

Workbook Info

Project:

Expert Panel 2015-2016

Meeting:

Clearwater Look Forward

Primary Data Recorder:

Nick Legg, Geomorphologist, Cardno Inc.

Latest Revision:

7/8/2016

Workbook Description

This workbook is the "Calculation Spreadsheet" used to capture planned actions and expected functional uplift during the Clearwater Look Forward Expert Panel meeting on June 7-8, 2016. This table was created in support of the biological notes taken in the same meeting, and contained in the Biological Notes spreadsheet (see below). The biological notes spreadsheet also documents the rationale underlying this spreadsheet.

Biological Notes Filename:

Clearwater_Steelhead__HabFunctions2013-18_LookFwd_BioNotes_QA_7-8-2016

Sheets:

Sheets are produced for individual Assessment Units and named by the Assessment Unit Code. For Assessment Units with no planned actions, a calculation sheet is generally not included. LFWeight sheets were produced for assessment units where either weighting or low bookends were revised.

Highlights:

Yellow highlights indicate places where additional data are required from the panel.

SCS1 American River

Stream Miles of Steelhead Use	93 mi	(used as denominator in uplift calculation)
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SCS1 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Big Elk Creek Culvert Replacement (2017)	10	50%	5
Total Project Length	10		5
Total # Projects	1		
Total Stream Miles Affected	5		
Total Stream Miles (Denominator)	93 mi.		
% Uplift	5.4%		

SCS1 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Elk Creek Vegetation Planting (2016)	0.25	20%	0.05
Total Project Length	0.25		0.05
Total # Projects	1		
Total Stream Miles Affected	0.05		
Total Stream Miles (Denominator)	93 mi.		
% Uplift	0.05%		

SCS1 - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		

Total Stream Miles Affected 0
Total Stream Miles (Denominator) 93 mi.

% Uplift 0.0%

SCS1 - LF 5.1 (Peripheral and Transitional Habitats: Side Channel and Wetland Conditions)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		

Total Stream Miles Affected 0
Total Stream Miles (Denominator) 93 mi.

% Uplift 0.0%

SCS1 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		

Total Stream Miles Affected 0
Total Stream Miles (Denominator) 93 mi.

% Uplift 0.0%

SCS1 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		

Total Stream Miles Affected 0
Total Stream Miles (Denominator) 93 mi.

% Uplift

0.0%

SCS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%)		Realized Change in 2018 (mi)
			based on gradient)	Weighting of total benefit possible	
No Actions					0
Total Project Length		0			0
Total # Projects		0			
Total Stream Miles Affected (weighted)		0			
Total Stream Miles (Denominator)		93 mi.			

% Uplift

0.0%

SCS1 - LF 8.1 (Water Quality: Temperature)

Action	Stream Miles Affected	% Improvement Weighting	Realized Change in 2018 (mi)	
Elk Creek Vegetation Planting (2016)	0.25		0%	0
	0.25			0
Total # Projects	1			
Total Stream Miles Affected	0			
Total Stream Miles (Denominator)	93			

% Uplift

0.0%

SCS2 Crooked River

Stream Miles of Steelhead Use

44 mi

(used as denominator
in uplift calculation)

SCS2 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Fivemile Culvert Replacement (2016)	0.5	50%	0.25
Total Project Length	0.5		0.25
Total # Projects	1		
Total Stream Miles Affected	0.25		
Total Stream Miles (Denominator)	44 mi.		
% Uplift	0.6%		

SCS2 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	44 mi.		
% Uplift	0.0%		

SCS2 - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	44 mi.		
% Uplift	0.0%		

SCS2 - LF 5.1 (Peripheral and Transitional Habitats: Side Channel and Wetland Conditions)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>	
Crooked River Phase I (WIP, completion planned 2017, no benefit until 2020)	0.5	0%	0	
Crooked River Phase II (WIP, completion planned 2018, no benefit until 2020)	0.5	0%	0	
Crooked River Option 2	0.5	50%	0.25	
Total Project Length	1		0.25	
Total # Projects	3			
Total Stream Miles Affected	0.25			
Total Stream Miles (Denominator)		44 mi.		
% Uplift		0.6%		

SCS2 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crooked River Phase I (WIP, completion planned 2017, no benefit until 2020)	0.5	0%	0
Crooked River Phase II (WIP, completion planned 2018, no benefit until 2020)	0.5	0%	0
Crooked River Option 2	0.5	80%	0.4
Total Project Length	1.5		0.4
Total # Projects	3		
Total Stream Miles Affected	0.4		
Total Stream Miles (Denominator)		12 mi.	
% Uplift		3.3%	

SCS2 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crooked River Option 2	0.5	80%	0.4
Total Project Length	0.5		0.4
Total # Projects	1		
Total Stream Miles Affected	0.4		
Total Stream Miles (Denominator)		44 mi.	

% Uplift	0.9%
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SCS2 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Road Landscape Position		Weighting of total benefit possible	Realized Change in 2018 (mi)
	Stream Miles affected	Road Miles		
No Actions				0
Total Project Length		0		0
Total # Projects		0		
Total Stream Miles Affected (weighted)		0		
Total Stream Miles (Denominator)		44 mi.		
% Uplift		0.0%		

SCS2 - LF 8.1 (Water Quality: Temperature)

Action	Stream Miles Affected	% Improvement Weighting	Realized Change in 2018 (mi)
No Actions			0
Total # Projects		0	0
Total Stream Miles Affected		0	
Total Stream Miles (Denominator)		44 mi.	
% Uplift		0.0%	

SCS5

Sum of
Revised
Weights 0% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
SCS5	1.1			0%		98.4	
SCS5	4.1			0%		60.1	
SCS5	4.2			0%		60	
SCS5	7.2			0%		71	60
SCS6	8.1			0%		70.1	

Sum of
Revised
Weights 0% 0%

SCS5 Mill Creek

Stream Miles of Steelhead Use

22.8 mi

(used as denominator
in uplift calculation)

SCS5 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8 mi.		
% Uplift	0.0%		

SCS5 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8 mi.		
% Uplift	0.0%		

SCS5 - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8 mi.		
% Uplift	0.0%		

SCS5 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Road Landscape Position</u>		<u>Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
	<u>Stream Miles affected</u>	<u>Road Miles</u>			
Road 309 improvement (2017)	2.3		5 90%	50%	1.035
Total Project Length	2.3				1.035
Total # Projects	1				
Total Stream Miles Affected (weighted)	1.035				
Total Stream Miles (Denominator)	22.8 mi.				
% Uplift	4.5%				

SCS5 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No Actions	0		0
Total # Projects	0		0
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8		
% Uplift	0.0%		

SCS6

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend	Revised High Bookend
SCS6	1.1	25%	25%	0%		75	40	
SCS6	4.1	25%	20%	-5%		60		
ADDED	6.2	0%	10%	10%			80	90
SCS6	7.2	35%	30%	-5%		57.9		
SCS6	8.1	15%	15%	0%		60		

Sum of
Revised
Weights 100% 0%

SCS6 Misc Clearwater Tribs

Stream Miles of Steelhead Use22.8 mi

(used as denominator
in uplift calculation)

SCS6 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Leggett Creek (2016)	8	50%	4
Peasley Creek (2017)	8.2	25%	2.05
Moose Creek (2018)	2.6	25%	0.65
Total Project Length	18.8		6.7
Total # Projects	3		
Total Stream Miles Affected	6.7		
Total Stream Miles (Denominator)	22.8 mi.		
% Uplift	29.4%		

SCS6 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8 mi.		
% Uplift	0.0%		

SCS6 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Leggett Creek Stream Restoration - Historic mining (2018)	0.33	50%	0.165
Total Project Length	0.33		0.165
Total # Projects	1		
Total Stream Miles Affected	0.165		

Total Stream Miles (Denominator) 22.8 mi.

% Uplift 0.7%

SCS6 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)	Weighting of total benefit possible	Realized Change in 2018 (mi)
No Actions					0
Total Project Length	0				0
Total # Projects	0				
Total Stream Miles Affected (weighted)	0				
Total Stream Miles (Denominator)	22.8 mi.				
% Uplift	0.0%				

SCS6 - LF 8.1 (Water Quality: Temperature)

Action	Stream Miles Affected	% Improvement Weighting	Realized Change in 2018 (mi)
No Actions			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	22.8		
% Uplift	0.0%		

SCS7

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
SCS7	1.1	5%	5%	0%		83	
SCS7	4.1	10%	10%	0%		47	
SCS7	4.2	10%	10%	0%		40.2	
ADDED	5.1		15%	15%			30
SCS7	5.2	15%	15%	0%		60.8	
SCS7	6.2	40%	30%	-10%		42.3	
SCS7	7.2	15%	10%	-5%		42.2	
SCS7	8.1	5%	5%	0%		61.2	

Sum of
Revised
Weights 100% 0%

SCS7 Newsome Creek

Stream Miles of Steelhead Use

51.1 mi

(used as denominator
in uplift calculation)

SCS7 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	51.1 mi.		
% Uplift	0.0%		

SCS7 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Newsome Creek Restoration Phase I, Reach 2 (2018)	1.95	5%	0.0975
Total Project Length	1.95		0.0975
Total # Projects	1		
Total Stream Miles Affected	0.0975		
Total Stream Miles (Denominator)	51.1 mi.		
% Uplift	0.2%		

SCS7 - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Newsome Creek Restoration Phase I, Reach 2 (2018)	1.95	0%	0
Total Project Length	1.95		0
Total # Projects	1		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	51.1 mi.		

% Uplift

0.0%

SCS7 - LF 5.1 (Peripheral and Transitional Habitats: Side Channel and Wetland Conditions)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Newsome Creek Restoration Phase I, Reach 2 (2017)	1.95	70%	1.365
Total Project Length	1.95		1.365
Total # Projects	1		
Total Stream Miles Affected	1.365		
Total Stream Miles (Denominator)	12 mi.		mainstem miles

% Uplift

11.4%

SCS7 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	12 mi.		

% Uplift

0.0%

SCS7 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Newsome Creek Restoration Phase I, Reach 2 (2017)	1.95	75%	1.4625
Total Project Length	1.95		1.4625
Total # Projects	1		
Total Stream Miles Affected	1.4625		
Total Stream Miles (Denominator)	12 mi.		Mainstem miles

% Uplift

12.2%

SCS7 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
No Actions					0
Total Project Length		0			0
Total # Projects		0			
Total Stream Miles Affected (weighted)		0			
Total Stream Miles (Denominator)		51.1 mi.			
% Uplift		0.0%			

SCS7 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
Newsome Creek Restoration Phase I (including planting), Reach 2 (2017-18, hyporheic influence)	1.95	8%	0.14625
	1.95		0.14625
Total # Projects	1		
Total Stream Miles Affected	0.14625		
Total Stream Miles (Denominator)	51.1		
% Uplift		0.3%	

SCS8 Red River

Stream Miles of Steelhead Use

94.1 mi

(used as denominator
in uplift calculation)

SCS8 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Dawson Creek Culvert Replacements (2 culverts, 2018)	5	50%	2.5
Total Project Length	5		2.5
Total # Projects	1		
Total Stream Miles Affected	2.5		
Total Stream Miles (Denominator)	94.1 mi.		
% Uplift	2.7%		

SCS8 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Lower Red River Meadow Restoration (2016-18)	2.25	15%	0.3375
Red River Meadows Vegetation Planting (2017-2018)	1	5%	0.05
Total Project Length	3.25		0.3875
Total # Projects	2		
Total Stream Miles Affected	0.3875		
Total Stream Miles (Denominator)	94.1 mi.		
% Uplift	0.4%		

SCS8 - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		

Total Stream Miles (Denominator) 94.1 mi.

% Uplift 0.0%

SCS8 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Lower Red River Meadow Restoration (2016)	2.25	70%	1.575
Total Project Length	2.25		1.575
Total # Projects	1		

Total Stream Miles Affected 1.575
Total Stream Miles (Denominator) 94.1 mi.

% Uplift 1.7%

SCS8 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Lower Red River Meadow Restoration (2016)	2.25	90%	2.025
Total Project Length	2.25		2.025
Total # Projects	1		

Total Stream Miles Affected 2.025
Total Stream Miles (Denominator) 94.1 mi.

% Uplift 2.2%

SCS8 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)	Weighting of total benefit possible	Realized Change in 2018 (mi)
No actions					0
Total Project Length	0				0
Total # Projects	0				

Total Stream Miles Affected (weighted)	0
Total Stream Miles (Denominator)	94.1 mi.
% Uplift	0.0%

SCS8 - LF 8.1 (Water Quality: Temperature)

Action	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
Lower Red River Meadow Restoration including Vegetation and Channel reconstruction components (2016-18)	2.25	8%	0.18
Red River Meadows Vegetation Planting (2017-2018)	1	5%	
	3.25		0.18
Total # Projects	2		
Total Stream Miles Affected	0.18		
Total Stream Miles (Denominator)	94.1		
% Uplift	0.2%		

SCS9 South Fork Clearwater Mainstem

Stream Miles of Steelhead Use

30.9 mi

(used as denominator
in uplift calculation)

SCS9 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	30.9 mi.		
% Uplift	0.0%		

SCS9 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
No measurable benefit from tributary sediment actions					0
Total Project Length	0				0
Total # Projects	0				
Total Stream Miles Affected (weighted)	0				
Total Stream Miles (Denominator)	30.9 mi.				
% Uplift	0.0%				

SCS9 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	30.9		
% Uplift	0.0%		

LCS4

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LCS4	1.1	10%	10%	0%		60	
LCS4	4.1	15%	15%	0%		36.4	
ADDED	5.2		15%	15%			29
LCS4	6.1	5%	5%	0%		51.1	
LCS4	6.2	10%	10%	0%		40.3	
LCS4	7.2	10%	5%	-5%		42.1	
LCS4	8.1	25%	15%	-10%		30.4	
LCS4	8.7	2%	2%	0%		80	
LCS4	9.1	8%	8%	0%		45	
LCS4	9.2	15%	15%	0%		35	

Sum of
Revised
Weights 100% 0%

LCS4 Lapwai Creek Basin

Stream Miles of Steelhead Use

75.5 mi

(used as denominator
in uplift calculation)

LCS4 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Sweetwater Creek Bridge replacement (2016)	6	50%	3
Mission Creek Bridge Replacement #15-1586 (2016)	11	50%	5.5
Flat Iron Bridge Replacment #12-157 (2018, SRBA funded project)	7	0%	0
			0
Total Project Length	24		8.5
Total # Projects	3		

Total Stream Miles Affected

8.5

Total Stream Miles (Denominator)

75.5 mi.

% Uplift

11.3%

A downstream barrier remains, resulting in a 0% weight

LCS4 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Lapwai Creek Culdesac Canyon Reach 14A (2017)	0.5	10%	0.05
Sweetwater Creek SC-03A (2018)	0.5	5%	0.03
Mission Creek Bridge Streambank Enhancement (15-1586)	0.05	5%	0.00
Sweetwater Exclusion #12-153 (2018)	0.15	5%	0.01
Site 11-128 Water Developments and Exclusion Fence (2016)	0.11	5%	0.01
South Tom Beall Buffer Project Phase V (BPA Contract 72618; 2016)	1.25	5%	0.06
Sweetwater Creek - Install Fence at Site 16-1847 (2016)	0.19	5%	0.01
FORS Spring Exclosure Fence on Sweetwater (2018)	0.02	5%	0.00
FORS Downstream of 16-1847 Fence (2017)	0.19	5%	0.01
Windmill Road Phase I Plantings (2018)	0.11	5%	0.01
Tom Beall Reconnect Phase II (2016)	0.06	5%	0.00
Tom Beall Reconnect Phase I (2016)	0.06	5%	0.00

		0.00
Total Project Length	3.19	0.18
Total # Projects	12	
Total Stream Miles Affected	0.18	
Total Stream Miles (Denominator)	75.5 mi.	
% Uplift	0.2%	

LCS4 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Lapwai Creek Culdesac Canyon Reach 14A			
Remeander (2017)	0.5	75%	0.375
Sweetwater Creek SC-03A (2018)	0.5	90%	0.45
Total Project Length	1		0.825
Total # Projects	2		
Total Stream Miles Affected	0.825		
Total Stream Miles (Denominator)	21 mi.	Mainstem miles consistent with look back approach	
% Uplift	3.9%		

LCS4 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Lapwai Creek Culdesac Canyon Reach 14A			
Remeander (2017)	0.5	75%	0.375
Sweetwater Creek SC-03A (2018)	0.5	90%	0.45
Webb Creek Floodplain #13-1689 (2017)	0.3	0%	0
Total Project Length	1		0.825
Total # Projects	2		
Total Stream Miles Affected	0.825		
Total Stream Miles (Denominator)	21 mi.	Consistent with look back	
% Uplift	3.9%		

LCS4 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
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Lapwai Creek Culdesac Canyon Reach 14A Remeander (2017)	0.5	75%	0.375
Sweetwater Creek SC-03A (2018)	0.5	75%	0.375
Mission Creek Bank Protection (2018)	0.05	75%	0.036
			0
Total Project Length	1.05		0.786
Total # Projects	3		
Total Stream Miles Affected	0.79		
Total Stream Miles (Denominator)	50.5 mi.	Consistent with look back	
% Uplift	1.6%		

LCS4 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Lapwai Creek Culdesac Canyon Reach 14A Remeander (2017)	0.5	Not road project	100%	5%	0.025
Sweetwater Creek SC-03A (2018)	0.5	Not road project	100%	5%	0.025
					0
Mission Creek Bridge Streambank Enhancement (15-1586)	0.05	Not road project	100%	90%	0.043
Sweetwater Exclusion #12-153 (2018)	0.15	Not road project	100%	13%	0.020
South Tom Beall Buffer Project Phase V (BPA Contract 72618; 2016)	1.25	Not road project	100%	5%	0.063
Sweetwater Creek - Install Fence at Site 16-1847 (2016)	0.19	Not road project	100%	5%	0.009
FORS Spring Exclosure Fence on Sweetwater (2018)	0.02	Not road project	100%	5%	0.001
Webb Creek Enhancement (2017)	0.11	Not road project	100%	5%	0.01
Flat Iron Bridge Replacment #12-157 (2018, SRBA funded project)	0.08	Not road project	100%	90%	0.07
Road Erosion Reduction (12-158)	0.03		90%	30%	0.01
Webb Creek Floodplain Road	0.44		90%	50%	0.20
Sweetwater Creek Sediment Reduction #15-1683 (2016)	0.19		50%	25%	0.02
Sweetwater - No Till Conservation and Tillage Systems (2016)	1.50		100%	33%	0.495

Sweetwater - No Till Conservation and Tillage Systems (2017)	1.10	100%	75%	0.825
Sweetwater - No Till Conservation and Tillage Systems (2018)	1.10	100%	75%	0.825
	Not road project, but similar weighting			
Sweetwater Cr. Gully Erosion Treatment (2018)	0.06	system used 75%	5%	0.002130682
	Not road project, but similar weighting			
Mission Creek Sediment Reduction	0.38	system used 50%	5%	0.009469697
	Not road project, but similar weighting			
Sweetwater Creek Sediment Reduction 13-1687	0.42	system used 50%	5%	0.010416667
Total Project Length	7.20			2.7
Total # Projects	15			
Total Stream Miles Affected (weighted)	2.7			
Total Stream Miles (Denominator)	75.5 mi.			
% Uplift	3.5%			

LCS4 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
Lapwai Creek Culdesac Canyon Reach 14A (2017)	0.5	5%	0.025
Sweetwater Creek SC-03A (2018)	0.5	2%	0.01
	1		0.035
Total # Projects	2		
Total Stream Miles Affected	0.035		
Total Stream Miles (Denominator)	75.5		
% Uplift	0.05%		
LF 9.2 % Uplift	17.8%		
Total uplift	17.8%		

LCS4 - LF 8.7 (Water Quality: Toxics)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	75.5		
% Uplift	0.0%		

LCS4 - LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
LOP Pilot Well	4	0	4	4
Lapwai Reforestation #15-1690	0	0	0	0
Total	4	0	4	4
Annual Average ==>				2.7
Total	2.7 cfs			
Total # Projects	1			
Denominator	15 cfs			
% Uplift (2018)	17.8%			

LCS5

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LCS5	1.1	10%	10%	0%		71	
LCS5	4.1	15%	10%	-5%		50.7	
ADDED	5.2	0%	15%	15%			30
LCS5	6.1	10%	10%	0%		47.1	
LCS5	6.2	10%	10%	0%		41.7	
LCS5	7.2	15%	10%	-5%		41	
LCS5	8.1	20%	15%	-5%		30	
LCS5	9.2	20%	20%	0%		30	

Sum of
Revised
Weights 100% 0%

LCS5 Potlatch River Basin

Stream Miles of Steelhead Use

179.5 mi

(used as denominator
in uplift calculation)

LCS5 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Big Meadow Creek Culvert Modification (2017)	6	100%	6
Big Bear Falls (2018)	50	50%	25
Upper Big Meadow Creek Culverts (3 culvert modifications, 2016-2017)	3	50%	1.5
Total Project Length	59		32.5
Total # Projects	3		
Total Stream Miles Affected	32.5		
Total Stream Miles (Denominator)	179.5 mi.		
% Uplift	18.1%		

LCS5 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Two Mile Meadow Riparian (2018)	2.29	5%	0.1145
Dammerman Meadows Phase I (2018)	0.75	5%	0.0375
Mason Meadow Riparian Treatment (2016)	0.37	15%	0.0555
Big Meadow Creek Riparian (2018)	1.5	5%	0.075
Nora Creek Meadow (2017)	0.3	10%	0.03
Total Project Length	5.21		0.3125
Total # Projects	4		
Total Stream Miles Affected	0.3125		
Total Stream Miles (Denominator)	179.5 mi.		
% Uplift	0.2%		

LCS5 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Two Mile Meadow Riparian (2018)	2.29	75%	1.7175
Dammerman Meadows Phase I (2017)	0.75	75%	0.5625

Mason Meadow Riparian Treatment (2016)	0.37	75%	0.2775
Big Meadow Creek Riparian (2018)	1.5	10%	0.15
Nora Creek Meadow (2017)	0.3	75%	0.225
Total Project Length	5.21		2.9325
Total # Projects	5		

Total Stream Miles Affected 2.9325
Total Stream Miles (Denominator) 90 mi.

% Uplift **3.3%**

LCS5 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Two Mile Meadow Riparian (2018)	2.29	50%	1.145
Dammerman Meadows Phase I (2017)	0.75	75%	0.5625
Mason Meadow Riparian Treatment (2016)	0.37	75%	0.2775
Big Meadow Creek Riparian (2018)	1.5	50%	0.75
Nora Creek Meadow (2017)	0.3	75%	0.225
East Fork LWD (2016)	0.25	75%	0.1875
Total Project Length	5.46		3.1475
Total # Projects	5		

Total Stream Miles Affected 3.1475
Total Stream Miles (Denominator) 90 mi.

% Uplift **3.5%**

LCS5 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Two Mile Meadow Riparian (2018)	2.29	50%	1.145
Dammerman Meadows Phase I (2017)	0.75	75%	0.5625
Mason Meadow Riparian Treatment (2016)	0.37	75%	0.2775
Big Meadow Creek Riparian (2018)	1.5	50%	0.75
Nora Creek Meadow (2017)	0.3	75%	0.225
East Fork LWD (2016)	0.25	75%	0.1875
Total Project Length	5.46		3.1475
Total # Projects	6		

Total Stream Miles Affected 3.1475
Total Stream Miles (Denominator) 179.5 mi.

% Uplift **1.8%**

LCS5 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
No Actions					0
Total Project Length		0			0
Total # Projects		0			
Total Stream Miles Affected (weighted)		0			
Total Stream Miles (Denominator)		179.5 mi.			
% Uplift		0.0%			

LCS5 - LF 8.1 (Water Quality: Temperature)

LF 4.1 Uplift	0.2%
LF 9.2 Uplift	4.2%
% Uplift	4.4%

LCS5 - LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
Spring Valley Creek Reservoir Flow Augmentation	0.25	0.25	0.25	0.25
Total	0.25	0.25	0.25	0.25
Annual Average ==>				0.3
Total	0.3 cfs			
Total # Projects	1			
Denominator	6 cfs			
% Uplift (2018)	4.2%			

Base Flow of mainstem Potlatch

Panel acknowledges related DO benefit

LAS1A

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LAS1A	1.1	5%	5%	0%		85.6	
ADDED	4.1		15%	15%			50
LAS1A	4.2	25%	5%	-20%		66.2	
ADDED	5.2		15%	15%			70
LAS1A	6.2	30%	25%	-5%		70.2	
LAS1A	7.2	25%	20%	-5%		63.5	
LAS1A	8.1	15%	15%	0%		80	

Sum of
Revised
Weights 100% 0%

LAS1A Upper Lochsa Tributaries - Postoffice to Parachute Creeks

Stream Miles of Steelhead Use

41 mi

(used as denominator
in uplift calculation)

LAS1A - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	41 mi.		
% Uplift	0.0%		

LAS1A - LF 4.2 (LWD Recruitment)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	41 mi.		
% Uplift	0.0%		

LAS1A - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Improvement (proration factor)	% Treatment Prorating Factor	Realized Change in 2018 (mi)
Imnamatoon to Post Office (2018)	15	45%	33%	2.2275
Waw'aalamnima Creek (2017)	12	45%	33%	1.782
Total Project Length	27			4.0095
Total # Projects	2			
Total Stream Miles Affected	4.0095			

Total Stream Miles (Denominator) 41 mi.

% Uplift 9.8%

LAS1A - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid- slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Invasive Weed Treatment (2016-18)	19		50%	1%	0.095
Native Shrub Planting on Roads (2016-2018)	5		90%	2%	0.09
Total Project Length	24				0.185
Total # Projects		2			
Total Stream Miles Affected (weighted)	0.185				
Total Stream Miles (Denominator)	41 mi.				

% Uplift 0.5%

LAS1A - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No measurable benefit			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	41		

% Uplift 0.0%

LAS2A **Lower Colt Killed Creek**

Stream Miles of Steelhead Use

40.7 mi

(used as denominator
in uplift calculation)

LAS2A - LF 1.1 (Anthropogenic Barriers)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	40.7 mi.		
% Uplift	0.0%		

LAS2A - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Invasive Weed Treatment (2016-2018)	1.5		50%	1%	0.0075
Total Project Length	1.5				0.0075
Total # Projects	1				
Total Stream Miles Affected (weighted)	0.0075				
Total Stream Miles (Denominator)	40.7 mi.				
% Uplift	0.02%				

LAS2A - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
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No Actions	<div><div></div></div>	<div><div></div></div>
	0	0
Total # Projects	0	
Total Stream Miles Affected	0	
Total Stream Miles (Denominator)	40.7	
% Uplift	0.0%	

LAS3A

Sum of
Revised
Weights 100% -5%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LAS3A	1.1	5%	5%	0%		65	
ADDED	4.1		5%				70
LAS3A	4.2	35%	30%	-5%		50	
LAS3A	6.2	35%	35%	0%		45	
LAS3A	7.2	20%	20%	0%		53.1	
LAS3A	8.1	5%	5%	0%		50	

Sum of
Revised
Weights 100% -5%

LAS3A Crooked Fork

Stream Miles of Steelhead Use

33.4 mi

(used as denominator
in uplift calculation)

<u>LAS3A - LF 1.1 (Anthropogenic Barriers)</u>			
<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Powell Creek Culvert Replacement (2016)	1	50%	0.5
Total Project Length	1		0.5
Total # Projects	1		
Total Stream Miles Affected	0.5		
Total Stream Miles (Denominator)	33.4 mi.		
% Uplift	1.5%		

<u>LAS3A - LF 4.1 (Riparian Condition)</u>			
<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Riparian Planting (2018, multiple streams)	0.5	2%	0.01
Total Project Length	0.5		0.01
Total # Projects	1		
Total Stream Miles Affected	0.01		
Total Stream Miles (Denominator)	33.4 mi.		
% Uplift	0.03%		

<u>LAS3A - LF 4.2 (LWD Recruitment)</u>			
<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Riparian Planting (2018, multiple streams)	0.5	2%	0.01
Total Project Length	0.5		0.01
Total # Projects	1		
Total Stream Miles Affected	0.01		
Total Stream Miles (Denominator)	33.4 mi.		
% Uplift	0.03%		

LAS3A - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Pack Creek Remeander (2018)	0.25	1%	0.0025
Total Project Length	0.25		0.0025
Total # Projects	1		
Total Stream Miles Affected	0.0025		
Total Stream Miles (Denominator)	33.4 mi.		
% Uplift	0.01%		

LAS3A - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Treat Invasives (2016-2018)	3		50%	1%	0.015
Shrub Planting (2016-18)	1		90%	2%	0.018
Brushy Forks Culverts (2017-2018)	0.75		90%	5%	0.03375
South Brushy Road Decommissioning Section 16 (2016)	0.5	8	50%	7%	0.0175
South Brushy Road Decommissioning Section 8 (2017)	0.5	11	50%	7%	0.0175
South Brushy Road Decommissioning Section 10 (2018)	0.5	10	50%	7%	0.0175
Total Project Length	6.25				0.11925
Total # Projects	6				
Total Stream Miles Affected (weighted)	0.11925				
Total Stream Miles (Denominator)	33.4 mi.				
% Uplift	0.4%				

LAS3A - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
			0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	33.4		
% Uplift	0.0%		

LAS3B Upper Crooked Fork/Boulder Creek

Stream Miles of Steelhead Use

19.3 mi

(used as denominator
in uplift calculation)

LAS3B - LF 1.1 (Anthropogenic Barriers)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	19.3 mi.		
% Uplift	0.0%		

LAS3B - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Treat Invasives (2016-2018)	0.25		50%	1%	0.00125
Total Project Length	0.25				0.00125
Total # Projects	1				
Total Stream Miles Affected (weighted)	0.00125				
Total Stream Miles (Denominator)	19.3 mi.				
% Uplift	0.01%				

LAS6

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LAS6	4.1	60%	40%	-20%		85	
ADDED	5.1		20%	20%			50
LAS6	7.2	35%	35%	0%		76.7	
LAS6	8.1	5%	5%	0%		85	

Sum of
Revised
Weights 100% 0%

LAS6 Lochsa Mainstem

Stream Miles of Steelhead Use

71.4 mi

(used as denominator
in uplift calculation)

LAS6 - LF 4.1 (Riparian Vegetation)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	71.4 mi.		
% Uplift	0.0%		

LAS6 - LF 5.1 (Peripheral and Transitional Habitats: Side Channel and Wetland Conditions)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Major Fenn (2018)	0.3	95%	0.285
Total Project Length	0.3		0.285
Total # Projects	1		
Total Stream Miles Affected	0.285		
Total Stream Miles (Denominator)	71.4 mi.		
% Uplift	0.4%		

LAS6 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Treat invasives (2016-2018)	0.5		90%	2%	0.009
Total Project Length	0.5				0.009

Total # Projects1

Total Stream Miles Affected (weighted)0.009

Total Stream Miles (Denominator)71.4 mi.

% Uplift0.01%

LAS6 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	71.4		
% Uplift	0.0%		

LAS7

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LAS7	1.1	5%	5%	0%		73.4	
LAS7	4.1	25%	20%	-5%		70.2	
ADDED	4.2		10%	10%			60
LAS7	6.2	25%	20%	-5%		70	
LAS7	7.2	35%	35%	0%		52.5	
LAS7	8.1	10%	10%	0%		65	

Sum of
Revised
Weights 100% 0%

Lower Lochsa (Deadman Creek to Pete King Creek)

Stream Miles of Steelhead Use

29.4 mi

(used as denominator
in uplift calculation)

LAS7 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
West Fork Deadman (2016)	3	100%	3
Upper Pete King (2017)	1.5	100%	1.5
Total Project Length	4.5		4.5
Total # Projects	2		
Total Stream Miles Affected	4.5		
Total Stream Miles (Denominator)	29.4 mi.		
% Uplift	15.3%		

LAS7 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	29.4 mi.		
% Uplift	0.0%		

LAS7 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Beaver Dam Analogue Installation (2016, pilot)	0.05	50%	0.025
Total Project Length	0.05		0.025
Total # Projects	1		
Total Stream Miles Affected	0.025		
Total Stream Miles (Denominator)	29.4 mi.		

% Uplift

0.1%

LAS7 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Road Landscape Position</u>		<u>Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>		<u>Weighting of total benefit possible</u>		<u>Realized Change in 2018 (mi)</u>
	<u>Stream Miles affected</u>	<u>Road Miles</u>					
Road 460B Decommissioning (2018)		1	1	90%	30%		0.27
Pete King Road Decommissioning (450, 2018)		1	1	90%	70%		0.63
Total Project Length		2					0.9
Total # Projects		2					
Total Stream Miles Affected (weighted)		0.9					
Total Stream Miles (Denominator)		29.4 mi.					
% Uplift		3.1%					

LAS7 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No measurable change			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	29.4		
% Uplift		0.0%	

Sum of
Revised
Weights 100% 0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend
LAS8	1.1	5%	5%	0%		85	
LAS8	4.1	30%	25%	-5%		85.2	
	4.2		5%	5%			80
LAS8	7.2	35%	35%	0%		85.6	
LAS8	8.1	30%	30%	0%		95	

Sum of
Revised
Weights 100% 0%

LAS8 **Middle Lochsa North Face Tributaries - Weir to Tick Creeks**

Stream Miles of Steelhead Use

57.7 mi

(used as denominator
in uplift calculation)

LAS8 - LF 1.1 (Anthropogenic Barriers)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
107 Road Relocation (2017)	2	50%	1
Total Project Length	2		1
Total # Projects	1		
Total Stream Miles Affected	1		
Total Stream Miles (Denominator)	57.7 mi.		
% Uplift	1.7%		

LAS8 - LF 4.1 (Riparian Vegetation)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
107 Road Relocation (2017)	0.25	2%	0.005
Total Project Length	0.25		0.005
Total # Projects	1		
Total Stream Miles Affected	0.005		
Total Stream Miles (Denominator)	57.7 mi.		
% Uplift	0.01%		

LAS8 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
107 Road Relocation (2017)	0.25	2	50%	80%	0.1
Invasives Treatment (2016-2018)	0.25		90%	1%	0.00225

Total Project Length	<div>0.5</div>	<div>0.10225</div>
Total # Projects	2	
Total Stream Miles Affected (weighted)	0.10225	
Total Stream Miles (Denominator)	57.7 mi.	
% Uplift	0.2%	

LAS8 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
No measurable benefit	<div>0</div>		<div>0</div>
Total # Projects	0		0
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	57.7		
% Uplift	0.0%		

Middle Lochsa South Face Tributaries - Lottie to Robin Creeks

Stream Miles of Steelhead Use

80.8 mi

(used as denominator
in uplift calculation)

LAS9 - LF 8.1 (Water Quality: Temperature)

Action	Stream Miles Affected	% Improvement Weighting	Realized Change in 2018 (mi)
No measurable benefit			0
		0	0
Total # Projects		0	
Total Stream Miles Affected		0	
Total Stream Miles (Denominator)		80.8	
% Uplift	0.0%		

LOS AU Weighting **(TO ACCOMMODATE NEW ASSESSMENT UNIT: UPPER LOLO CREEK (LOS6))**

AU Code	AU Weight
LOS1	1%
LOS2	7%
LOS3A	27%
LOS4	25%
LOS6	40%

i

100%

LOS1
Eldorado Creek

Stream Miles of Steelhead Use
1 mi
(used as denominator in uplift calculation)
Intrinsic Potential

LOS1 - LF 1.2 Natural Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	1 mi.		
% Uplift	0.0%		

LOS1 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	1 mi.		
% Uplift	0.0%		

LOS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)	Weighting of total benefit possible	Realized Change in 2018 (mi)
Lolo First 50 Decomissioning (2016)	1		4	50%	10% 0.05
Total Project Length	1				0.05

Total # Projects1

Total Stream Miles Affected (weighted)0.05

Total Stream Miles (Denominator)1 mi.

% Uplift

5.0%

LOS3A

Lower Lolo Creek (AU Boundary revised to exclude Lolo Creek above confluence with Jim Brown)

Stream Miles of Steelhead Use	54.5 mi	(used as denominator
Length of Upper Lolo Creek	15.5	in uplift calculation)
Revised Denominator (subtracting out upper Lolo Creek)	39 mi	

LOS6

(NEW ASSESSMENT UNIT: UPPER LOLO CREEK)

Sum of
Revised
Weights 100%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	2012 Low Bookend	2016 Low Bookend	Revised 2016 Low Bookend	Revised High Bookend
LOS6	1.1		10%			80	85
LOS6	4.1		20%			60	
LOS6	5.2		10%			70	
LOS6	6.2		20%			70	
LOS6	7.2		40%			55	

Sum of
Revised
Weights 100%

LOS6 Upper Lolo Creek (includes Yousa Creek)

(NEW ASSESSMENT UNIT BOUNDARY COMBINING FORMER LOS3 [PARTIAL] AND LOS5)

Stream Miles of Steelhead Use

23.7 mi

(used as denominator
in uplift calculation)

Streamnet

LOS6 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	23.7 mi.		
% Uplift	0.0%		

LOS6 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Colette Mine (Phase II, LWD and Riparian Enhancement, 2017)	0.5	10%	0.05
Total Project Length	0.5		0.05
Total # Projects	1		
Total Stream Miles Affected	0.05		
Total Stream Miles (Denominator)	23.7 mi.		
% Uplift	0.2%		

LOS6 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Colette Mine (Phase II, LWD and Riparian Enhancement, 2017)	0.5	90%	0.45
Total Project Length	0.5		0.45
Total # Projects	1		
Total Stream Miles Affected	0.45		
Total Stream Miles (Denominator)	23.7 mi.		
% Uplift	1.9%		

LOS6 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Colette Mine (Phase II, LWD and Riparian Enhancement, 2017)	0.5	90%	0.45
Total Project Length	0.5		0.45
Total # Projects	1		
Total Stream Miles Affected	0.45		
Total Stream Miles (Denominator)	23.7 mi.		
% Uplift	1.9%		

LOS6 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Lolo First 50 Decomissioning (2016)	13		7	50%	10% 0.65
Lolo First 50 Decomissioning (2018)	9		11	50%	10% 0.45
Total Project Length	22				1.1
Total # Projects	2				
Total Stream Miles Affected (weighted)	1.1				
Total Stream Miles (Denominator)	23.7 mi.				
% Uplift	4.6%				

SRS1 Lower Selway River

Stream Miles of Steelhead Use

60.4 mi

(used as denominator
in uplift calculation)

SRS1 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Nineteenmile Bridge Replacement (2016)	1	50%	0.5
Total Project Length	1		0.5
Total # Projects	1		
Total Stream Miles Affected	0.5		
Total Stream Miles (Denominator)	60.4 mi.		
% Uplift	0.8%		

SRS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)	Weighting of total benefit possible	Realized Change in 2018 (mi)
Nineteenmile Bridge Replacement (2016)	1	No Road	100%	10%	0.1
Total Project Length	1				0.1
Total # Projects	1				
Total Stream Miles Affected (weighted)	0.1				
Total Stream Miles (Denominator)	60.4 mi.				
% Uplift	0.2%				

SRS2 Meadow Creek

Stream Miles of Steelhead Use

73 mi

(used as denominator
in uplift calculation)

SRS2 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Stream Miles affected	Road Miles	Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)	Weighting of total benefit possible	Realized Change in 2018 (mi)
Horse and Goddard Creek Decommissioning (2018)	12		10	50%	3
Total Project Length	12				3
Total # Projects	1				
Total Stream Miles Affected (weighted)	3				
Total Stream Miles (Denominator)	73 mi.				
% Uplift	4.1%				

SRS3 O'Hara Creek

Stream Miles of Steelhead Use

13.1 mi

(used as denominator
in uplift calculation)

SRS3 - LF 4.1 (Riparian Vegetation)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	13.1 mi.		
% Uplift	0.0%		

SRS3 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
O'Hara Creek Road Improvement (2017)	5		2	90%	8%0.36
Total Project Length	5				0.36
Total # Projects	1				
Total Stream Miles Affected (weighted)	0.36				
Total Stream Miles (Denominator)	13.1 mi.				
% Uplift	2.7%				

SRS3 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
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No Actions	<div><div></div></div>	<div><div></div></div>
	0	0
Total # Projects	0	
Total Stream Miles Affected	0	
Total Stream Miles (Denominator)	13.1	
% Uplift	0.0%	

SRS4 Wilderness Area (Moose Creek, Upper Selway River, etc.)

Stream Miles of Steelhead Use

418.9 mi

(used as denominator
in uplift calculation)

SRS4 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>		<u>Road Miles</u>		<u>Road Landscape Position Weighting (categorized by riparian (90%), mid-slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weighting of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Invasives Treatment (2018)	24		100 non-road acres		50%	1%	0.12
Total Project Length	24						0.12
Total # Projects	1						
Total Stream Miles Affected (weighted)	0.12						
Total Stream Miles (Denominator)	418.9 mi.						
% Uplift	0.03%						

LCS1

Big Canyon Creek

Stream Miles of Steelhead Use

54.3 mi

(used as denominator in uplift calculation)

LCS1 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
Little Canyon Creek Streambank Erosion #13-1686	0.03	5%	0.0010
Total Project Length	0.03		0.001
Total # Projects	1		
Total Stream Miles Affected	0.001		
Total Stream Miles (Denominator)	54.3 mi.		
% Uplift	0.003%		

LCS1 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	Miles treated	% Improvement (proration factor)	Realized Change in 2018 (mi)
No Actions			0
Total Project Length	0		0
Total # Projects	0		0
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	54.3 mi.		
% Uplift	0.0%		

LCS1 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>% Improvement (proration factor)</u>	<u>Realized Change in 2018 (mi)</u>
Little Canyon Creek Streambank Erosion #13-1686	0.03	90%	0.030
Total Project Length	0.03		0.03
Total # Projects	1		
Total Stream Miles Affected	0.03		
Total Stream Miles (Denominator)	54.3 mi.		
% Uplift	0.05%		

LCS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Stream Miles affected</u>	<u>Road Miles</u>	<u>Road Landscape Position Weighting (categorized by riparian (90%), mid- slope (50%), upper watershed (10%), landslide prone area (90%) based on gradient)</u>	<u>Weightin g of total benefit possible</u>	<u>Realized Change in 2018 (mi)</u>
Little Canyon Creek Streambank Erosion #13-1686	0.03		50%	1%	0.0001
Total Project Length	0.03				0.0001
Total # Projects	1				
Total Stream Miles Affected (weighted)	0.0001				
Total Stream Miles (Denominator)	54.3 mi.				
% Uplift	0.0003%				

LCS1 - LF 8.1(Water Quality: Temperature)

<u>Action</u>	<u>Stream Miles Affected</u>	<u>% Improvement Weighting</u>	<u>Realized Change in 2018 (mi)</u>
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No Actions		0
		0
		0
Total # Projects	0	0
Total Stream Miles Affected	0	
Total Stream Miles (Denominator)	54.3	
% Uplift	0.0%	

LCS1 - LF 8.7 (Water Quality: Toxic Contaminants)

Action	Stream Miles Affected	% Improvement Weighting	Realized Change in 2018 (mi)
No Actions			0
			0
	0		0
Total # Projects	0		
Total Stream Miles Affected	0		
Total Stream Miles (Denominator)	54.3		
% Uplift	0.0%		

LCS1- LF 9.1 (Water Quantity: Increased Water Quantity)

Action	Permanent Acquisition	Annual Amounts (cfs)		
		2016	2017	2018
No Actions				
Total	0	0	0	0
		Annual Average ==>		
Total	0.0 cfs			0.0
Total # Projects	0			
Denominator	cfs	Example: Base Flow		
% Uplift (2018)	0.0%			

LCS1- LF 9.2 (Water Quantity: Decreased Water Quantity)

Annual Amounts (cfs)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
No Actions				
Total	0	0	0	0
<i>Annual Average ==></i>				0.0
Total	0.0 cfs			
Total # Projects	0			
Denominator	cfs	Example: Base Flow		
% Uplift (2018)	0.0%			