

Workbook Info

Project: Expert Panel 2015-2016

Meeting: Wallowa-Imnaha Look Forward

Primary Data Recorder: Nick Legg, Geomorphologist, Cardno Inc.

Latest Revision: 5/27/2016

Workbook Description

This workbook is the "Calculation Tables" used to capture planned actions and calculate functional uplift during the Wallowa-Imnaha Look Forward Process on May 3-4, 2016. This table was created in support of the biological notes taken in the same meeting, and contained in the spreadsheets Wallowa_Chinook_HabFunctions2013-2018_LBLF_BioNotes_QA_05272016 and Wallowa_Steelhead_HabFunctions2013-2018_LBLF_BioNotes_QA_05272016. The biological notes spreadsheet also documents the

Filename: Wallowa_LookForward_CalcSpreadsheet_QA_052716

Sheets: Sheets are produced for individual Assessment Units and named by the Assessment Unit Code. When the panel identified no actions in an assessment unit, a sheet was generally not created. Weighting Sheets were produced to record changes to Limiting Factor weights or Low Bookends.

Highlighting Key:
Yellow highlights require follow-up and additional data from the panel.

Upper Big Sheep Creek

18.8 mi

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	18.8 mi.		
% Uplift (2018)	0.0%		

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	18.8 mi.		
% Uplift (2018)	0.0%		

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Big Sheep Trail Conversion and Realignment			0
Total Project Length	0		0
Total # Projects	0		

Expert Panel did not submit edits to the work project RM 8/8/2016

Total Stream Miles Affected (Weighted for 2018)	0
Total Stream Miles (Denominator)	18.8 mi.
% Uplift (2018)	0.0%

BSC2 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	18.8 mi.		
% Uplift (2018)	0.0%		

BSC2 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	18.8 mi.		
% Uplift (2018)	0.0%		

BSC2- LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
No Actions				
Total	0	0	0	0
		Annual Average ==>		0.0
Total	0.0 cfs			

Total # Projects
Denominator

1
cfs

% Uplift (2018)

#DIV/0!

Example: Base Flow

BSC3

Big Sheep Creek Tributaries

Stream Miles Denominator used in Uplift
Calculation (in appropriate Limiting Factors)6.8 mi

BSC3 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Lick Creek Culvert	0.7	10%	0.07
Total Project Length	0.7		0.07
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0.07		
Total Stream Miles (Denominator)	6.8 mi.		
% Uplift (2018)	1.0%		

Expert Panel did not submit edits to the work project RM 8/8/2016

BSC3 - 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)	6.8 mi.		
% Uplift (2018)	0.0%		

BSC3 - 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	<div></div> 0	<div></div> 0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018)	0	
Total Stream Miles (Denominator)	6.8 mi.	
% Uplift (2018)	0.0%	

BSC3 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	<div></div> 0		<div></div> 0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	6.8 mi.		
% Uplift (2018)	0.0%		

BSC3 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	<div></div> 0		<div></div> 0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	6.8 mi.		
% Uplift (2018)	0.0%		

BSC3 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	6.8 mi.		
% Uplift (2018)	0.0%		

WLC3

Revised
Weights100%0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Booke nd	Revise d 2015 Low Booke nd
WLC3	1.1	5%	5%	0%	91	95.1	
WLC3	4.1	10%	10%	0%	40.25	40.28	
ADDED	5.1	0%	10%	10%			35
WLC3	6.1	15%	10%	-5%	40	40.8	
WLC3	6.2	25%	25%	0%	40.3	40.8	
WLC3	7.2	20%	20%	0%	50.1	50.8	
WLC3	8.1	10%	10%	0%	85.1	85.1	
WLC3	8.2	0%	0%	0%	70	70	
WLC3	9.2	15%	10%	-5%	80.1	80.6	

Sum of
Revised
Weights100%0%

WLC3

Upper Wallowas River (Dry Cr. To Wallowas Lake)

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

36.6 mi

WLC3 - 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)	36.6 mi.		
% Uplift (2018)	0.0%		

WLC3 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Wallowa-Baker (0.6 miles planting on one bank, 2017)	0.3	1%	0.003
Wallowa-Baker (fencing, 2017)	0.3	1%	0.003
Tamkaliks Habitat Restoration Project (planting)	0.4	1%	0.003787879
Total Project Length	0.978787879		0.009787879
Total # Projects	3		
Total Stream Miles Affected (Weighted for 2018)	0.009787879		
Total Stream Miles (Denominator)	36.6 mi.		
% Uplift (2018)	0.03%		

WLC3 - LF 5.1 (Peripheral and Transitional Habitats: Side and Secondary Channels)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Wallowa-Baker (mainstem with side channels plus Spring Creek connection, 2017)	0.6	75%	0.45
Tamkaliks Habitat Restoration Project (side channel creation)	0.28	70%	0.196
Total Project Length	0.88		0.646
Total # Projects	0		
Total Miles Affected (Weighted for 2018)	0.646		
Total Stream Miles (Denominator)	36.6 mi.		
% Uplift (2018)	1.8%		

WLC3 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Wallowa-Baker (mainstem , 2017)	0.6	75%	0.45
Tamkaliks Habitat Restoration Project (side channel creation)	0.3	70%	0.196
Total Project Length	0.88		0.646
Total # Projects	2		
Total Stream Miles Affected (Weighted for 2018)	0.646		
Total Stream Miles (Denominator)	36.6 mi.		
% Uplift (2018)	1.8%		

WLC3 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Wallowa-Baker (mainstem , 2017)	1.3	75%	1.003977273

Tamkaliks Habitat Restoration Project (side channel creation)	0.3	70%	0.196
Total Project Length	1.6		1.199977273
Total # Projects	0		

Total Stream Miles Affected (Weighted for 201

1.199977273

Total Stream Miles (Denominator)

36.6 mi.

% Uplift (2018)

3.3%

WLC3 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Miles treated	<u>2018 %</u>	Realized Change in 2018 (mi)
		<u>Improvement (prorating factor)</u>	
Wallowa-Baker (mainstem , 2017)	0.6	75%	0.45
Tamkaliks Habitat Restoration Project (side channel creation)	0.3	75%	0.21
Total Project Length	0.9		0.66
Total # Projects	0		

Total Stream Miles Affected (Weighted for 201

0.66

Total Stream Miles (Denominator)

36.6 mi.

% Uplift (2018)

1.8%

WLC3 - LF 8.1 (Water Quality: Temperature)

LF 4.1 Uplift	0.03%
LF 9.2 Uplift	0.01%
% Uplift (2018)	0.04%

Summed Riparian and Flow Benefits

WLC3 - LF 8.2 (Water Quality: Oxygen)

Action	Miles treated	<u>2018 %</u>	Realized Change in 2018 (mi)
		<u>Improvement (prorating factor)</u>	
No Actions			0

Total Project Length	<div></div> 0	<div></div> 0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018)	0	
Total Stream Miles (Denominator)	36.6 mi.	

% Uplift (2018)

0.0%

WLC3 - LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Annual Amounts (cfs)</u>				<u>Weighted</u>	
	<u>Permanent Acquisition</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Weighting Factor</u>	<u>CFS</u>
Wallowa-Baker (mainstem , 2017)		0	4	4	0.008279516	0.022079
Total	0	0	4	4		

Total	0.0 cfs	Annual Average ==>	0.022
Total # Projects	0		
Denominator	207 cfs	95% Flow Exceedence per Anderson Perry Report	

% Uplift (2018)

0.011%

WLC7

Revised
Weights0%0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Booke nd	Revise d 2015 Low Booke nd
WLC7	1.1	15%			85	100	25
WLC7	6.2	30%			57	57.1	
WLC7	7.2	10%			50	50	
WLC7	8.1	10%			77	78.2	
WLC7	8.2	0%			75	75	
WLC7	9.2	35%			50	62.5	

Sum of
Revised
Weights0%0%

WLC7 **Lower Lostine River (Mouth to Silver Cr.)**

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

14.1 mi

WLC7 - LF 1.1 (Anthropogenic Barriers)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Sheep Ridge Fish Passage Improvement (2016, RM9)	4.5	50%	2.25
Tulley Hill Passage Improvement (RM 2)	1	33%	0.33
2016-2017 3-yr Minimum Flow (RMs 9-5.5)	3.5	72%	2.52
Wolfe Conserve Water (RM5.5, 2 cfs during low flow)	5.5	4%	0.22
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)	5.5	19%	1.045
Total Project Length	20		6.365
Total # Projects	3		
 Total Stream Miles Affected (Weighted for 2018)	 6.365		
Total Stream Miles (Denominator)	14.1 mi.		
% Uplift (2018)	45.1%		

WLC7 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	14.1 mi.		
% Uplift (2018)	0.0%		

WLC7 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	14.1 mi.		
% Uplift (2018)	0.0%		

WLC7 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Carlsen Acquisition	8.5	5%	0.425
2016-2018 Lostine Minimum Flow Agreement (RMs 9-5.5)	9	5%	0.45
Wolfe Permanent Diversion (permanent donation beginning 2012)	5	5%	0.25
Wolfe Conserve Water (RM5.5, 2 cfs Aug-Sept)	5.5	5%	0.275
Wolfe Conserve Water (RM5.5, May-July)	5.5	2%	0.11
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)	5.5	5%	0.275
Total Project Length	39		1.785
Total # Projects	6		
Total Stream Miles Affected (Weighted for 2018)	1.785		
Total Stream Miles (Denominator)	14.1 mi.		
% Uplift (2018)	12.7%		

WLC7 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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
14.1 mi.

% Uplift (2018)

0.0%

WLC7 - LF 9.2 (Water Quantity: Decreased Water Quantity)

Action	Permanent Acquisition	Annual Amounts (cfs)				Stream Miles Affected	Mileage Weighting Factor	Temporal Weighting (percent of irrigation season)	Weighted Flow
		2016	2017	2018	2019				
Carlsen Acquisition	0.96	0.96	0.96	0.96	0.96	8.5	60%	40%	0.2
2016-2018 Lostine Minimum Flow Agreement (RMs 9-5.5)		18	20	20	20	9	64%	40%	4.9
Wolfe Permanent Diversion (permanent donation beginning 2012)	0.39	0.39	0.39	0.39	0.39	5	35%	40%	0.1
Wolfe Conserve Water (RM5.5, 2 cfs Aug-Sept)		2	2	2	2	5.5	39%	40%	0.3
Wolfe Conserve Water (RM5.5, May-July)		12.5	12.5	12.5	12.5	5.5	39%	5%	0.2
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)		9.5	0	9.5	9.5	5.5	39%	40%	1.0
Total	1.35	43.35	35.85	45.35	45.35				6.8

Weighted Sum

6.8

Total

6.8 cfs

Total # Projects

6

Denominator

35 cfs

Panel estimate of base flow prior to irrigation

% Uplift (2018)

19.3%

IRS8

Upper Big Sheep & Little Sheep Mainstems

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

11.9 mi

IRS8 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)	
Little Sheep Creek AOP Culvert (USFS)	3	25%	0.75	Expert Panel did not submit edits to the work project RM 8/8/2016
Total Project Length	3		0.75	
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	0.75			
Total Stream Miles (Denominator)	11.9 mi.			
% Uplift (2018)	6.3%			

IRS8 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)	
Big Sheep Trail Conversion and Realignment (USFS)			0	Expert Panel did not submit edits to the work project RM 8/8/2016
Total Project Length	0		0	
Total # Projects	0			
Total Stream Miles Affected (Weighted for 2018)	0			
Total Stream Miles (Denominator)	11.9 mi.			
% Uplift (2018)	0.0%			

IRS8 - LF 8.1 (Water Quality: Temperature)

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

Total Stream Miles Affected (Weighted for 2018)	0
Total Stream Miles (Denominator)	11.9 mi.

% Uplift (2018)

0.0%

IRS8- LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
No Actions				
Total	0	0	0	0

Total	0.0 cfs	Annual Average ==>	0.0
Total # Projects	0		
Denominator	cfs	Example: Base Flow	

% Uplift (2018)

#DIV/0!

IRS9

Upper Big Sheep & Little Sheep tributaries

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

21.8 mi

IRS9 - LF 1.1 (Anthropogenic Barriers)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)	
Lick Creek Culvert	3.7	10%	0.37	Expert Panel did not submit edits to the work project RM 8/8/2016
Total Project Length	3.7		0.37	
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	0.37			
Total Stream Miles (Denominator)	21.8 mi.			
% Uplift (2018)	1.7%			

IRS9 - LF 4.1 (Riparian Vegetation)

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)	21.8 mi.		
% Uplift (2018)	0.0%		

IRS9 - 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	<div></div> 0	<div></div> 0
Total # Projects	0	
Total Stream Miles Affected (Weighted for 2018)	0	
Total Stream Miles (Denominator)	21.8 mi.	
% Uplift (2018)	0.0%	

IRS9 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	<div></div> 0		<div></div> 0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	21.8 mi.		
% Uplift (2018)	0.0%		

IRS9 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
No Actions			0
Total Project Length	<div></div> 0		<div></div> 0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	21.8 mi.		
% Uplift (2018)	0.0%		

IRS9 - LF 9.1 (Water Quantity: Increased Water Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	21.8 mi.		
% Uplift (2018)	0.0%		

IRS9 - LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
No Actions				
Total	0	0	0	0

Total	0.0 cfs	Annual Average ==>	0.0
Total # Projects	1		
Denominator	cfs	Example: Base Flow	
% Uplift (2018)	#DIV/0!		

WRS6

Revised
Weights
100%
0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Booke nd	Revise d 2015 Low Booke nd
WRS6	4.1	25%	25%	0%	40	40	
Added	5.1		20%	20%			40
WRS6	6.1	50%	30%	-20%	40	40	
WRS6	6.2	15%	15%	0%	40	40	
WRS6	8.1	10%	10%	0%	75	75	

Sum of
Revised
Weights
100%
0%

WRS6 Mid-Wallowa River - Dry Creek to Lostine River

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors) 7.4 mi

WRS6 - LF 4.1 (Riparian Vegetation)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Wallowa-Baker (0.6 miles planting on one bank, 2017)	0.3	1%	0.003
Wallowa-Baker (fencing, 2017)	0.3	1%	0.003
Tamkaliks Habitat Restoration Project (planting)	0.4	1%	0.003787879
Total Project Length	0.98		0.01
Total # Projects	3		
Total Stream Miles Affected (Weighted for 2018)	0.009787879		
Total Stream Miles (Denominator)	7.4 mi.		
% Uplift (2018)	0.13%		

WRS6 - LF 5.1 (Peripheral and Transitional Habitats: Side and Secondary Channels)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Wallowa-Baker (mainstem with side channels plus Spring Creek connection, 2017)	0.6	75%	0.45
Tamkaliks Habitat Restoration Project (side channel creation)	0.28	70%	0.196
Total Project Length	0.88		0.646
Total # Projects	0		
Total Miles Affected (Weighted for 2018)	0.646		
Total Stream Miles (Denominator)	7.4 mi.		
% Uplift (2018)	8.7%		

WRS6 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	<u>Miles treated</u>	<u>2018 %</u>	<u>Realized Change in</u> <u>2018 (mi)</u>
		<u>Improvement</u> <u>(prorating</u>	
Wallowa-Baker (mainstem , 2017)	0.6	75%	0.45
Tamkaliks Habitat Restoration Project (side channel creation)	0.3	70%	0.196
Total Project Length	0.88		0.646
Total # Projects	2		
Total Stream Miles Affected (Weighted for 2018)	0.646		
Total Stream Miles (Denominator)	7.4 mi.		
% Uplift (2018)	8.7%		

WRS6 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 %</u>	<u>Realized Change in</u> <u>2018 (mi)</u>
		<u>Improvement</u> <u>(prorating</u>	
Wallowa-Baker (mainstem , 2017)	1.3	75%	1.003977273
Tamkaliks Habitat Restoration Project (side channel creation)	0.3	70%	0.196
Total Project Length	1.6		1.20
Total # Projects	2		
Total Stream Miles Affected (Weighted for 2018)	1.20		
Total Stream Miles (Denominator)	7.4 mi.		
% Uplift (2018)	16.2%		

WRS6 - LF 8.1 (Water Quality: Temperature)

LF 4.1 Uplift (from Steelhead) 0.13%

*LF 9.2 Uplift from Chinook
because no LF 9.2 in
Steelhead AU.*

0.01%

% Uplift (2018)

0.14%

Summed Riparian and Flow Benefits

WRS10

Revised
Weights0%0%

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Booke nd	Revise d 2015 Low Booke nd
WRS10	1.1	15%			85	95.6	35
WRS10	3.1	5%			70	70	
WRS10	5.2	10%			65	65	
WRS10	6.2	20%			65	65.04	
WRS10	7.2	10%			60	60	
WRS10	8.1	10%			75	75.7	
WRS10	8.2	0%			75	75	
WRS10	9.2	30%			50	81.3	

Sum of
Revised
Weights0%0%

WRS10

Lostine River

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

26.3 mi

WRS10 - LF 1.1 (Anthropogenic Barriers)

		2018 %	
		Improvement	Realized
<u>Action</u>	<u>Miles</u> <u>treated</u>	<u>(prorating</u> <u>factor)</u>	<u>Change in</u> <u>2018 (mi)</u>
Sheep Ridge Fish Passage Improvement (2016, RM9)	17.3	33%	5.709
Tulley Hill Passage Improvement (RM 2)	1	25%	0.25
2016-2017 3-yr Minimum Flow (RMs 9-5.5)	3.5	8%	0.2916667
Wolfe Conserve Water (RM5.5, 2 cfs during low flow)	5.5	8%	0.4583333
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)	5.5	8%	0.4583333
Total Project Length	32.8		7.1673333
Total # Projects	3		
Total Stream Miles Affected (Weighted for 2018)	7.167333333		
Total Stream Miles (Denominator)	26.3 mi.		

% Uplift (2018)

27.3%

WRS10 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles</u> <u>treated</u>	<u>2018 %</u> <u>Improvement</u> <u>(prorating</u> <u>factor)</u>	<u>Realized</u> <u>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)	0		
Total Stream Miles (Denominator)	26.3 mi.		

% Uplift (2018)

0.0%

WRS10 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	26.3 mi.		
% Uplift (2018)	0.0%		

WRS10 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Carlsen Acquisition	8.5	5%	0.425
2016-2018 Lostine Minimum Flow Agreement (RMs 9-5.5)	9	5%	0.45
Wolfe Permanent Diversion (permanent donation beginning 2012)	5	5%	0.25
Wolfe Conserve Water (RM5.5, 2 cfs Aug-Sept)	5.5	5%	0.275
Wolfe Conserve Water (RM5.5, May-July)	5.5	2%	0.11
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)	5.5	5%	0.275
Total Project Length	39		1.785
Total # Projects	6		
Total Stream Miles Affected (Weighted for 2018)	1.785		
Total Stream Miles (Denominator)	26.3 mi.		
Overall Weighting Factor (reduction for 1 life stage as opposed to 2)	50%		
% Uplift (2018)	3.4%		

WRS10 - LF 8.2 (Water Quality: Oxygen)

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

Total # Projects0

Total Stream Miles Affected (Weighted for 2018)0

Total Stream Miles (Denominator)26.3 mi.

% Uplift (2018)

0.0%

WRS10 - LF 9.2 (Water Quantity: Decreased Water Quantity)

Action	Annual Amounts (cfs)				Stream Miles Affected	Mileage Weighting Factor	Temporal Weighting (percent of irrigation season)	Weighted Flow
	Permanent Acquisition	2016	2017	2018				
Carlsen Acquisition	0.96	0.96	0.96	0.96	8.5	60%	40%	0.2
2016-2018 Lostine Minimum Flow Agreement (RMs 9-5.5)		18	20	20	9	64%	40%	4.9
Wolfe Permanent Diversion (permanent donation beginning 2012)	0.39	0.39	0.39	0.39	5	35%	40%	0.1
Wolfe Conserve Water (RM5.5, 2 cfs Aug-Sept)		2	2	2	5.5	39%	40%	0.3
Wolfe Conserve Water (RM5.5, May-July)		12.5	12.5	12.5	5.5	39%	5%	0.2
Wolfe Split Season Lease (RM5.5, Aug. to Sept. = 9.5 cfs)		9.5	0	9.5	5.5	39%	40%	1.0
Total	1.35	43.35	35.85	45.35				6.8

Weighted Sum6.8

Total6.8 cfs

Total # Projects6

Denominator35 cfs

Overall Weighting Factor (reduction for 1 life stage as opposed to 2 for Chinook)50%

Panel estimate of base flow prior to irrigation

% Uplift (2018)

9.7%

JCS1

Sum of Revised
Weights100%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
JCS1	6.1	15%	15%	0%	80	80	
JCS1	7.2	35%	35%	0%	70	70	
JCS1	8.1	45%	45%	0%	66	66.1	
JCS1	8.2	5%	0%	-5%	75	75	
ADDED	9.2	0%	5%	5%			75

Sum of Revised
Weights100%0%

JCS1 Joseph Creek Mainstem

Stream Miles Denominator used in Uplift Calculation (in appropriate Limiting Factors) 48.4 mi

JCS1 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

Action	Miles treated	2018 %	Realized Change in 2018 (mi)
		Improvement (prorating factor)	
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	48.4 mi.		
% Uplift (2018)	0.0%		

JCS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Action	Miles treated	2018 %	Realized Change in 2018 (mi)
		Improvement (prorating factor)	
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	48.4 mi.		
% Uplift (2018)	0.0%		

JCS1 - LF 8.1 (Water Quality: Temperature)

Action	Miles treated	2018 %	Realized Change in 2018 (mi)
		Improvement (prorating factor)	
Fill according LF 9.2 uplift.			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	48.4 mi.		
% Uplift (2018)	0.0%		

Expert Panel did not submit edits to the work project RM 8/8/2016

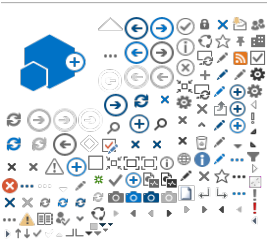
JCS1 - LF 8.2 (Water Quality: Oxygen)

Action	Miles treated	2018 %	Realized Change in 2018 (mi)
		Improvement (prorating factor)	
No Actions			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	48.4 mi.		
% Uplift (2018)	0.0%		

JCS1 - LF 9.2 (Water Quantity: Decreased Water Quantity)

Action	Annual Amounts (cfs)				Weighted Flow
	Permanent Acquisition	2016	2017	Prorating 2018 Factor	
Birkmaier Lease renewal (RM 40.5)		0.81	0.81	0.81	40%
Total	0	0.81	0.81	0.81	
Total	0.3 cfs				
Total # Projects	0				
Denominator	5 cfs		Baseflow near site		
% Uplift (2018)	6.5%				

Expert Panel did not submit edits to the work project RM 8/8/2016



Sum of Revised Weights 100% 0% 16.66667

AU Code	Limiting Factor ID #	2012 LF Weight	Revised LF Weight	Change in Weight	2012 Low Bookend	2015 Low Bookend	Revised 2015 Low Bookend
JCS5	4.1	14.3%	15%	1%			50
JCS5	5.2	14.3%	15%	1%			50
JCS5	6.2	14.3%	15%	1%			50
JCS5	7.2	14.3%	20%	6%			50
JCS5	8.1	14.3%	20%	6%			50
JCS5	8.2	14.3%	0%	-14%			
JCS5	9.2	14.3%	15%	1%			50

Sum of Revised Weights 100% 0%

JCS5

Elk & Crow Creeks

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

26.2 mi

JCS5 - 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)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 2.1 (Injury and Mortality: Predation)

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!		

JCS5 - LF 3.1 (Food: Altered Primary Productivity)

<u>Action</u>	<u>Design Flow of Screen (cfs)</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (flow)</u>
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!		

JCS5 - LF 4.1 (Riparian Vegetation)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crow Creek - Krebs Fencing (2017)	0.94	1%	0.0094
Total Project Length	0.94		0.0094
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0.0094		
Total Stream Miles (Denominator)	26.2 mi.		
% Uplift (2018)	0.04%		

JCS5 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crow Creek - Krebs Fencing (2017)	0.94	0%	0
Total Project Length	0.94		0
Total # Projects	0		
Total Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crow Creek - Krebs Fencing (2017)	0.94	5%	0.047
Total Project Length	0.94		0.047
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0.047		
Total Stream Miles (Denominator)	26.2 mi.		
% Uplift (2018)	0.2%		

JCS5 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
Crow Creek - Krebs Fencing (2017)	0.94	0%	0
Total Project Length	0.94		0
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	26.2 mi.		
% Uplift (2018)	0.0%		

JCS5 - LF 9.1 (Water Quantity: Increased Water Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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
26.2 mi.

% Uplift (2018)

0.0%

JCS5 - LF 9.2 (Water Quantity: Decreased Water Quantity)

<u>Action</u>	<u>Permanent Acquisition</u>	<u>Annual Amounts (cfs)</u>		
		<u>2016</u>	<u>2017</u>	<u>2018</u>
No Actions				
Total	0	0	0	0

Total
Total # Projects
Denominator

0.0 cfs
0
cfs

Annual Average ==>

Example: Base Flow

0.0

% Uplift (2018)

0.0%

JCS6

Lower Chesnimnus Creek and Prairie Tributaries

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

31.8 mi

JCS6 - 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)	31.8 mi.		
% Uplift (2018)	0.0%		

JCS6 - LF 4.1 (Riparian Vegetation)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
WF Pine Krebs (2018)	2	1%	0.02
Chesnimnus Creek - Williams (2016)	1	1%	0.01
Total Project Length	3		0.03
Total # Projects	2		
Total Stream Miles Affected (Weighted for 2018)	0.03		
Total Stream Miles (Denominator)	31.8 mi.		
% Uplift (2018)	0.1%		

JCS6 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
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WF Pine Krebs (2018)	2	5%	0.1
Chesnimnus Creek - Williams (2016)	1	0%	0
Total Project Length	3		0.1
Total # Projects	0		
Total Miles Affected (Weighted for 2018)	0.1		
Total Stream Miles (Denominator)	31.8 mi.		
% Uplift (2018)	0.3%		

JCS6 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	31.8 mi.		
% Uplift (2018)	0.0%		

JCS6 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
WF Pine Krebs (2018)	2	1%	0.02
Chesnimnus Creek - Williams (2016)	1	1%	0.01
Total Project Length	3		0.03
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0.03		
Total Stream Miles (Denominator)	31.8 mi.		
% Uplift (2018)	0.1%		

JCS6 - LF 8.1 (Water Quality: Temperature)

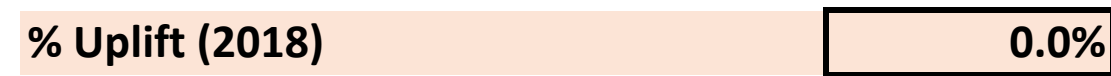
<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 2018 (mi)</u>
WF Pine Krebs (2018)	2	0%	0
Chesnimnus Creek - Williams (2016)	1	0%	
Total Project Length	3		0
Total # Projects	2		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	31.8 mi.		
% Uplift (2018)	0.0%		

JCS6 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	<u>Miles treated</u>	<u>2018 % Improvement (prorating factor)</u>	<u>Realized Change in 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)	31.8 mi.		
% Uplift (2018)	0.0%		

JCS6 - LF 9.2 (Water Quantity: Decreased Water Quantity)

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



JCS6

Sum of Revised
Weights100%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
JCS6	1.1	12.5%	14%	2%			50
JCS6	4.1	12.5%	15%	3%			50
JCS6	5.2	12.5%	13%	1%			50
JCS6	6.2	12.5%	13%	1%			50
JCS6	7.2	12.5%	15%	3%			50
JCS6	8.1	12.5%	15%	3%			50
JCS6	8.2	12.5%	0%	-13%			
JCS6	9.2	12.5%	15%	3%			50

Sum of Revised
Weights100%0%