#### **Workbook Info**

Project: Expert Panel 2015-2016 Primary Data Recorder: Nick Legg, Geomorphologist, Cardno Inc.

Meeting: Wallowa-Imnaha Look Back Latest Revision: 5/27/2016

#### **Workbook Description**

This workbook is the "Calculation Tables" used to capture completed actions and calculate functional uplift during the Wallowa-Imnaha Look Back 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\_LookBack\_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.

#### **Highlighting Key:**

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

#### **IRC1** Lower Imnaha Mainstem

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

36.3 mi

2018 %

#### IRC1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

2018 % <u>Improvement</u> (prorating Realized Change in **Action** Miles treated factor) 2018 (mi) Marr Habitat (Planting, Bank Bioengineering, Side Channel 0.07 100% 0.07 Maintenance) 0.07 Total Project Length 0.07 Total # Projects Total Stream Miles Affected (Weighted for 2018) 0.07 0.066287879 Total Stream Miles (Denominator) 36.3 mi. % Uplift (2018) 0.2%

### IRC1 - LF 8.1 (Water Quality: Temperature)

	<u>lm</u>	provement	
	<u>(p</u>	rorating	Realized Change in
<u>Action</u>	Miles treated fa	ctor)	2018 (mi)
Marr Habitat (Planting, Bank Bioengineering, Side Channel	0.07	0%	0
Maintenance)			
Total Project Length	0.07	!	0
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	36.3 mi		
		•	
% Uplift (2018)	0.0%		

### IRC1 - LF 8.2 (Water Quality: Oxygen)

		<u>2018 %</u>	
		Improvement	
		(prorating	Realized Change in
<u>Action</u>	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)	3	<u>6.3</u> mi.	
% Uplift (2018)	0.0	%	

IRC1- LF 9.2 (Water Quantity: Decreased Water Quantity)						
Annual Amounts (cfs)						
	Permanent					
<u>Action</u>	<u>Acquisition</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	
No Actions						
Total	0	0	0	0	0	
		,	Annual Average ==>	0.0		
Total	0.0 c		illiuul Averuge>	0.0		
Total # Projects	1	.13				
•	1	-f	vampla. Dasa Flave			
Denominator		cfs E	xample: Base Flow			
% Uplift (2018)	#DIV/0!					

### **BSC1** Lower Big Sheep and Little Sheep Creeks

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

22.2 mi

#### **BSC1 - LF 1.1 (Anthropogenic Barriers)**

		2018 % Improvement		
		(prorating	Realized Char	nge in
<u>Action</u>	Miles treated	factor)	2018 (mi)	
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)	10	<u>.5</u> 33%	% <u> </u>	3.465
Total Project Length	10	.5		3.465
Total # Projects		1		
Total Stream Miles Affected (Weighted for 2018)	3.46	55		
Total Stream Miles (Denominator)	22	.2 mi.		
% Uplift (2018)	15.6%	6		

### BSC1 - LF 2.1 (Injury and Mortality: Predation)

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

### BSC1 - LF 3.1 (Food: Altered Primary Productivity)

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

<u>Action</u>	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)	22.2	mi.	
% Uplift (2018)	0.0%		

# BSC1 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

		<u>2018 %</u> <u>Improvement</u> (prorating	Realized Change in
Action	Miles treated	factor)	2018 (mi)
No Actions	<u></u>	<u>-</u>	0
Total Project Length			0
Total # Projects		0	
Total Miles Affected (Weighted for 2018)		0	
Total Stream Miles (Denominator)	2	2.2 mi.	
· ·			
% Uplift (2018)	0.0	%	

### BSC1 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

		2018 % Improvement	
		(prorating	Realized Change in
<u>Action</u>	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)	22.2	_mi.	
% Uplift (2018)	0.0%		

### BSC1 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

<u>Action</u>	<u>lı</u> (ı	<u>1018 %</u> mprovement prorating actor)	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)	22.2 m	ni.	
% Uplift (2018)	0.0%		

### **BSC1 - 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	C	<del>,</del>	0
Total # Projects	C	)	
Total Stream Miles Affected (Weighted for 2018)	C	)	
Total Stream Miles (Denominator)	22.2	<u>'</u> mi.	
% Uplift (2018)	0.0%		

### BSC1 - LF 8.1 (Water Quality: Temperature)

Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
	_	0
0	<del>,</del>	0
C	)	
C	)	
22.2	mi.	
0.0%		
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Improvement (prorating

# BSC1 - LF 8.2 (Water Quality: Oxygen)

Action	Miles treated	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)	22.2	mi.	
% Uplift (2018)	0.0%		

### BSC1 - LF 9.1 (Water Quantity: Increased Water Quantity)

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

BSC1 - LF 9.2 (Water Quantity: Decreased Water Quantity)						
Annual Amounts (cfs)						
	<u>Permanent</u>					
<u>Action</u>	<u>Acquisition</u>		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
No Actions						
Total	0		0	0	0	0
			Annual /	lverage ==>	0.0	
Total	0.0	cfs	Alliluul A	iverage ==>	0.0	
Total # Projects	#REF!	CIS				
Denominator		cfs	Evamnla:	Base Flow		
		LIS	Lxample.	Dase How		
% Uplift (2018)	#DIV/0!					

#### **BSC2** Upper Big Sheep Creek

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

18.8 mi

#### **BSC2 - LF 1.1 (Anthropogenic Barriers)**

		<u>2018 %</u>	
		<u>Improvement</u>	
		(prorating	Realized Change in
Action	Miles treated	factor)	2018 (mi)
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)	18.8	33%	6.204
Total Project Length	18.8	•	6.204
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	6.204		
Total Stream Miles (Denominator)	18.8	mi.	
% Uplift (2018)	33.0%		

#### BSC2 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

**Improvement** Realized Change in (prorating Action Miles treated factor) 2018 (mi) No Actions 0 0 **Total Project Length** 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 7.2 (Sediment Conditions: Increased Sediment Quantity)

**2018 %** 

**2018** %

<u>Improvement</u>

(prorating Realized Change in

Action Miles treated factor 2018 (mi)
No Actions

0

Total Projects  Total # Projects	0 0	0
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)

		2018 % Improvement (prorating	Realized Change in
<u>Action</u>	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)	18.	8 mi.	
% Uplift (2018)	0.0%	6	

### BSC2 - LF 8.2 (Water Quality: Oxygen)

Action		2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
No Actions	ivilles treated	<u>lactor</u>	0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 18.8	mi.	
% Uplift (2018)	0.0%		

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

Annual Amounts (cfs)

<u>Action</u> No Actions	Permanent Acquisition	<u>201</u>	2 2013	<u>2014</u>	<u>2015</u>
Total	0	(	0 0	0	0
Total	0.0	rfs	Annual Average ==>	0.0	
Total # Projects	#REF!	C13			
Denominator		cfs	Example: Base Flow		
% Uplift (2018)	#DIV/0!				

#### **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)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)	6.5	10%	0.65
Total Project Length	6.5	ı	0.65
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0.65		
Total Stream Miles (Denominator)	6.8	mi.	
% Uplift (2018)	9.6%		

#### BSC3 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Improvement (prorating Realized Change in 2018 (mi) **Action** Miles treated factor) No Actions **Total Project Length** 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)

<u>2018 %</u>

2018 %

<u>Improvement</u>

(prorating Realized Change in

Action <u>Miles treated</u> <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)	6.8 mi.	
% Uplift (2018)	0.0%	

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

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

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

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

		2018 % Improvement	
		(prorating	Realized Change in
<u>Action</u>	Miles treated	<u>factor)</u>	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)		6.8 mi.	
% Uplift (2018)	0.0	<b>1%</b>	

### 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)

			<b>2018 %</b>		
			<u>Improve</u>		
			<u>ment</u>	Realized	
	Miles		(proratin	Change in	
Action	treated		g factor)	2018 (mi)	
Trout Creek/Alpine Meadows Irrigation and Fish Pa		2	0%		0
Wallowa River/Cross Country Canal Diversion Repla	l	15	10%		1.5
Total Project Length		17	•		1.5
Total # Projects		2			
Total Stream Miles Affected (Weighted for 2018)		1.5			
Total Stream Miles (Denominator)		36.6	mi.		
% Uplift (2018)	4.	1%			

### WLC3 - LF 4.1 (Riparian Vegetation)

			<u>2018 %</u>		
			<u>Improve</u>		
			<u>ment</u>	Realized	
	Miles		(proratin	Change i	<u>n</u>
Action	<b>treated</b>		g factor)	2018 (mi	)
Wallowa River - Six Ranch Restoration Project 2 (2	0	0.38	3%		0.0114
Total Project Length		0.38	•		0.0114
Total # Projects		1			
Total Stream Miles Affected (Weighted for 2018)	0.	0114			
Total Stream Miles (Denominator)		36.6	mi.		
% Uplift (2018)	0.0	3%			

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

2018 % Improve

Miles

ment Realized
(proratin Change in g factor) 2018 (mi)

Actiontreatedg factor)2018 (mi)Wallowa River - Six Ranch Restoration Project 2 (200.3875%0.285Total Project Length0.380.285Total # Projects1

Total Stream Miles Affected (Weighted for 2018) 0.285
Total Stream Miles (Denominator) 36.6 mi.

% Uplift (2018)

0.8%

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

2018 % Improve

ment Realized
(proratin Change in g factor) 2018 (mi)

Actiontreatedg factor)2018 (mi)Wallowa River - Six Ranch Restoration Project 2 (200.3850%0.19Total Project Length0.380.19Total # Projects1

Total Stream Miles Affected (Weighted for 2018) 0.19 350

Total Stream Miles (Denominator) 36.6 mi. 1800 5.4878049 63.77777778

% Uplift (2018)

0.5%

3.280839895

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

Miles

2018 % Improve

Miles (proratin Change in treated g factor) 2018 (mi)

Actiontreatedg factor)2018 (mi)Wallowa River - Six Ranch Restoration Project 2 (200.3860%0.228Wallowa River/Cross Country Canal Diversion Repla0.0930%0.026Total Project Length0.470.254

Total # Projects 0

Total Stream Miles Affected (Weighted for 2018)

Total Stream Miles (Denominator)

0.25

36.6 mi.

Vplift (2018)

0.7%

#### WLC3 - LF 8.1 (Water Quality: Temperature)

2018 % **Improve** ment Realized (proratin Change in Miles **Action** g factor) 2018 (mi) treated Trout Creek/Alpine Meadows Irrigation and Fish Pa 0% **Total Project Length** 2 Total # Projects 1 Total Stream Miles Affected (Weighted for 2018) 0 Total Stream Miles (Denominator) 36.6 mi. % Uplift (2018) 0.0%

### WLC3 - LF 8.2 (Water Quality: Oxygen)

**2018** % <u>Improve</u> ment Realized (proratin Change in Miles g factor) 2018 (mi) **Action** treated No Actions **Total Project Length** 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)

Annual Amounts (cfs)

 Action
 Acquisition
 2012
 2013
 2014
 2015

Trout Creek/Alpine Meadows Irrigation and Fish Passage (2013)	1		1	1	1
Total	1	0	1	1	1
		An	nual		
		Averd	rge ==>	0.8	
Total	0.8 cfs				
Total # Projects	1				
		Estima	te of		
		mean o	daily flow		
		in Wall	owa		
		River in	n August		
		and Se	ptember		
Denominator	150 cfs	(critica	l period).		
% Uplift (2018)	0.5%				

### <u>WLC7</u> <u>Lower Lostine River (Mouth to Silver Cr.)</u>

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

14.1 mi

#### WLC7 - LF 1.1 (Anthropogenic Barriers)

		<u>2018 %</u>	<u> </u>	Realized
		<u>Improveme</u>	<u>nt (</u>	<u>Change</u>
		(prorating	<u>i</u>	in 2018
<u>Action</u>	Miles treated	factor)	(	<u>(mi)</u>
Lostine River City of Lostine Diversion Structure (2012) Combined Passage Benefit of: Carlsen Acquisition (2012-2015),		2	50%	1
2012-2015 Lostine Minimum Flow Agreement, Wolfe				
Permanent Diversion (2012)		3	60%	1.8
Total Project Length		5	_	2.8
Total # Projects		2		
Total Stream Miles Affected (Weighted for 2018)		2.8		
Total Stream Miles (Denominator)	1	.4.1 mi.		
% Uplift (2018)	19.9	%		

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

Action	Miles treated	2018 % Improvement (prorating factor)	-	Realized Change in 2018 (mi)
Lostine River City of Lostine Diversion Structure Replacement				
(2012)	0.066287879	_	15%	0.009943
Total Project Length	0.066287879	•	•	0.009943
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	0.009943182			
Total Stream Miles (Denominator)	14.1	mi.		
% Uplift (2018)	0.1%			

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

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Total Project Length Total # Projects		0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)  **Uplift (2018)	0.09	0 I.1 mi.	

# WLC7 - LF 8.1 (Water Quality: Temperature)

	<u>2015 %</u>	<u>Realized</u>
	<u>Improvement</u>	<b>Change</b>
	(prorating	in 2018
Miles treated	factor)	<u>(mi)</u>
3.5	5 5%	6 0.175
5.5	5 09	6 0
	9	0.175
;	2	
0.17	5	
14.:	L mi.	
1.2%		
	3.5 5.5 2 0.175 14.1	(prorating

### WLC7 - LF 8.2 (Water Quality: Oxygen)

		2018 % Improvement (prorating	Realized Change in 2018
<u>Action</u>	Miles treated	factor)	<u>(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	l.1 mi.	

%	П	lift (	(20	18
, •	<b>-</b> -	,	<b>\</b> —-	

0.0%

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

		Annual Amounts (cfs	)				
						<b>Temporal</b>	_
						Weightin	
						g (percent	<u>t</u>
						<u>of</u>	Weighted
	<u>Permanent</u>				Weight	in irrigation	<u>Average</u>
<u>Action</u>	<u>Acquisition</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	2015 g Factor	season)	of Flow
Carlsen Acquisition (2012-2015)		1.5	1.5	1.5	1.5 60	0% 40%	0.4
2012-2015 Lostine Minimum Flow Agreement		15	15	15	17.1 6	4% 40%	4.0
Wolfe Permanent Diversion (2012)		0.39	0.39	0.39	0.39	5% 40%	0.1
Total	(	16.89	16.89	16.89	18.99		4.4

4.4 cfs Total Total # Projects 3 35 cfs Denominator % Uplift (2018) 12.5%

Panel estimate of base flow prior to irrigation

#### WLC8 **Upper Lostine River (Silver Cr. To Headwaters)**

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

12.3 mi

#### WLC8 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

2018 % Improvement (prorating Realized Change in <u>Action</u> Miles treated factor) 2018 (mi) No Actions 0 **Total Project Length** 0 Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) 0 Total Stream Miles (Denominator) 12.3 mi. % Uplift (2018) 0.0%

#### WLC8 - LF 8.1 (Water Quality: Temperature)

**2018** % <u>Improvement</u> Realized Change in (prorating Action Miles treated factor) 2018 (mi) No Actions **Total Project Length** 0 Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) 0 Total Stream Miles (Denominator) 12.3 mi. % Uplift (2018) 0.0%

#### WLC8 - LF 8.2 (Water Quality: Oxygen)

2018 % Improvement

(prorating Realized Change in

Action

Miles treated

factor)

2018 (mi)

Total Project Length	0
Total # Projects	0
Total Stream Miles Affected (Weighted for 2018)	0
Total Stream Miles (Denominator)	12.3 mi.
% Uplift (2018)	0.0%

### WRS13 Upper Wallowa River (Upstream of Lostine River) and Small Tributaries

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

36.3 mi

### WRS13 - LF 1.1 (Anthropogenic Barriers)

Action		2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Trout Creek/Alpine Meadows Irrigation and Fish Passage		2=2/	
(2013) Wallowa River/Cross Country Canal Diversion	1.9	25%	0.475
Replacement (2012)	15	10%	1.5
Total Project Length	16.9	1070	1.975
Total # Projects	2		1.575
,			
Total Stream Miles Affected (Weighted for 2018)	1.975		
Total Stream Miles (Denominator)	36.3	mi.	
% Uplift (2018)	5.4%		

### WRS13 - LF 4.1 (Riparian Vegetation)

<u>Action</u> Wallowa River - Six Ranch Restoration Project 2 (2015)	Miles treated	2018 % Improvement (prorating factor)	Realized Cha 2018 (mi)	nge in
Transma filter Six Harrer Restoration Froject 2 (2015)	0.38	3%	, 5	0.0114
Total Project Length	0.38	1		0.0114
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	0.0114			
Total Stream Miles (Denominator)	36.3	mi.		
% Uplift (2018)	0.03%			
		<b>=</b>		

### WRS13 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

**2018** % <u>Improvement</u>

<u>Action</u>	Miles treated facto		Realized Change in 2018 (mi)	
Wallowa River - Six Ranch Restoration Project 2 (2015)	0.38	75%	0.285	
Total Project Length	0.38	•	0.285	
Total # Projects	0			
Total Miles Affected (Weighted for 2018)	0.285			
Total Stream Miles (Denominator)	36.3 mi.			
% Uplift (2018)	0.8%			

#### WRS13 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

**2018** %

Improvement

		mprovement	
		(prorating	Realized Change in
<u>Action</u>	Miles treated	factor)	2018 (mi)
Wallowa River - Six Ranch Restoration Project 2 (2015)	0.20	F.09/	0.10
Wallowa Niver - Six Nation Nestoration Project 2 (2015)	0.38	50%	0.19
Total Project Length	0.38		0.19
Total # Projects	1		
	0.40		
Total Stream Miles Affected (Weighted for 2018)	0.19		
Total Stream Miles (Denominator)	36.3	mi.	
% Uplift (2018)	0.5%		
•			

### WRS13 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

20	<u> </u>	<u>%</u>

<u>Improvement</u>

Action	Miles treated	(prorating factor)	<u>Realize</u> 2018 (r	d Change in ni)
Wallowa River - Six Ranch Restoration Project 2 (2015) Wallowa River/Cross Country Canal Diversion		0.38	60%	0.228
Replacement (2012)		0.09	30%	0.026
Total Project Length		0.47		0.253568182
Total # Projects		0		

Total Stream Miles Affected (Weighted for 2018) 0.253568182 Total Stream Miles (Denominator) 36.3 mi.

# WRS13 - LF 8.2 (Water Quality: Oxygen)

		2018 % Improvement (prorating	Realized Change in
<u>Action</u>	Miles treated	factor)	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)	36.3	mi.	
% Uplift (2018)	0.0%		

WRS13 - LF 9.2 (Water Quantity: L	Decreased Water O	uantity)							
TVNOIS ET SIE (Vater Quartity: E	Annual Amounts (cfs)								
	Permanent								
Action	<u>Acquisition</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>				
Trout Creek/Alpine Meadows Irrigation and Fish Passage			4	4	4				
(2013)			1	1	1				
Total	0	0	1	1	1				
		Annual	Average ==>	0.8					
Total	0.8 cfs								
Total # Projects	1								
		Fallwal							
			e of mean						
			w in Wallowa August and						
			ber (critical						
Denominator	150 cfs	period).	· ·						
% Uplift (2018)	0.5%								

#### 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 No Actions	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
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)

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

<u>2018 %</u>

Improvement (prorating

Realized Change in

Streammiles Treated factor)

2018 (mi)

<u>Action</u>

Birkmaier Lease/Renewal	0.8	5%	0.04
Total Project Length	0.8		0.04
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0.04		
Total Stream Miles (Denominator)	48.4 mi.		
% Uplift (2018)	0.1%		

# JCS1 - LF 8.2 (Water Quality: Oxygen)

Action	2018 % Improvement (prorating 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)	48.4 mi.	
% Uplift (2018)	0.0%	

#### IRS1 Lower Imnaha R.

<u>Action</u>

**Action** 

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

36.4 mi

#### IRS1 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

2018 %

Improvement

(prorating

Realized Change in

0.07

0.07

factor)

2018 (mi)

100%

Marr Habitat (Planting, Bank Bioengineering, Side Channel Maintenance) 0.07 **Total Project Length** 0 Total # Projects

Total Stream Miles Affected (Weighted for 2018) 0.07 Total Stream Miles (Denominator) 36.4 mi.

% Uplift (2018)

0.2%

Miles treated

### IRS1 - LF 8.1 (Water Quality: Temperature)

2018 %

Improvement

(prorating factor)

Realized Change in

2018 (mi)

Marr Habitat (Planting, Bank Bioengineering, Side Channel Maintenance)

**Total Project Length** Total # Projects

0.07

Miles treated

Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) 36.4 mi.

% Uplift (2018)

0.0%

0.07

0

### IRS1 - LF 8.2 (Water Quality: Oxygen)

		2018 % Improvement	
Action	Miles treated	(prorating factor)	Realized Change in 2018 (mi)
No Actions	wiics treated	<u>idetorj</u>	0
Total Project Length	0	<u>-</u>	0
Total # Projects	0	)	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 36.4		
% Uplift (2018)	0.0%		

IRS1 - LF 9.2 (Water Quantity: Decreased Water Quantity)							
Annual Amounts (cfs)							
	<u>Permanent</u>						
<u>Action</u>	<u>Acquisition</u>		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	
No Actions							
Total		0	0	0	0	0	
			Δnnual .	Average ==>	0.0		
Total	0.0	0 cfs	Amuur	Average>	0.0		
Total # Projects	#REF!						
Denominator		cfs	Example	: Base Flow			
% Uplift (2018)	#DIV/0!						

#### IRS6 Lower Big Sheep Mainstem

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

53.1 mi

#### IRS6 - LF 1.1 (Anthropogenic Barriers)

		2018 % Improveme		
		(prorating		d Change in
Action	Miles treated	<u>factor)</u>	<u>2018 (m</u>	
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)		<u>17</u>	33%	5.61
Total Project Length		17		5.61
Total # Projects		1		
Total Stream Miles Affected (Meighted for 2019)	-	C1		
Total Stream Miles (Denominator)		61		
Total Stream Miles (Denominator)	5:	3.1 mi.		
% Uplift (2018)	10.69	%		

### IRS6 - LF 2.1 (Injury and Mortality: Predation)

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

### IRS6 - LF 3.1 (Food: Altered Primary Productivity)

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

### IRS6 - LF 4.1 (Riparian Vegetation)

Antique	NA:los trootod	Improvement (prorating	Realized Change in
Action No Actions	Miles treated	<u>factor)</u>	<b>2018 (mi)</b>
Total Project Length	0	•	0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 53.1		
% Uplift (2018)	0.0%		

## IRS6 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Miles tweeted	(prorating	Realized Change in
<u>Miles treated</u>	<u>iactor)</u>	<b>2018 (mi)</b>
0		0
0		
0		
53.1	mi.	
0.0%	]	
	0 53.1	

#### IRS6 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

2018 % Improvement Realized Change in (prorating Action Miles treated factor) 2018 (mi) No Actions **Total Project Length** 0 Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) 0 Total Stream Miles (Denominator) 53.1 mi. % Uplift (2018) 0.0%

#### IRS6 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

2018 % <u>Improvement</u> (prorating Realized Change in **Action** 2018 (mi) Miles treated factor) No Actions **Total Project Length** 0 Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) 53.1 mi. 0.0% % Uplift (2018)

#### IRS6 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

2018 % **Improvement** (prorating Realized Change in factor) 2018 (mi) Action Miles treated No Actions **Total Project Length** 0 Total # Projects 0 0 Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) 53.1 mi. % Uplift (2018) 0.0%

### IRS6 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	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) Total Stream Miles (Denominator)		0 <u>1</u> mi.	
% Uplift (2018)	0.0%	6	

## IRS6 - LF 8.2 (Water Quality: Oxygen)

Action	Miles treated	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)	53.1	mi.	
% Uplift (2018)	0.0%		

### IRS6 - LF 9.1 (Water Quantity: Increased Water Quantity)

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

% Uplift (2018)	0.0%
Total Stream Miles (Denominator)	53.1 mi.
Total Stream Miles Affected (Weighted for 2018)	0

IRS6- LF 9.2 (Water Quantity: Decreased Water Quantity)					
	Ann	ual Amounts (cfs)			
	<u>Permanent</u>				
<u>Action</u>	<u>Acquisition</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
No Actions					
Total	0	0	0	0	0
		Annua	Average ==>	0.0	
Total	0.0 cfs	Alliuui	Average ==>	0.0	
Total # Projects	#REF!				
Denominator	cfs	Exampl	e: Base Flow		
% Uplift (2018)	#DIV/0!				

### **IRS7** Lower Big Sheep and Little Sheep Cr. Tributaries

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

51.1 mi

### IRS7 - LF 1.1 (Anthropogenic Barriers)

	<u>2018 %</u>	
	Improvement	
	(prorating	Realized Change in
Miles treated	factor)	2018 (mi)
13	33%	4.29
		0
		0
	-	0
13	•	4.29
1		
4.29		
51.1	mi.	
8.4%		
	13 13 1 4.29	Miles treated (prorating factor)  13 33%  13 1  4.29 51.1 mi.

### IRS7 - LF 2.1 (Injury and Mortality: Predation)

<u>Action</u>	Design Flow of Screen (cfs)	2018 % Improvement (prorating factor)	Realized Change in 2018 (flow)
Total Project Length Total # Projects		0	0
Total Stream Miles Affected (Weighted for 2018) Total Flow (Denominator)		0 cfs	
% Uplift (2018)	#DIV/0!		

### IRS7 - LF 3.1 (Food: Altered Primary Productivity)

	Design Flow of (proration factor)	
Total Projects Total # Projects	0 0	0
Total Stream Miles Affected (Weighted for 2018) Total Flow (Denominator)	0 cfs	
% Uplift (2018)	#DIV/0!	

# IRS7 - LF 4.1 (Riparian Vegetation)

Action		2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	51.1	mi.	
% Uplift (2018)	0.0%		

# IRS7 - LF 5.2 (Peripheral and Transitional Habitats: Floodplain Condition)

Action	Miles treated	lmprovement (prorating factor)	Realized Change in 2018 (mi)
			0
Total Project Length	0	l	0
Total # Projects	0		
Total Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	51.1	mi.	
% Uplift (2018)	0.0%		

## IRS7 - LF 6.1 (Channel Structure and Form: Bed and Channel Form)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
		•	0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	51.1	mi.	
% Uplift (2018)	0.0%		

# IRS7 - LF 6.2 (Channel Structure and Form: Instream Structural Complexity)

	2018 % Improvement	
Miles treated	(prorating	Realized Change in 2018 (mi)
		0
0	ı	0
0		
0		
51.1	mi.	
0.0%		
	0 0 51.1	Miles treated (prorating factor)  0 0 0 51.1 mi.

## IRS7 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

Improve	
	0
0	0
0	
0	
51.1 mi.	
0.0%	
	0 0 0 51.1 mi.

# IRS7 - LF 8.1 (Water Quality: Temperature)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	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)	5	0 1.1 mi.	
% Uplift (2018)	0.0	%	

# IRS7 - LF 8.2 (Water Quality: Oxygen)

Action		2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
			0
Total Project Length	0		0
Total # Projects	0		
Total Stream Miles Affected (Weighted for 2018)	0		
Total Stream Miles (Denominator)	51.1	mi.	
% Uplift (2018)	0.0%		

# IRS7 - LF 9.1 (Water Quantity: Increased Water Quantity)

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

IRS7 - LF 9.2 (Water Quantity: Decreased Water Quantity)						
		Annual Am	ounts (cfs)			
	<u>Permanent</u>					
<u>Action</u>	<u>Acquisition</u>		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Total		0	0	0	0	0
			Annual	Average ==>	0.0	
Total	0.	0 cfs				
Total # Projects		0				
Denominator		cfs	Example	e: Base Flow		
% Uplift (2018)	#DIV/0!					

### <u>IRS8</u> <u>Upper Big Sheep & Little Sheep Mainstems</u>

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

11.9 mi

### IRS8 - LF 1.1 (Anthropogenic Barriers)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)	11.9	10%	1.19
Total Project Length	11.9	)	1.19
Total # Projects	1	L	
Total Stream Miles Affected (Weighted for 2018)	1.19	)	
Total Stream Miles (Denominator)	11.9	) mi.	
% Uplift (2018)	10.0%		

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

e in
0
0
_

## IRS8 - LF 8.1 (Water Quality: Temperature)

2018 % <u>Improvement</u> (prorating Realized Change in Miles treated 2018 (mi) factor) <u>Action</u> Total Project Length #REF! #REF! Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator) #REF! 11.9 mi. % Uplift (2018) #REF!

IRS8 - LF 9.2 (Water Quantity: Decreased Water Quantity)						
		Annual A	Amounts (cfs)			
	<u>Permanent</u>					
<u>Action</u>	<u>Acquisition</u>		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
No Actions						
Total		0	0	0	0	0
			Annual	Average ==>	0.0	
Total	0	.0 cfs				
Total # Projects		1				
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)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Big Sheep/Buhler Irrigation and Fish Passage Improvement (2012)	5.5	10%	0.55
Total Project Length	5.5	-	0.55
Total # Projects	1		
Total Stream Miles Affected (Weighted for 2018)	0.55		
Total Stream Miles (Denominator)	21.8	mi.	
% Uplift (2018)	2.5%		

### IRS9 - LF 4.1 (Riparian Vegetation)

2018 % Improvement (prorating Realized Change in 2018 (mi) <u>Action</u> Miles treated factor) **Total Project Length** 0 Total # Projects 0 Total Stream Miles Affected (Weighted for 2018) 0 Total Stream Miles (Denominator) 21.8 mi. 0.0% % Uplift (2018)

### IRS9 - LF 7.2 (Sediment Conditions: Increased Sediment Quantity)

<u>2018 %</u>

<u>Improvement</u>

(prorating Realized Change in

Action Miles treated factor) 2018 (mi)

		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 8.1 (Water Quality: Temperature)

Miles treated	Realized Change in 2018 (mi)
	0
0	0
0	
0	
21.8 mi.	
0.0%	
	Miles treated (prorating factor)  0 0 0 21.8 mi.

# IRS9 - LF 8.2 (Water Quality: Oxygen)

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Total Projects Total # Projects		0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)  **Uplift (2018)	0.0	0 21.8 mi.	

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

<u>Action</u>	<u>.</u> !		Realized Change in 2018 (mi)
Total Project Length Total # Projects	0 0	•	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	0 21.8 r	ni.	
% Uplift (2018)	0.0%		

IRS9- LF 9.2 (Water Quantity: Decreased Water Quantity)					
	<u> </u>	Annual Amounts (cfs)			
	<u>Permanent</u>				
<u>Action</u>	<u>Acquisition</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Total	0	0	0	0	0
		Δn	nual Average ==>	0.0	
Total	0.0 c		maar Average>	0.0	
Total # Projects	0				
Denominator		fs Ex	ample: Base Flow		
% Uplift (2018)	#DIV/0!				

### **WRS10** Lostine River

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

26.3 mi

### **WRS10 - LF 1.1 (Anthropogenic Barriers)**

		<u>2018 %</u>	<u> </u>	Realized
		<b>Improveme</b>	ent (	<u>Change</u>
		(prorating	<u>i</u>	n 2018
<u>Action</u>	Miles treated	<u>factor)</u>	(	<u>mi)</u>
Lostine River City of Lostine Diversion Structure (2012) Combined Passage Benefit of: Carlsen Acquisition (2012-2015),		2	50%	1
2012-2015 Lostine Minimum Flow Agreement, Wolfe				
Permanent Diversion (2012)		3	60%	1.8
Total Project Length		5	-	2.8
Total # Projects		2		
Total Stream Miles Affected (Weighted for 2018)		2.8		
Total Stream Miles (Denominator)	2	6.3 mi.		
% Uplift (2018)	10.6	<b>%</b>		

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

<u>Action</u> Lostine River City of Lostine Diversion Structure Replacement	Miles treated	2018 % Improvemen (prorating factor)	<u>t</u>	Change in 2018 (mi)
(2012)	0.066287879		15%	0.009943
Total Project Length	0.066287879	•	1	0.009943
Total # Projects	1			
Total Stream Miles Affected (Weighted for 2018)	0.009943182			
Total Stream Miles (Denominator)	26.3	_mi.		
% Uplift (2018)	0.04%			

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

<u>Action</u>	Miles treated	2018 % Improvement (prorating factor)	Realized Change in 2018 (mi)
Total Project Length Total # Projects		0	0
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)  **Uplift (2018)	0.0	0 6.3 mi.	

# WRS10 - LF 8.1 (Water Quality: Temperature)

		<u>2015 %</u>	<u>Realized</u>
		Improvement	<b>Change</b>
		(prorating	<u>in 2018</u>
<u>Action</u>	Miles treated	factor)	<u>(mi)</u>
2012-2015 Lostine Minimum Flow Agreement (RMs 5.5-9)	3.5	5 5%	0.175
2012-2015 Lostine Minimum Flow Agreement (RMs 0-5.5)	5.5	0%	6 0
Total Project Length		9	0.175
Total # Projects	:	2	
Total Stream Miles Affected (Weighted for 2018)	0.17	5	
Total Stream Miles (Denominator)	26.3	mi.	
% Uplift (2018)	0.7%		

# WRS10 - LF 8.2 (Water Quality: Oxygen)

		2018 % Improvement (prorating	Realized Change in 2018
<u>Action</u>	Miles treated	<u>factor)</u>	<u>(mi)</u>
No Actions			0
Total Project Length		0	0
Total # Projects		0	
Total Stream Miles Affected (Weighted for 2018) Total Stream Miles (Denominator)	2	0 .6.3 mi.	
% Uplift (2018)	0.0	<b>%</b>	

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

Annual	<b>Amounts</b>	(cfs)
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Action	Permanent Acquisition		<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>W</u> 2015 g I	<u>eightin</u>	Weighted Average of Flow
Carlsen Acquisition (2012-2015)			1.5	1.5	1.5	1.5	60%	0.9
2012-2015 Lostine Minimum Flow Agreement			15	15	15	17.1	64%	9.9
Wolfe Permanent Diversion (2012)			0.39	0.39	0.39	0.39	35%	0.1
Total		0	16.89	16.89	16.89	18.99		11.0
				Annual				
			A	lverage				
				==>	17.4			

Total 11.0 cfs
Total # Projects 3
Denominator 35 cfs

% Uplift (2018) 31.3%

Panel estimate of base flow prior to irrigation