1A1	34%	0%	19%	15%	41%	-5%	46%	15%	25%	-6%	48%	12%	37%
1A2	32%	-9%	33%	15%	32%	-21%	57%	23%	14%	-23%	68%	16%	29%
1B	26%	0%	13%	13%	30%	-5%	27%	17%	13%	-6%	39%	9%	27%
2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	-40%	-9%	32%	19%	-44%	-21%	68%	27%	17%	-23%	79%	19%	39%