Workbook Info

Project:Expert Panel 2015-2016Meeting:Lower Snake/Tucannon Look Forward

Primary Data Recorder: Nick Legg, Geomorphologist, Cardno Inc. Latest Revision: 6/30/2016

Workbook Description

This workbook is the "Calculation Spreadsheet" for the Expert Panel Look Forward Process in the Lower Snake/Tucannon Sub-basin on May 18-19, 2016. The calculation spreadsheet captures numerical details of planned actions from 2016-2018 and functional uplift calculations. This table was created in support of the biological notes contained in the spreadsheets below.

Biological Notes Spreadsheet: Lower Snake_HABITATFUNCTIONS_chinookandsteelhead_Bionotes_LookFWD_QA_063016

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. LFW eight sheets were produced for assessment units where either weighting or low bookends were revised.

Highlighting Key: Yellow highlights require followup by panel.

<u>TUC1A</u>

Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Bookend	Revised 2015 Low Bookend
TUC1A	1.1	5%	5%	0%		91	
TUC1A	2.3	2%	0%	-2%		96	
ADDED	3.1	0%	0%	0%			20
TUC1A	4.1	10%	20%	10%		55	
ADDED	4.2	0%	2%	2%			20
ADDED	5.1	0%	20%	20%			25
TUC1A	5.2	30%	20%	-10%		56.3	47
TUC1A	6.1	0%	10%	10%		74.3	30
TUC1A	6.2	30%	20%	-10%		46.4	37
TUC1A	7.2	7%	1%	-6%		85	
TUC1A	8.1	10%	1%	-9%		34	
TUC1A	8.4	1%	0%	-1%		97	
TUC1A	9.2	5%	1%	-4%		90	
TUC1A	10.4	0%	0%	0%		25	

Sum of

Revised

Weights

100%

0%

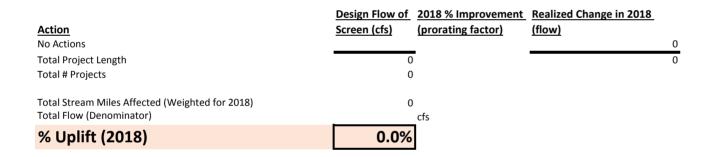
TUC1A Upper Tucannon - Pataha up to Panjab

Stream Miles Denominator used in Uplift	
Calculation (in appropriate Limiting Factors)	56.52 mi

TUC1A - LF 1.1 (Anthropogenic Barriers)

	<u>2018 % Improv</u>	vement_	
Action	Miles treated (prorating fact	or)	Realized Change in 2018 (mi)
Tucannon River Hatchery Diversion	26.07	10%	2.607
Total Project Length	26.07	-	2.607
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	2.607		
Total Stream Miles (Denominator)	56.52 mi.		
% Uplift (2018)	4.6%		

TUC1A - LF 2.3 (Injury and Mortality: Mechanical Injury)



TUC1A - LF 3.1 (Primary Productivity)

Action No Actions Total Project Length Total # Projects	Stream Miles Affected		(flow)	<u>0</u> 0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 56.52			
, , ,		1		
% Uplift (2018)	0.0%			
		-		
TUC1A - LF 4.1 (Riparian Vegetation)				
		2018 % Improvement	Estimated Improvement by	Realized Change in

Acres treated (prorating factor)

2018 (Prorating factor 2)

<u>2018 (mi)</u>

Comment: Made 7-25-16

PA-23 (Howards)	1	5%	8%	0.00400
PA-14 (Tuc Hatchery)	5	8%	8%	0.03000
PA-11 (Beaver Watson Lk to Deer Lk)	5	10%	8%	0.04000
PA-15 (Russel)	1	5%	8%	0.00400
PA-28 (Broughton LC)	5	15%	8%	0.06000
PA-18 (Hartsock)	20	21%	5%	0.21000
PA-24 (Janet Howard)	2	6%	8%	0.00960
Total Project Area	39			0.35760
Total # Projects	7			
Total Riparian Acres Affected (Weighted for 2018)	0.3576			

Total Riparian Acres (Denominator)	1157 acres
% Uplift (2018)	0.03%

75% of the Length of Chinook domain with 150-foot buffer on either side of channel excluding wilderness.

TUC1A - LF 4.2 (LWD Recruitment)

		2018 % Improvement	
Action	Acres treated	(prorating factor)	Realized Change in 2018 (mi)
PA-11 (Beaver Watson Lk to Deer Lk)	5	2.5%	0.12500
PA-15 (Russel)	1	2.5%	0.02500
PA-28 (Broughton LC)	5	2.5%	0.12500
PA-18 (Hartsock)	20	2.5%	0.50000
PA-24 (Janet Howard)	0.5	2.5%	0.01250
Total Project Area	31.5		0.7875
Total # Projects	5		
Total Riparian Acres Affected (Weighted for 2018)	0.7875		

Total Riparian Acres (Denominator)	1157 acres
% Uplift (2018)	0.07%

75% of the length of Chinook domain with 150-foot buffer on either side of channel including wilderness.

TUC1A - LF 5.1 (Peripheral and Transitional Habitats: Side Channels)

Action	Miles treated	<u>% Instantaneous</u> Improvement (prorating factor)	<u>% Accrued Improvement by</u> 2018	<u>Realized Change in</u> 2018 (mi)
PA-17 & PA-18 (Hartsock)	1.9	20%	3%	ő 0.437
PA-28 (Broughton LC)	2	20%	3%	0.46
PA-6-9	2	16%	3%	
Total Project Length Total # Projects	5.9 3			1.277
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	1.277 42.42		excludes wilderness	
% Uplift (2018)	3.0%			

75% of the chinook domain is used to reflect the recover goal set in the Salmon Recovery Plan. The 14.1 miles of river length within the wilderness is not included since it is outside our current restoation plans

I think we should use the same denominator here of 75% of the chinook domain which is used to reflect the recover goal set in the Salmon Recovery Plan. The 14.1 miles of river length within the wilderness is not included since it is outside our current restoation plans

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 40% iistant improvement in side channels and transitional habitat

prorating factor reflects 50% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% iistant improvement in side channels and transitional habitat

prorating factor reflects 40% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% iistant improvement in side channels and transitional habitat

TUC1A - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	<u>Miles treated</u>	<u>% Instantaneous</u> Improvement (prorating factor)	% Accrued Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
PA-17 & PA-18 (Hartsock)	1.9	20%	3%	6 0.437
PA-28 (Broughton LC)	2	30%	3%	6 0.66
PA-6-9 Total Project Length Total # Projects	2 5.9 0		3%	6 <u>0.66</u> 1.757
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) % Uplift (2018)	1.757 42.42 4.1%	mi.	excludes wilderness	

TUC1A - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	<u>Miles treated</u>	<u>% Instantaneous</u> <u>Improvement</u> (prorating factor)	<u>% Accrued Improvement b</u> 2018	<u>9y Realized Cha</u> 2018 (mi)	inge in
PA-17 & PA-18 (Hartsock)	1.9	1	0%	3%	0.247
PA-28 (Broughton LC)	2	1	0%	3%	0.26
PA-6-9 Total Project Length Total # Projects	2 5.9 0)	0%	3%	0.26 0.767
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) % Uplift (2018)	0.767 42.42 1.8%	mi.	excludes wilderness		

TUC1A - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	<u>Miles treated</u>	<u>% Instantaneous</u> Improvement (prorating factor)	<u>% Accrued Improvement by</u> 2018	Realized Chang 2018 (mi)	<u>e in</u>
PA-17 & PA-18 (Hartsock)	1.9	9 189	% 3	3% 0	.399
PA-28 (Broughton LC)	2	279	% 3	3%	0.6

% Accured is 1.5% improvement in side channel habitat for each of the two yr following construction

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 40% instant improvement in side channels and transitional habitat

prorating factor reflects 75% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% instant improvement in side channels and transitional habitat

prorating factor reflects 75% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% instant improvement in side channels and transitional habitat

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

% Accured is 1.5% improvement in side channel habitat for each of the two yr following construction

prorating factor reflects 60% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

prorating factor reflects 90% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

PA-6-9	2	27%	3%	0.6
Total Project Length	5.9			1.599
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	1.599			
Total Stream Miles (Denominator)	42.42 mi.	excludes wilderness		
% Uplift (2018)	3.8%			

TUC1A - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u> No Relevant Actions	2018 % Improvemen Miles treated (prorating factor)	nt Realized Change in 2018 (mi) 0
Total Project Length Total # Projects	0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 mi.	
% Uplift (2018)	#DIV/0!	

TUC1A - LF 8.1 (Water Quality: Temperature)

<u>Action</u> No Actions	2018 % Improvement Miles treated (prorating factor)	<u>Realized Change in 2018 (mi)</u> 0
Total Project Length Total # Projects	0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 56.52 mi.	
% Uplift (2018)	0.0%	

TUC1A - LF 8.4 (Water Quality: Turbidity)

<u>Action</u> No Actions	2018 % Improvemen Miles treated (prorating factor)	t Realized Change in 2018 (mi) 0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 56.52 mi.	
% Uplift (2018)	0.0%	

TUC1A - LF 9.2 (Water Quantity: Decreased Water Quantity)

prorating factor reflects 90% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further increase bed for change.

I adjusted the instant improvements to reflect the proportion of the reach treated

		<u>Annual Amounts (cfs)</u>			
	Permanent				
Action	Acquisition	<u>2012</u>	<u>2013</u>	<u>2014</u>	2015
No Actions					
Total	0	0	0	0	0
			Annual Average ==>	0.0	
Total	0.0	cfs			
Total # Projects	0				
Denominator		cfs E	xample: Base Flow		
% Uplift (2018)	#DIV/0!				
	-				

TUC1A - LF 10.4 (Population Level Effects: Life History Changes)

<u>Action</u> No Actions	2018 % Improvement Miles treated (prorating factor)	t Realized Change in 2018 (mi) 0
Total Project Length Total # Projects	0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 56.52 mi.	
% Uplift (2018)	0.0%	

<u>TUC1B</u>

Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Bookend	Revised 2015 Low Bookend
TUC1B	1.1	5%	4%	-1%		95	
TUC1B	2.3	2%	0%	-2%		96	
TUC1B	4.1	10%	11%	1%		33.4	
ADDED	4.2	0%	2%	2%			20
ADDED	5.1	0%	19%	19%			25
TUC1B	5.2	30%	19%	-11%		30.6	
TUC1B	6.1	0%	9%	9%		57	30
TUC1B	6.2	30%	19%	-11%		21	
TUC1B	7.2	12%	11%	-1%		80	
TUC1B	8.1	5%	5%	0%			20
TUC1B	8.4	1%	1%	0%		80	
TUC1B	9.2	5%	0%	-5%		95	
TUC1B	10.4	0%	0%	0%		25	

Sum of

Revised

Weights

100%

0%

TUC1B Lower Tucannon - Mouth to Pataha

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors)

11.3 mi

TUC1B - LF 1.1 (Anthropogenic Barriers)

Action	2018 % Improvement (prorating Miles treated factor)	<u>Realized Change in</u> 2018 (mi)
No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 11.3_mi.	
% Uplift (2018)	0.0%	

TUC1B - LF 2.3 (Injury and Mortality: Mechanical Injury)

		<u>2018 %</u>	
	Design Flow of	Improvement (prorating factor)	Realized Change in
<u>Action</u> No Actions	<u>Screen (cfs)</u>	<u>factor)</u>	2018 (flow)
Total Project Length		0	0
Total # Projects		0	
Total Stream Miles Affected (Weighted for 2018) Total Flow (Denominator)		0 cfs	
% Uplift (2018)	#DIV/0!		

TUC1B - LF 4.1 (Riparian Vegetation)

			Accrued	
			improvement_	
			(Based on plant	Realized Change in
Action	Acres treated	Est Improvement	growth)	<u>2018 (mi)</u>
PA-40 Tucannon Reach	5.54	5%	8%	0.29916
Total Project Area	5.54			0.29916
Total # Projects	1			
Total Riparian Acres Affected (Weighted for 2018)	0.29916			
Total Riparian Acres (Denominator)	308	acres	75% of total ILength	of Chinook domain with 150-foot buffer on eit
% Uplift (2018)	0.1%			

TUC1B - LF 4.2 (LWD Recruitment)

			Accrued		
			improvement		
			(Based on plant	Realized Change	<u>e in _</u>
Action	Acres treated	Est Improvement	<u>growth)</u>	<u>2018 (mi)</u>	
PA-40 Tucannon Reach	5.54	5%	89	6 0.299	916
Total Project Area	5.54	ŀ		0.299	916
Total # Projects	1				
Total Riparian Acres Affected (Weighted for 2018) Total Riparian Acres (Denominator)	0.29916 308	acres	75% of total ILength	of Chinook domain	with 150-foot buffer on either sid
% Uplift (2018)	0.1%				

TUC1B - LF 5.1 (Peripheral and Transitional Habitats: Side Channels and Wetlands)

Action	<u>Miles treated</u>	2018 % Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)
No Actions			0
Total Project Length	#REF!	_	0
Total # Projects		0	
Total Miles Affected (Weighted for 2018)		0	
Total Stream Miles (Denominator)	11	.3 mi.	
% Uplift (2018)	0.09	6	

TUC1B - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

either side of channel.

side of channel.

Action	Miles treated	<u>2018 %</u> Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)
No Actions			0
Total Project Length	#REF!		0
Total # Projects		0	
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)		0 1.3 mi.	
% Uplift (2018)	0.0	70	

TUC1B - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

		2018 % Improvement (prorating	Realized Change in
Action	Miles treated	<u>factor)</u>	<u>2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	11.3	mi.	
% Uplift (2018)	0.0%		

TUC1B - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

	<u>2018 %</u> Improvement	
	(prorating	Realized Change in
Action	Miles treated factor)	<u>2018 (mi)</u>
No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018)	0	
Total Stream Miles (Denominator)	11.3 mi.	
% Uplift (2018)	0.0%	

TUC1B - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

		<u>2018 %</u> Improvement	
		(prorating	Realized Change in
Action	Miles treated	<u>factor)</u>	<u>2018 (mi)</u>
No Actions		_	0
Total Project Length		0	0
Total # Projects		0	
Total Stream Miles Affected (Weighted for 2018)		0	
Total Stream Miles (Denominator)	11.5	3 mi.	
% Uplift (2018)	0.0%	ó	

TUC1B - LF 8.1 (Water Quality: Temperature)

		2018 % Improvement	
		(prorating	Realized Change in
Action	Miles treated	<u>factor)</u>	<u>2018 (mi)</u>
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	11.3	mi.	
% Uplift (2018)	0.0%		

TUC1B - LF 8.4 (Water Quality: Turbidity)

<u>Action</u> No Actions	2018 % Improvement (prorating Miles treated factor)	<u>Realized Change in</u> 2018 (mi) 0
Total Project Length Total # Projects	0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 11.3 mi.	

% Uplift (2018)

0.0%

TUC1B - LF 9.2 (Water Quantity: Decreased Water Quantity)						
	<u>Annual Am</u>	ounts (cfs)				
Permanent						
Acquisition		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	
	0	0	0	0	0	
		Annual	Average ==>	0.0		
0.0	0 cfs					
	0					
	cfs	Example	e: Base Flow			
#DIV/0!						
	Permanent Acquisition 0.	Permanent Annual Amage Acquisition 0 0.0 cfs 0 cfs	Annual Amounts (cfs) Permanent Acquisition 2012 0 0 Acquisition 0 0 0 Cfs Example	Annual Amounts (cfs)Permanent Acquisition2012201300000000000.0cfs 0 cfsExample: Base Flow	Annual Amounts (cfs)Permanent Acquisition2012201320140000000000000000.0cfs o cfsExample: Base Flow0.0	

TUC1B - LF 10.4 (Population Level Effects: Life History Changes)

Action	2018 % Improvemen (prorating Miles treated factor)	<u>t</u> <u>Realized Change in</u> <u>2018 (mi)</u>
No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 11.3 mi.	
% Uplift (2018)	0.0%	

<u>TUS1A</u>

Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Bookend	Revised 2015 Low Bookend
TUS1A	1.1	5%	5%	0%	75	76	
TUS1A	2.3	2%	0%	-2%	96	96	
ADDED	3.1	0%	0%	0%			20
TUS1A	4.1	10%	20%	10%	39	42	
ADDED	4.2	0%	2%	2%			20
ADDED	5.1	0%	20%	20%			25
TUS1A	5.2	30%	20%	-10%	26	50.6	47
TUS1A	6.1	0%	10%	10%	51	75.6	30
TUS1A	6.2	30%	20%	-10%	70	95.5	44
TUS1A	7.2	8%	1%	-7%	80	80	
TUS1A	8.1	10%	1%	-9%	34	34	50
TUS1A	8.4	0%	0%	0%	97	97	
TUS1A	9.2	5%	1%	-4%	90	90	
TUS1A	10.4	0%	0%	0%	25	25	

Sum of

Revised

Weights

100%

0%

Stream Miles Denominator used inUplift Calculation (in appropriateLimiting Factors)89.68 mi

TUS1A - LF 1.1 (Anthropogenic Barriers)

		<u>2018 %</u>	
		Improvement	Realized Change in
Action	Miles treated	(prorating factor)	<u>2018 (mi)</u>
Tucannon River Hatchery Diversion	32.11	10%	3.211
Total Project Length	32.11	-	3.211
Total # Projects	1		
Total Stream Miles Affected (Weighted for			
2018)	3.211		
Total Stream Miles (Denominator)	89.68	mi.	
% Uplift (2018)	3.6%		

TUS1A - LF 2.3 (Injury and Mortality: Mechanical Injury)

Action	2018 %Design Flow ofImprovementScreen (cfs)(prorating factor)	<u>Realized Change in</u> 2018 (flow)
No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Flow (Denominator)	0 cfs	
% Uplift (2018)	#DIV/0!	
	· · · · · · · · ·	

TUS1A - LF 3.1 (Primary Productivity)

		2018 %	
	Stream Miles	Improvement	Realized Change in
Action	Affected	(prorating factor)	2018 (flow)
No Actions		_	0
Total Project Length	()	0
Total # Projects	()	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	89.68		
% Uplift (2018)	0.0%		

Comments : 7-25-16

TUS1A - LF 4.1 (Riparian Vegetation)

			Estimated	
		<u>2018 %</u>	Improvement by	
		Improvement	2018 (Prorating	Realized Change in
Action	Acres treated	(prorating factor)	factor 2)	2018 (mi)
PA-23 (Howards)	1	5%	8%	0.00400
PA-14 (Tuc Hatchery)	5	8%	8%	0.03000
PA-11 (Beaver Watson Lk to Deer Lk)	5	10%	8%	0.04000
PA-15 (Russel)	1	5%	8%	0.00400
PA-28 (Broughton LC)	5	15%	8%	0.06000
PA-18 (Hartsock)	20	21%	5%	0.21000
PA-24 (Janet Howard)	2	6%	8%	0.00960
Total Project Area	39			0.35760
Total # Projects	7			
Total Riparian Acres Affected (Weighted for 201	0.3576			
Total Riparian Acres (Denominator)	2061	acres	75% of the total lengt	h of steelhead domain wit
% Uplift (2018)	0.02%			

with 150-foot buffer on either side of channel excluding wilderness.

75% of the steelhead domain is used to reflect the recover goal set in the Salmon Recovery Plan. The 14.1 miles of river length within the wilderness is not included since it is outside our current restoation plans

TUS1A - LF 4.2 (LWD Recruitr	<u>nent)</u>		
		2018 %	
		Improvement	Realized Change in
Action	Acres treated	(prorating factor)	<u>2018 (mi)</u>
PA-11 (Beaver Watson Lk to Deer Lk)	5	2.5%	% 0.12500
PA-15 (Russel)	1	2.5%	% 0.02500
PA-28 (Broughton LC)	5	2.5%	% 0.12500
PA-18 (Hartsock)	20	2.5%	% 0.50000
PA-24 (Janet Howard)	0.5	2.5%	% 0.01250
Total Project Area	31.5		0.78750
Total # Projects	5		
Total Riparian Acres Affected (Weighted for 201	0.7875		
Total Riparian Acres (Denominator)	2061	acres	75% of the total length of steelhead domain with 150-foot buffer on either side of channel excluding wilderne
% Uplift (2018)	0.04%		

included since it is outside our current restoation plans

TUS1A - LF 5.1 (Peripheral and Transitional Habitats: Side Channels)

		<u>% Instantaneous</u> Improvement	<u>% Accrued</u> Improvement by	Realized Change in
Action	Miles treated	(prorating factor)	<u>2018</u>	<u>2018 (mi)</u>
PA-17 & PA-18 (Hartsock)	1.9	20%	3%	0.437
PA-28 (Broughton LC)	2	20%	3%	0.46
PA-6-9	2	. 16%	3%	0.38
Total Project Length	5.9			1.277
Total # Projects	C	1		
Total Miles Affected (Weighted for 2018)	1.277	,		
Total Stream Miles (Denominator)	75.58	mi.	excludes wilderness	
% Uplift (2018)	1.7%			

improvement in side channels and transitional habitat anticipate a 40% instant improvement in side channels and transitional habitat

I think the same denominator should be used as above, 75% of the steelhead domain is used to reflect the recover goal set in the Salmon Recovery Plan. The 14.1 miles of river length within the wilderness is not

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 40% instant

prorating factor reflects 50% of the reach being treated for off channel and side channel habitat and that we

prorating factor reflects 40% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% instant improvement in side channels and transitional habitat

TUS1A - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

		<u>% Instantaneous</u> Improvement	<u>% Accrued</u> Improvement by	Realized Change in
Action	Miles treated	(prorating factor)	<u>2018</u>	<u>2018 (mi)</u>
PA-17 & PA-18 (Hartsock)	1.9	20%	3%	0.437
PA-28 (Broughton LC)	2	. 30%	3%	0.66
PA-6-9	2	30%	3%	0.66
Total Project Length	5.9			1.757
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	1.757			
Total Stream Miles (Denominator)	75.58	mi.	excludes wilderness	
% Uplift (2018)	2.3%			

improvement in side channels and transitional habitat

TUS1A - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	<u>Miles treated</u>	% Instantaneous Improvement (prorating factor)	<u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
PA-17 & PA-18 (Hartsock)	1.9	10%	3%	0.247
PA-28 (Broughton LC)	2	10%	3%	0.26
PA-6-9 Total Project Length Total # Projects	2 5.9 0		3%	0.26
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) % Uplift (2018)	0.767 75.58 1.0%	i mi.	excludes wilderness	

increase bed for change. increase bed for change. increase bed for change.

TUS1A - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	<u>Miles treated</u>	% Instantaneous Improvement (prorating factor)	<u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)	
PA-17 & PA-18 (Hartsock)	1.9	18%	3%	0.399	
PA-28 (Broughton LC)	2	27%	3%	0.6	
PA-6-9 Total Project Length Total # Projects	2 5.9 0		3%	0.6	
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) % Uplift (2018)	1.599 75.58 2.1%	mi.	excludes wilderness		

increase bed for change. increase bed for change. increase bed for change.

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 40% instant

prorating factor reflects 75% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% instant improvement in side channels and transitional habitat

prorating factor reflects 75% of the reach being treated for off channel and side channel habitat and that we anticipate a 40% instant improvement in side channels and transitional habitat

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

prorating factor reflects 50% of the reach being treated before 2018 and that we anticipate a 20% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

%Accured is 1.5% improvement in side channel habitat for each of the two yr following construction prorating factor reflects 60% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

prorating factor reflects 90% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

prorating factor reflects 90% of the reach being treated before 2018 and that we anticipate a 30% instant improvement in bed form as a result of the project. It is anticipated subquential high flow events will further

I adjusted the instant improvements to reflect the proportion of the reach treated

TUS1A - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

		<u>2018 %</u>	
		Improvement	Realized Change in
Action	Miles treated	(prorating factor)	<u>2018 (mi)</u>
No Relevant Actions		_	0
Total Project Length	()	0
Total # Projects	()	
Total Stream Miles Affected (Weighted for 2018	E C)	
Total Stream Miles (Denominator)	89.68	3 mi.	
% Uplift (2018)	0.0%		

TUS1A - LF 8.1 (Water Quality: Temperature)

<u>Action</u> No Actions	2018 % Improvement Miles treated (prorating factor)	<u>Realized Change in</u> 2018 (mi) 0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 89.68 mi.	
% Uplift (2018)	0.0%	

TUS1A - LF 8.4 (Water Quality: Turbidity)

<u>Action</u> No Actions		2018 % Improvement (prorating factor)	Realized Change in 2018 (mi) 0
Total Project Length	0		0
Total # Projects	0		0
Total Stream Miles Affected (Weighted for			
2018) Total Stream Miles (Denominator)	0		
Total Stream Miles (Denominator)	89.68	mi.	
% Uplift (2018)	0.0%		

TUS1A- LF 9.2 (Water Quantity: Decreased Water Quantity)					
		Annual Amounts (cfs)			
	Permanent				
Action	Acquisition	<u>2012</u>	<u>2013</u>	<u>2014</u>	2015
No Actions					
Total	0	0	0	0	0
		Ann	ual Average ==>	0.0	
Total	0.0 0	cfs			
Total # Projects	0				

Denominator	cfs	Example: Base Flow
% Uplift (2018)	0.0%	

TUS1A - LF 10.4 (Population Level Effects: Life History Changes)

Action	Miles treated	<u>2018 %</u> Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi) 0
Total Project Length	()	0
Total # Projects	()	
Total Stream Miles Affected (Weighted for			
2018)	(
Total Stream Miles (Denominator)	89.68	3 mi.	
% Uplift (2018)	0.0%)	

Lower Tucannon

Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Bookend	Revised 2015 Low Bookend
TUS1B	1.1	5%	4%	-1%		95	
TUS1B	2.3	2%	0%	-2%		96	
TUS1B	4.1	10%	11%	1%	32	33.4	
ADDED	4.2	0%	2%	2%			20
ADDED	5.1	0%	19%	19%			25
TUS1B	5.2	30%	19%	-11%	27	32.6	
TUS1B	6.1	10%	9%	-1%	54	57	30
TUS1B	6.2	20%	19%	-1%	36	21	
TUS1B	7.2	8%	11%	3%	80	80	
TUS1B	8.1	10%	5%	-5%	34	34	
TUS1B	8.4	0%	1%	1%	80	80	
TUS1B	9.2	5%	0%	-5%	90	95	
TUS1B	10.4	0%	0%	0%	25	25	

Sum of

Revised

Weights

100%

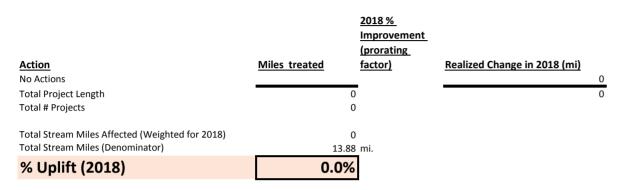
0%

<u>TUS1B</u>

TUS1B Lower Tucannon - Mouth to Pataha

Stream Miles Denominator used in Uplift		2.58 mi in Kellogg and Smith
Calculation (in appropriate Limiting		Creeks (to existing barriers)
Factors)	13.88 mi	plus Chinook

TUS1B - LF 1.1 (Anthropogenic Barriers)



TUS1B - LF 2.3 (Injury and Mortality: Mechanical Injury)

<u>Action</u> No Actions	<u>Design Flow of</u> Screen (cfs)	2018 % Improvement (prorating factor)	<u>Realized Change in 2018 (flow)</u>	0
Total Project Length		0		0
Total # Projects		0		
Total Stream Miles Affected (Weighted for 2018) Total Flow (Denominator)		0 cfs		
% Uplift (2018)	#DIV/0!			

TUS1B - LF 4.1 (Riparian Vegetat	tion)			
		<u>Est</u>	Accrued improvement (Based on	Realized Change in
Action	Acres treated	Improvement	plant growth)	<u>2018 (mi)</u>
PA-40 Tucannon Reach	5.54	- 5%	8%	6 0.29916
Total Project Area	5.54	ļ		0.29916
Total # Projects	1			
Total Riparian Acres Affected (Weighted for 2018)	0.29916	i		
Total Riparian Acres (Denominator)	379	acres	75% of total length of steelhead dom	nain with 150-foot buffer on either side of channe
% Uplift (2018)	0.1%			
TUS1B - LF 4.2 (LWD Recruitmen	<u>t)</u>			
		<u>Est</u>	Accrued improvement (Based on	Realized Change in
Action	Acres treated	Improvement	<u>plant growth)</u>	<u>2018 (mi)</u>
PA-40 Tucannon Reach	5.54	5%	89	6 0.29916
Total Project Area	5.54	ļ		0.29916
Total # Projects	1			
Total Riparian Acres Affected (Weighted for 2018)	0.29916	;		
Total Riparian Acres (Denominator)	379	acres	75% of total length of steelhead dom	nain with 150-foot buffer on either side of channe

Comment 7-25-16

We use 75% of total with a 150' buffer each bank to reflect the restoration goal in the Recovery Plan

We use 75% of total with a 150' buffer each bank to reflect the restoration goal in the Recovery Plan

TUS1B - LF 5.1 (Peripheral and Transitional Habitats: Side Channels and Wetlands)					
		<u>2018 %</u> Improvement			
		(prorating			
Action	Miles treated	factor)	Realized Change in 2018 (mi)		
No Actions		_		0	
Total Project Length		0		0	
Total # Projects		0			
Total Miles Affected (Weighted for 2018)		0			
Total Stream Miles (Denominator)	13.8	8 mi.			
% Uplift (2018)	0.0%	6			

		2018 % Improvement	t	
		(prorating	-	
Action	Miles treated	factor)	Realized Change in 2018 (mi)	
No Actions				0
Total Project Length		0		0
Total # Projects		0		
Total Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)	13	.88 mi.		
% Uplift (2018)	0.0	%		

TUS1B - LF 6.1 (Channel Structure and Form: Bed and Channel Form)					
		<u>2018 %</u>			
		Improvement	_		
		(prorating			
Action	Miles treated	factor)	Realized Change in 2018 (mi)		
No Actions		_		0	
Total Project Length		0		0	
Total # Projects		0			
Total Stream Miles Affected (Weighted for 2018)		0			
Total Stream Miles (Denominator)	13.	88 mi.			
% Uplift (2018)	0.09	6			

TUS1B - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	<u>2018 %</u> Improvement (prorating factor)	Realized Change in 2018 (mi)	
No Actions		<u></u>	······································	0
Total Project Length		0		0
Total # Projects		0		
Total Stream Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)	13	.88 mi.		
% Uplift (2018)	0.0	%		

TUS1B - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

		<u>2018 %</u> Improvement (prorating		
Action	Miles treated	factor)	Realized Change in 2018 (mi)	
No Actions		_		0
Total Project Length	0)		0
Total # Projects	0)		
Total Stream Miles Affected (Weighted for 2018)	0)		
Total Stream Miles (Denominator)	13.88	mi.		
% Uplift (2018)	0.0%			

TUS1B - LF 8.1 (Water Quality: Temperature)

		<u>2018 %</u> Improvement (prorating		
Action	Miles treated	factor)	Realized Change in 2018 (mi)	
No Actions				0
Total Project Length	0			0
Total # Projects	0			
Total Stream Miles Affected (Weighted for 2018)	0			
Total Stream Miles (Denominator)	13.88	mi.		
% Uplift (2018)	0.0%			

TUS1B - LF 8.4 (Water Quality: Turbidity)

Action	Miles treated	2018 % Improvement (prorating	Realized Change in 2018 (mi)	
Action	Miles treated	factor)	Realized Change in 2016 (mi)	
No Actions				0
Total Project Length		0		0
Total # Projects		0		
Total Stream Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)	13	.88 mi.		
% Uplift (2018)	0.0	%		

TUS1B - LF 9.2 (Water Quantity: Decreased Water Quantity)							
		<u>Annual</u>	Amounts (cfs)				
	Permanent_						
Action	Acquisition		2012	<u>2013</u>	<u>2014</u>	<u>2015</u>	
No Actions							
Total		0	0	0	0	0	
			Annua	l Average ==>	0.0		
Total		0.0 cfs					
Total # Projects		0					
Denominator		cfs	Example: Base	Flow			
% Uplift (2018)	#DIV/0!						

TUS1B - LF 10.4 (Population Level Effects: Life History Changes)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)	
No Actions				0
Total Project Length	0	-		0
Total # Projects	0			
Total Stream Miles Affected (Weighted for 2018)	0			
Total Stream Miles (Denominator)	13.88	mi.		
% Uplift (2018)	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	2015 Low Bookend	Revised 2015 Low Bookend
ACS1	1.1	5%	5%	0%		85	
ACS1	4.1	15%	10%	-5%		40	
ADDED	4.2	0%	2%	2%			35
ADDED	5.1	0%	10%	10%			45
ACS1	5.2	30%	21%	-9%		35	
ACS1	6.1	0%	10%	10%			25
ACS1	6.2	30%	21%	-9%		40	
ACS1	7.2	3%	3%	0%		60	
ACS1	8.1	10%	11%	1%		23	40
ACS1	8.4	2%	2%	0%		60	
ACS1	9.2	5%	5%	0%		90	75

Sum of Revised

Weights

100% 0%

ACS1 Alpowa

Stream Miles Denominator used in Uplift	
Calculation (in appropriate Limiting Factors)	22 mi

ACS1 - LF 1.1 (Anthropogenic Barriers)

		<u>2018 %</u>	
		Improvement	
		(prorating	Realized Change in
Action	Miles treated	factor)	<u>2018 (mi)</u>
Restore Alpowa Cr Fish Passage (14-1898)	1!	5 159	% 2.25
Total Project Length	1	5	2.25
Total # Projects	:	1	
Total Stream Miles Affected (Weighted for 2018)	2.2	5	
Total Stream Miles (Denominator)	22	2_mi.	
% Uplift (2018)	10.2%		

ACS1 - LF 4.1 (Riparian Vegetation)				
		Improvement %	<u>% Est</u> Improvement by	Realized Change in
Action	Acres treated	X Survival	2018	<u>2018 (mi)</u>
No Actions				0
Total Project Area		0		0
Total # Projects		0		
Total Riparian Acres Affected (Weighted for 2018)		0	00% of both loss the	
Total Riparian Acres (Denominator)	42	.7 mi.	80% of total length	of steelhead domain with 150-foot buffer on either side of cha
% Uplift (2018)	0.0%	6		

We use 80% of total with a 100' buffer each bank to reflect the restoration goal in the Recovery Plan In the smaller floodplain we are y

ACS1 - LF 4.2 (LWD Recruitment)

Action No Actions	Acres treated	Improvement % X Survival	<u>% Est</u> Improvement by 2018	Realized Change in 2018 (mi) 0
Total Project Area		0		0
Total # Projects		0		
Total Riparian Acres Affected (Weighted for 2018) Total Riparian Acres (Denominator)	2	0 <mark>127</mark> mi.	80% of total length	of steelhead domain with 150-foot buffer on either side of cha
% Uplift (2018)	0.0	%		

We use 80% of total with a 100' buffer each bank to reflect the restoration goal in the Recovery Plan

ACS1 - LF 5.1 (Peripheral and Transitional Habitats: Side Channels and Wetlands)

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

22 mi.
0

ACS1 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

		% Instantaneous	5	
		Improvement	<u>% Accrued</u>	
		(prorating	Improvement by	Realized Change in
Action	Miles treated	factor)	<u>2018</u>	<u>2018 (mi)</u>
No Actions		_		0
Total Project Length	()		0
Total # Projects	()		
Total Miles Affected (Weighted for 2018)	()		
Total Stream Miles (Denominator)	2	2 mi.		
<mark>% Uplift (2018)</mark>	0.0%			

ACS1 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	<u>Miles treated</u>	<u>% Instantaneous</u> Improvement (prorating factor)	5 <u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
No Actions		_		0
Total Project Length	(D		0
Total # Projects	(D		
Total Miles Affected (Weighted for 2018)	(D		
Total Stream Miles (Denominator)	22	2_mi.		
% Uplift (2018)	0.00%	5		

ACS1 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	<u>Miles treated</u>	<u>% Instantaneou</u> Improvement (prorating factor)	<u>s</u> <u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
No Actions				0
Total Project Length		0		0
Total # Projects		0		
Total Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)	2	2 mi.		
% Uplift (2018)	0.00%	6		

ACS1 - LF 7.2 (Sediment Conditions: Incr	eased Sedime	nt Quantity)	
		<u>2018 %</u>	
		Improvement	
		(prorating	Realized Change in
Action	Miles treated	factor)	<u>2018 (mi)</u>

No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018)	0	
Total Stream Miles (Denominator)	22 mi.	
% Uplift (2018)	0.0%	

<u> ACS1 - LF 8.1 (Water Quality: Temperatu<mark>re)</mark></u>

Action	Miles treated	2018 % Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)	
No Actions				0
Total Project Length		0	0	
Total # Projects		0		
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)		0 22_mi.		
% Uplift (2018)	0.0	%		

ACS1 - LF 8.4 (Water Quality: Turbidity)

Action	Miles treated	2018 % Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)		
No Actions		_		0	
Total Project Length		0	0		
Total # Projects		0			
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)		0 2_mi.			
% Uplift (2018)	0.0%	6			

ACS1 - LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (c	<u>fs)</u>		
	Permanent				
Action	Acquisition	2012	2013	<u>2014</u>	<u>2015</u>
No Actions				0	
Total	0	0	0	0	0
			Annual Average ==>	0.0	
Total	0.0	cfs	, and a second ge	0.0	
Total # Projects	#REF!				
Denominator		cfs	Example: Base Flow		
% Uplift (2018)	#DIV/0!				

Sum of Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Booke nd	2015 Low Booke nd	Revised 2015 Low Bookend
ACS2	1.1	5%	5%	0%		95	
ACS2	4.1	15%	10%	-5%		66	
ADDED	4.2	0%	10%	10%			40
ADDED	5.1	0%	5%	5%			25
ACS2	5.2	30%	20%	-10%		56	
ACS2	6.1	0%	10%	10%			25
ACS2	6.2	30%	20%	-10%		40	
ACS2	7.2	3%	3%	0%		61	
ACS2	8.1	10%	10%	0%		34	
ACS2	8.4	2%	2%	0%		61	
ACS2	9.2	5%	5%	0%		50	70

Sum of Revised

Weights

100% 0%



ACS2 Asotin Creek

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors)

61.1 mi

ACS2 - LF 1.1 (Anthropogenic Barriers)

		<u>2018 %</u> Improvement	_	
		(prorating	Realized Cha	ange in
Action	Miles treated	factor)	<u>2018 (mi)</u>	
Headgate Fish Passage (12-1633)	52.4		5%	2.62
Total Project Length	52.4	ļ		2.62
Total # Projects	1	L		
Total Stream Miles Affected (Weighted for 2018)	2.62	2		
Total Stream Miles (Denominator)	61.1	. mi.		
% Uplift (2018)	4.3%			

ACS2 - LF 4.1 (Riparian Vegetation)

			<u>% Est</u>	
		Improvement %	Improvement by	Realized Change in
Action	Acres treated	X Survival	<u>2018</u>	<u>2018 (mi)</u>
IMW Riparian Project (13-1405)	8.9	0.29	6 8%	0.019162403
Asotin Cr Riparian Protection Project (16-2092)	80	3.0%	6 8%	2.580469176
Total Project Area	88.9			2.599631579
Total # Projects	2			
Total Acres Affected (Weighted for 2018)	2.599631579			
Total Riparian Acres (Denominator)	1333	mi.	90% of total length of	of steelhead domain with 100-foot buffer o
% Uplift (2018)	0.2%			

ACS2 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

		<u>% Instantaneou</u>	<u>s</u>	
		Improvement	% Accrued	
		(prorating	Improvement by	Realized Change in
Action	Miles treated	factor)	<u>2018</u>	<u>2018 (mi)</u>
No Actions				
Total Project Length		0		0
Total # Projects		0		
Total Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)		32 mi.		

Comment: 7-25-16

r on either s We use 90% of total with a 100' buffer each bank to reflect the restoration goal in the Recovery Plan

0.0%

ACS2 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	Miles treated	<u>% Instantaneous</u> Improvement (prorating factor)	5 <u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
No Actions				
Total Project Length		0		0
Total # Projects		0		
Total Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) % Uplift (2018)		0 6 mi.	excludes wilderness	

ACS2 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

Action	Miles treated	% Instantaneou Improvement (prorating factor)	s <u>% Accrued</u> Improvement by 2018	<u>Realized Change in</u> 2018 (mi)
No Actions				
Total Project Length		0		0
Total # Projects		0		
Total Miles Affected (Weighted for 2018)		0		
Total Stream Miles (Denominator)	40	0.6 mi.	excludes wilderness	
% Uplift (2018)	0.00	%		

ACS2 - LF 7.2 (Sediment Condition	antity)		
		<u>2018 %</u> Improvement	
		(prorating	Realized Change in
Action	Acres Treated	factor)	2018 (mi)
Residue Management - No Till Farming			0
Total Project Length		0	0
Total # Projects		0	
Total Crop Acres Affected (Weighted for 2018)		0	Panel to find total farmable acres in AU.
Total Crop Designated Acres (Denominator)	61	<mark>1.1</mark> mi.	
% Uplift (2018)	0.0	%	

ACS2 - LF 8.1 (Water Quality: Temperature)

Action	<u>2018 %</u> Improvemen (prorating <u>Miles treated</u> <u>factor)</u>	<u>nt</u> <u>Realized Change in</u> 2018 (mi)
No Actions		0
Total Project Length	0	0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 61.1_mi.	
% Uplift (2018)	0.0%	

ACS2 - LF 8.4 (Water Quality: Turbidity)

Action	<u>Miles treated</u>	2018 % Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)
No Actions		_	0
Total Project Length	0	•	0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 61.1		
% Uplift (2018)	0.0%		

ACS2 - LF 9.2 (Water Quantity: Decreased Water Quantity)							
		Annual Amounts (c	<u>fs)</u>				
	Permanent_						
Action	Acquisition	<u>2012</u>	2013	<u>2014</u>	<u>2015</u>		
No Actions							
Total	0	0	0	0	0		
			Annual Average ==>	0.0			
Total	0.0	cfs					
Total # Projects	0						
Denominator		cfs	Example: Base Flow				
% Uplift (2018)	#DIV/0!						

Sum of Revised

Weights

100%

0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Booke nd	2015 Low Booke nd	Revised 2015 Low Bookend
ACS3	1.1	5%	5%	0%		95	70
ACS3	4.1	10%	10%	0%		49	
ADDED	4.2	0%	2%	2%			40
ADDED	5.1	0%	2%	2%			25
ACS3	5.2	30%	25%	-5%		94	35
ACS3	6.1	0%	10%	10%		3	25
ACS3	6.2	30%	25%	-5%		30	
ACS3	7.2	3%	3%	0%		56	
ACS3	8.1	15%	11%	-4%		60	
ACS3	8.4	5%	5%	0%		56	
ACS3	9.2	2%	2%	0%		95	

Sum of Revised

Weights

100% 0%



ACS3 George Creek

Stream Miles Denominator used inUplift Calculation (in appropriateLimiting Factors)33

33.3 mi

ACS3 - LF 1.1 (Anthropogenic Barriers)

		<u>2018 %</u> Improvement (prorating	Realized Chang	<u>e in</u>
Action	Miles treated	<u>factor)</u>	<u>2018 (mi)</u>	
Pintler Instream and Riparian Project	9.5	5 50	%	4.7
Total Project Length	9.5	5		4.7
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)		i 8 mi.		
% Uplift (2018)	14.2%	,		

ACS3 - LF 4.1	(Riparian V	leaetation)

			<u>% Est</u>							
		Improvement 9	<u>6</u> Improv	ement by	Real	zed Change in				
Action	Acres treated	X Survival	<u>2018</u>		<u>2018</u>	<u>(mi)</u>				
Pintler Instream and Riparian Project	13	0.4	1%	39	%	0.057221471				
Total Project Area	13	1				0.057221471				
Total # Projects	1									
Total Riparian Acres Affected (Weighted for 2018	0.057221471									
Total Riparian Acres (Denominator)	605	ac.	75% of t	otal length	of steel	head domain with	100-foot buffer on	either side of cl	hannel.	We use 75% of total with a 10
% Uplift (2018)	0.01%									

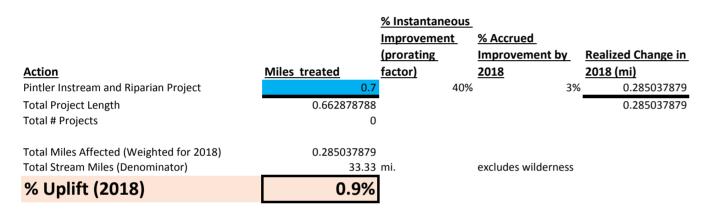
ACS3 - LF 4.2 (LWD Recruitme	<u>ent)</u>			
			<u>% Est</u>	
		Improvement %	Improvement by	Realized Change in
Action	Acres treated	X Survival	<u>2018</u>	<u>2018 (mi)</u>
Pintler Instream and Riparian Project	1	3 0.49	% 3%	0.057221471
Total Project Area	1	3		0.057221471
Total # Projects		1		
Total Riparian Acres Affected (Weighted for 2018 Total Riparian Acres (Denominator)		1 5 ac.	75% of total length of	of steelhead domain with 100-foot buffer on either side of channe
% Uplift (2018)	0.01%		Ū.	

ACS3 - LF 5.1 (Peripheral and Transitional Habitats: Side Channels)

a 100' buffer each bank to reflect the restoration goal in the Recovery Plan

	<u>% Instantaneous</u>		
	Improvement	<u>% Accrued</u>	
	(prorating	Improvement by	Realized Change in
Miles treated	factor)	<u>2018</u>	<u>2018 (mi)</u>
0.7	25	% 3%	6 0.185606061
0.7	,		0.185606061
0)		
0.185606061			
33.33	mi.		
0.6%			
	0.7 0.7 0 0.185606061 33.33	Improvement (prorating Miles treated factor)	Improvement % Accrued (prorating Improvement by Miles treated factor) 2018 0.7 25% 39 0.7 0 0 0.185606061 33.33 mi.

ACS3 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)



ACS3 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

		<u>% Instantaneous</u>	<u>.</u>	
		Improvement	<u>% Accrued</u>	
		(prorating	Improvement by	Realized Change in
Action	Miles treated	factor)	<u>2018</u>	<u>2018 (mi)</u>
Pintler Instream and Riparian Project	0.7	50%	6 3%	0.351325758
Total Project Length	0.662878788			0.351325758
Total # Projects	0)		
Total Miles Affected (Weighted for 2018)	0.351325758			
Total Stream Miles (Denominator)	33.3	mi.		
% Uplift (2018)	1.1%]		
······································		1		

ACS3 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

		% Instantaneous	<u>i</u>		
		Improvement <u>% Accrued</u>			
		(prorating	Improvement by	<u>Reali</u>	zed Change in
Action	Miles treated	factor)	<u>2018</u>	<u>2018</u>	<u>(mi)</u>
Pintler Instream and Riparian Project	0.7	7 50%	6 3	%	0.351325758
Total Project Length	0.662878788	3			0.351325758

Total # Projects

0

% Uplift (2018)	1.06%
Total Stream Miles (Denominator)	33.3 mi.
Total Miles Affected (Weighted for 2018)	0.351325758

ACS3 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)						
		2018 %				
		Improvement				
		(prorating	Realized Change in			
Action	Acres Treated	factor)	<u>2018 (mi)</u>			
Residue Management - No Till Farming			0			
Total Project Area	0)	0			
Total # Projects	0)				
Total Crop Acres Affected (Weighted for 2018)	0	•	Panel (Megan Stewart) to find total farmable acres in AU.			
Total Crop Designated Acres (Denominator)	33.3	mi.				
% Uplift (2018)	0.0%					

ACS3 - LF 8.1 (Water Quality: Temperature)

Action	Miles treated	2018 % Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)
No measurable benefit		-	0
Total Project Length Total # Projects	0		0
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	33.3	mi.	
% Uplift (2018)	0.0%	J	

ACS3 - LF 8.4 (Water Quality: Turbidity)

Action	<u>Miles treated</u>	<u>2018 %</u> Improvement (prorating factor)	<u>Realized Change in</u> 2018 (mi)
No actions		_	0
Total Project Length	C)	0
Total # Projects	C)	
Total Stream Miles Affected (Weighted for 2018)			
Total Stream Miles (Denominator)	33.3	mı.	
% Uplift (2018)	0.0%		

ACS3 - LF 9.2 (Water Quantity: Decreased Water Quantity)						
Annual Amounts (cfs)						
	Permanent					
Action	Acquisition		<u>2012</u>	<u>2013</u>	2014	<u>2015</u>
No Actions						
Total		0	0	0	0	0
			Annual	Average ==>	0.0	
Total	C	0.0 cfs				
Total # Projects		0				
Denominator		cfs	Example	e: Base Flow		
% Uplift (2018)	#DIV/0!					