Workbook Info

Project: Expert Panel 2015-2016
Meeting: 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. LFWeight sheets were produced for assessment units where either weighting or low bookends were revised.

Highlighting Key:
Yellow highlights require followup by panel.

TUC1A

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)

Comment: Made 7-25-16

Action	Miles treated	2018 % Improvement (prorating factor)	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)

Action	Design Flow of Screen (cfs)	2018 % Improvement (prorating factor)	Realized Change in 2018 (flow)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Flow (Denominator)	cfs		
% Uplift (2018)	**0.0%**		

TUC1A - LF 3.1 (Primary Productivity)

Action	Stream Miles Affected	2018 % Improvement (prorating factor)	Realized Change in 2018 (flow)
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	56.52 mi		
% Uplift (2018)	**0.0%**		

TUC1A - LF 4.1 (Riparian Vegetation)

Action	Acres treated	2018 % Improvement (prorating factor)	Estimated Improvement by 2018 (Prorating factor 2)	Realized Change in 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 2018) 0.3576

Total Riparian Acres (Denominator) 1157 acres

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

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

% Uplift (2018) **0.03%**

TUC1A - LF 4.2 (LWD Recruitment)

Action	Acres treated	2018 % Improvement (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

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

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

% Uplift (2018) **0.07%**

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
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	3			

Total Miles Affected (Weighted for 2018) 1.277

Total Stream Miles (Denominator) 42.42 mi. excludes wilderness

%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

% Uplift (2018) **3.0%**

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
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)	42.42 mi.		excludes wilderness	
% Uplift (2018)	**4.1%**			

%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

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 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	2	10%	3%	0.26
Total Project Length	5.9			0.767
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0.767			
Total Stream Miles (Denominator)	42.42 mi.		excludes wilderness	
% Uplift (2018)	**1.8%**			

%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.

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
PA-17 & PA-18 (Hartsock)	1.9	18%	3%	0.399
PA-28 (Broughton LC)	2	27%	3%	0.6

%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%**				

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

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

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

TUC1A - LF 8.1 (Water Quality: Temperature)

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)	56.52 mi.		
% Uplift (2018)	**0.0%**		

TUC1A - LF 8.4 (Water Quality: Turbidity)

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)	56.52 mi.		
% Uplift (2018)	**0.0%**		

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

Action	Permanent Acquisition	Annual Amounts (cfs) 2012	2013	2014	2015
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!**		

TUC1A - 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)	56.52	mi.
% Uplift (2018)	**0.0%**	

TUC1B

		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	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)	11.3 mi.		
% Uplift (2018)	**0.0%**		

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

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

TUC1B - LF 4.1 (Riparian Vegetation)

Action	Acres treated	Est Improvement	Accrued improvement (Based on plant growth)	Realized Change in 2018 (mi)
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
% Uplift (2018)	**0.1%**	

75% of total lLength of Chinook domain with 150-foot buffer on either side of channel.

TUC1B - LF 4.2 (LWD Recruitment)

Action	Acres treated	Est Improvement	Accrued improvement (Based on plant growth)	Realized Change in 2018 (mi)
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
% Uplift (2018)	**0.1%**	

75% of total lLength of Chinook domain with 150-foot buffer on either side of channel.

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

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 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)	**0.0%**	

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

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 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)	**0.0%**		

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

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)	11.3 mi.		
% Uplift (2018)	**0.0%**		

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

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)	11.3 mi.		
% Uplift (2018)	**0.0%**		

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

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)	11.3 mi.		
% Uplift (2018)	**0.0%**		

TUC1B - LF 8.1 (Water Quality: Temperature)

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)	11.3 mi.		
% Uplift (2018)	**0.0%**		

TUC1B - LF 8.4 (Water Quality: Turbidity)

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)	11.3 mi.		

% Uplift (2018)	0.0%

TUC1B - LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (cfs)			
Action	**Permanent Acquisition**	**2012**	**2013**	**2014**	**2015**
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!

TUC1B - 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)	11.3 mi.		

% Uplift (2018)	0.0%

TUS1A

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%

TUS1A Upper Tucannon - Pataha up to Panjab

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors) 89.68 mi

TUS1A - LF 1.1 (Anthropogenic Barriers)

Comments : 7-25-16

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

TUS1A - LF 3.1 (Primary Productivity)

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

TUS1A - LF 4.1 (Riparian Vegetation)

Action	Acres treated	2018 % Improvement (prorating factor)	Estimated Improvement by 2018 (Prorating factor 2)	Realized Change in 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 length of steelhead domain with 150-foot buffer on either side of channel excluding wilderness.		
% Uplift (2018)	**0.02%**			

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 Recruitment)

Action	Acres treated	2018 % Improvement (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		0.78750
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 wilderness.	
% Uplift (2018)	**0.04%**		

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 included since it is outside our current restoation plans

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
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	0			
Total Miles Affected (Weighted for 2018)	1.277			
Total Stream Miles (Denominator)	75.58 mi.	excludes wilderness		
% Uplift (2018)	**1.7%**			

%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 50% 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 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)

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)	
PA-17 & PA-18 (Hartsock)	1.9	20%	3%	0.437	%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
PA-28 (Broughton LC)	2	30%	3%	0.66	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
PA-6-9	2	30%	3%	0.66	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
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%**				

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

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

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)	
PA-17 & PA-18 (Hartsock)	1.9	18%	3%	0.399	%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.
PA-28 (Broughton LC)	2	27%	3%	0.6	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	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.
Total Project Length	5.9			1.599	I adjusted the instant improvements to reflect the proportion of the reach treated
Total # Projects	0				
Total Miles Affected (Weighted for 2018)	1.599				
Total Stream Miles (Denominator)	75.58 mi.		excludes wilderness		
% Uplift (2018)	**2.1%**				

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

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

TUS1A - LF 8.1 (Water Quality: Temperature)

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)	89.68 mi.		
% Uplift (2018)	**0.0%**		

TUS1A - LF 8.4 (Water Quality: Turbidity)

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)	89.68 mi.		
% Uplift (2018)	**0.0%**		

TUS1A- LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (cfs)			
Action	Permanent Acquisition	2012	2013	2014	2015
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)	**0.0%**		

TUS1A - 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)	89.68	mi.	
% Uplift (2018)	**0.0%**		

TUS1B **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%

TUS1B Lower Tucannon - Mouth to Pataha

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors) 13.88 mi

2.58 mi in Kellogg and Smith Creeks (to existing barriers) plus Chinook

TUS1B - LF 1.1 (Anthropogenic Barriers)

Comment 7-25-16

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%**		

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

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

TUS1B - LF 4.1 (Riparian Vegetation)

Action	Acres treated	Est Improvement	Accrued improvement (Based on plant growth)	Realized Change in 2018 (mi)
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)	379 acres			
% Uplift (2018)	**0.1%**			

75% of total length of steelhead domain with 150-foot buffer on either side of channel.

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

TUS1B - LF 4.2 (LWD Recruitment)

Action	Acres treated	Est Improvement	Accrued improvement (Based on plant growth)	Realized Change in 2018 (mi)
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)	379 acres			

75% of total length of steelhead domain with 150-foot buffer on either side of channel.

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

% Uplift (2018)	**0.1%**

TUS1B - LF 5.1 (Peripheral and Transitional Habitats: Side Channels and Wetlands)

Action	Miles treated	2018 % Improvement (prorating 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 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	2018 % Improvement (prorating 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)

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%**		

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

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%**		

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

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%**		

TUS1B - LF 8.1 (Water Quality: Temperature)

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%**		

TUS1B - LF 8.4 (Water Quality: Turbidity)

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%**		

TUS1B - LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (cfs)				
Action	Permanent Acquisition	2012	2013	2014	2015	
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!**					

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%**		

ACS1

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)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Restore Alpowa Cr Fish Passage (14-1898)	15	15%	2.25
Total Project Length	15		2.25
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	2.25		
Total Stream Miles (Denominator)	22 mi.		
% Uplift (2018)	**10.2%**		

ACS1 - LF 4.1 (Riparian Vegetation)

Action	Acres treated	Improvement % X Survival	% Est Improvement by 2018	Realized Change in 2018 (mi)
No Actions				0
Total Project Area	0			0
Total # Projects	0			
Total Riparian Acres Affected (Weighted for 2018)	0			
Total Riparian Acres (Denominator)	427 mi.		80% of total length of steelhead domain with 150-foot buffer on either side of channel.	
% Uplift (2018)	**0.0%**			

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	Acres treated	Improvement % X Survival	% Est Improvement by 2018	Realized Change in 2018 (mi)
No Actions				0
Total Project Area	0			0
Total # Projects	0			
Total Riparian Acres Affected (Weighted for 2018)	0			
Total Riparian Acres (Denominator)	427 mi.		80% of total length of steelhead domain with 150-foot buffer on either side of channel.	
% 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)

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	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)	22	mi.
% Uplift (2018)	**0.0%**	

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	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)	22	mi.
% Uplift (2018)	**0.0%**	

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	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)	22	mi.
% Uplift (2018)	**0.00%**	

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	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)	22	mi.
% Uplift (2018)	**0.00%**	

ACS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

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)	22	mi.		
% Uplift (2018)	**0.0%**			

ACS1 - LF 8.1 (Water Quality: Temperature)

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)	22	mi.		
% Uplift (2018)	**0.0%**			

ACS1 - LF 8.4 (Water Quality: Turbidity)

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)	22	mi.		
% Uplift (2018)	**0.0%**			

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

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

ACS2

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
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)

Comment: 7-25-16

Action	Miles treated	2018 % Improvement (prorating factor)		Realized Change in 2018 (mi)
Headgate Fish Passage (12-1633)	52.4		5%	2.62
Total Project Length	52.4			2.62
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	2.62			
Total Stream Miles (Denominator)	61.1 mi.			
% Uplift (2018)	**4.3%**			

ACS2 - LF 4.1 (Riparian Vegetation)

Action	Acres treated	Improvement % X Survival	% Est Improvement by 2018	Realized Change in 2018 (mi)
IMW Riparian Project (13-1405)	8.9	0.2%	8%	0.019162403
Asotin Cr Riparian Protection Project (16-2092)	80	3.0%	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.			
% Uplift (2018)	**0.2%**			

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

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

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

% Uplift (2018)	0.0%

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
No Actions				
Total Project Length	0			0
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0			
Total Stream Miles (Denominator)	40.6 mi.		excludes wilderness	
% Uplift (2018)	**0.00%**			

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
No Actions				
Total Project Length	0			0
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0			
Total Stream Miles (Denominator)	40.6 mi.		excludes wilderness	
% Uplift (2018)	**0.00%**			

ACS2 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Acres Treated	2018 % Improvement (prorating factor)	Realized Change in 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)	61.1 mi.		
% Uplift (2018)	**0.0%**		

ACS2 - LF 8.1 (Water Quality: Temperature)

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)	61.1 mi.		
% Uplift (2018)	**0.0%**		

ACS2 - LF 8.4 (Water Quality: Turbidity)

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)	61.1 mi.		
% Uplift (2018)	**0.0%**		

ACS2 - LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (cfs)			
Action	Permanent Acquisition	2012	2013	2014	2015
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!**		

ACS3

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
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 in Uplift Calculation (in appropriate Limiting Factors) 33.3 mi

ACS3 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	9.5	50%	4.7
Total Project Length	9.5		4.7
Total # Projects	1		

Total Stream Miles Affected (Weighted for 2018)	4.745
Total Stream Miles (Denominator)	33.3 mi.
% Uplift (2018)	**14.2%**

ACS3 - LF 4.1 (Riparian Vegetation)

Action	Acres treated	Improvement % X Survival	% Est Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	13	0.4%	3%	0.057221471
Total Project Area	13			0.057221471
Total # Projects	1			

Total Riparian Acres Affected (Weighted for 2018	0.057221471	
Total Riparian Acres (Denominator)	605 ac.	75% of total length of steelhead domain with 100-foot buffer on either side of channel.
% Uplift (2018)	**0.01%**	

We use 75% of total with a 100' buffer each bank to reflect the restoration goal in the Recovery Plan

ACS3 - LF 4.2 (LWD Recruitment)

Action	Acres treated	Improvement % X Survival	% Est Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	13	0.4%	3%	0.057221471
Total Project Area	13			0.057221471
Total # Projects	1			

Total Riparian Acres Affected (Weighted for 2018	0.057221471	
Total Riparian Acres (Denominator)	605 ac.	75% of total length of steelhead domain with 100-foot buffer on either side of channel.
% Uplift (2018)	**0.01%**	

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	0.7	25%	3%	0.185606061
Total Project Length	0.7			0.185606061
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0.185606061			
Total Stream Miles (Denominator)	33.33	mi.		
% Uplift (2018)	**0.6%**			

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	0.7	40%	3%	0.285037879
Total Project Length	0.662878788			0.285037879
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0.285037879			
Total Stream Miles (Denominator)	33.33	mi.	excludes wilderness	
% Uplift (2018)	**0.9%**			

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	0.7	50%	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%**			

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

Action	Miles treated	% Instantaneous Improvement (prorating factor)	% Accrued Improvement by 2018	Realized Change in 2018 (mi)
Pintler Instream and Riparian Project	0.7	50%	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)	**1.06%**	

ACS3 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Acres Treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
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)	Realized Change in 2018 (mi)
No measurable benefit			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	33.3	mi.	
% Uplift (2018)	**0.0%**		

ACS3 - LF 8.4 (Water Quality: Turbidity)

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)	33.3	mi.	
% Uplift (2018)	**0.0%**		

ACS3 - LF 9.2 (Water Quantity: Decreased Water Quantity)

		Annual Amounts (cfs)			
Action	**Permanent Acquisition**	**2012**	**2013**	**2014**	**2015**
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!**		