NOTES:

This workbook contains **habitat functions** data downloaded directly from the Taurus database. Functions include those documented during the **Look Forward** process covering the **2016-2018** work window for steelhead.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Imnaha River	IRS1	Lower Imnaha R.	7.2: Sediment Conditions: Increased Sediment Quantity	30.00%	80.25	80.25	80.25	80.05	80.05	85		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS1	Lower Imnaha R.	8.1: Water Quality: Temperature	30.00%	70	70	70	80	70	85	Limiting factor affected by naturally hot upstream water temperatures that contribute to higher temperatures overall.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS1	Lower Imnaha R.	8.2: Water Quality: Oxygen	5.00%	80	80	80	90	80	90		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS1	Lower Imnaha R.	9.2: Water Quantity: Decreased Water Quantity	35.00%	70	70	70	80	70	80		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS2	Lower Imnaha Tribs	1.1: Habitat Quantity: Anthropogenic Barriers	20.00%	70	70	70	100	95	100	In 2012 the expert panel updated the low bookend and changed it from 60 to 70.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake	Population Imnaha	Code IRS2	Assessme nt Unit Lower	2012 Standardized Limiting Factor 4.1: Riparian	LF Weight	Low Bookend 50	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate 50	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that
River Steelhead	River		Imnaha Tribs	Condition: Riparian Vegetation									no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS2	Lower Imnaha Tribs	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	50	50	50	51	50	70		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS2	Lower Imnaha Tribs	8.1: Water Quality: Temperature	25.00%	50	50	50	51	50	70		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS2	Lower Imnaha Tribs	8.2: Water Quality: Oxygen	5.00%	80	80	80	90	80	95		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS3	Cow, Lightning, & Horse Creeks	1.1: Habitat Quantity: Anthropogenic Barriers	25.00%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/10/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Imnaha River	IRS3	Cow, Lightning, & Horse Creeks	6.1: Channel Structure and Form: Bed and Channel Form	25.00%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/10/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS3	Cow, Lightning, & Horse Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/10/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS3	Cow, Lightning, & Horse Creeks	8.1: Water Quality: Temperature	25.00%							Bookend estimates have not been determined for this limiting factor. Comments entered RM 6/10/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS4	Upper Imnaha River Mainstem	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	85	85	85	100	85	100		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS4	Upper Imnaha River Mainstem	6.1: Channel Structure and Form: Bed and Channel Form	30.00%	85	85	85	86	85	90		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake River Steelhead	Population Imnaha River	<mark>Code</mark> IRS4	Assessme nt Unit Upper Imnaha River Mainstem	2012 Standardized Limiting Factor 7.2: Sediment Conditions: Increased Sediment Quantity	LF Weight 25.00%	Low Bookend 80.01	Original 2018 Estimate 80.01	Updated 2018 Estimate 80.01	High 2018 Bookend 82	Original 2033 Estimate 80.01	High 2033 Bookend 85	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS4	Upper Imnaha River Mainstem	8.1: Water Quality: Temperature	30.00%	80	80	80	82	80	85		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS4	Upper Imnaha River Mainstem	8.2: Water Quality: Oxygen	5.00%	90	90	90	95	90	96		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	70	70	70	100	80	100		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	4.1: Riparian Condition: Riparian Vegetation	20.00%	60	60	60	62	60	65		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	6.1: Channel Structure and Form: Bed and Channel Form	20.00%	50	50	50	55	50	70		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake River Steelhead	Population Imnaha River	Code IRS5	Assessme nt Unit Upper Imnaha R. Tributarie	2012 Standardized Limiting Factor 7.2: Sediment Conditions: Increased	LF Weight 15.00%	Low Bookend 65	Original 2018 Estimate 65	Updated 2018 Estimate	High 2018 Bookend 70	Original 2033 Estimate 65.1	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013-
			s	Sediment Quantity									2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	8.1: Water Quality: Temperature	15.00%	80	80	80	82	80	85		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	8.2: Water Quality: Oxygen	5.00%	80	80	80	82	80	85		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	9.1: Water Quantity: Increased Water Quantity	0.00%	70	70	70	72	70	75		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributarie s	9.2: Water Quantity: Decreased Water Quantity	10.00%	65	65	65	70	65	75		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	80.6	80.6	80.6	90	75	90		Estimate assumes that still have the Litte Sheep satellite facility & double culverts on county road. In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS6	Lower Big Sheep Mainstem	4.1: Riparian Condition: Riparian Vegetation	10.00%	40	40	40	60	40	70		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	6.1: Channel Structure and Form: Bed and Channel Form	5.00%	40.1	40.1	40.1	55	40.1	55		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	60	60	60	70	60	80		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	8.1: Water Quality: Temperature	10.00%	50	50	50	55	50	60		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

ESU Snake River Steelbead	Population Imnaha River	<mark>Code</mark> IRS6	Assessme nt Unit Lower Big Sheep Mainstem	2012 Standardized Limiting Factor 8.2: Water Quality: Oxygen	LF Weight	Low Bookend 80	Original 2018 Estimate 80	Updated 2018 Estimate 80	High 2018 Bookend 85	Original 2033 Estimate 80	High 2033 Bookend 85	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013-
Steemedu			initianistenii	UXYEE!!									2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	9.2: Water Quantity: Decreased Water Quantity	45.00%	30	30	30	80	30	80		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	88.4	88.4	88.4	100	85	100		All naturally produced steelhead are passed above weir and goal is volitional passage for juveniles. In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	4.1: Riparian Condition: Riparian Vegetation	20.00%	70	70	70	71	70	75		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	50	50	50	55	50	65		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake River Steelhead	Population Imnaha River	Code IRS7	Assessme nt Unit Lower Big Sheep and Little Sheep Cr. Tributarie s	2012 Standardized Limiting Factor 8.1: Water Quality: Temperature	LF Weight 22.00%	Low Bookend 50	Original 2018 Estimate 50	Updated 2018 Estimate 50	High 2018 Bookend 55	Original 2033 Estimate 50	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	8.2: Water Quality: Oxygen	5.00%	75	75	75	80	75	85		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	9.1: Water Quantity: Increased Water Quantity	3.00%	80	80	80	80	80	82		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributarie s	9.2: Water Quantity: Decreased Water Quantity	20.00%	65	65	65	70	70	75		The Camp Creek diversion (1.13 cfs) is the only diversion on all the tributaries. In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented between 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstem s	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	90	90	96.3	90	80	90	Wallowa Valley Improvement Canal doesn't block a lot of steelhead habitat.	In 2016 the expert panel evaluated the Little Sheep Creek AOP barrier removal (USFS project). Panel assumed it is a partial juvenile barrier (25% proration). Yields 6.3% uplift. USFS to review. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstem s	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	80.05	80.05	80.05	85	80.05	85		The expert panel requested USFS review of calculation spreadsheet and any anticipated benefits to this limiting factor out to 2018. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake River Steelhead	Population Imnaha River	Code IRS8	Assessme nt Unit Upper Big Sheep & Little Sheep Mainstem s	2012 Standardized Limiting Factor 8.1: Water Quality: Temperature	LF Weight 10.00%	Low Bookend 80	Original 2018 Estimate 80	Updated 2018 Estimate 80	High 2018 Bookend 85	Original 2033 Estimate 80	High 2033 Bookend 85	LF Weight and Bookends Comments Big Sheep Canal diverts some cold water but stays relatively cool instream.	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2018.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstem s	9.2: Water Quantity: Decreased Water Quantity	70.00%	30	30	30	80	30	80		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	20.00%	53.5	53.5	55.2	100	71	100		In 2016 the Expert Panel evaluated the Lick Creek Culvert that was determined to provide access to 3.7 miles of habitat. The panel requested Nez Perce Tribe Research Team review of mileage. Comments entered RM 6/10/2016.
Snake River Steelhead	lmnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie s	4.1: Riparian Condition: Riparian Vegetation	15.00%	75	75	75	76	75	80		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	50.25	50.25	50.25	60	53.25	65		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie s	8.1: Water Quality: Temperature	10.00%	60	60	60	61	60	70		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.

<mark>ESU</mark> Snake River Steelhead	Population Imnaha River	Code IRS9	Assessme nt Unit Upper Big Sheep & Little Sheep tributarie s	2012 Standardized Limiting Factor 8.2: Water Quality: Oxygen	LF Weight 3.00%	Low Bookend 85	Original 2018 Estimate 85	Updated 2018 Estimate 85	High 2018 Bookend 90	Original 2033 Estimate 85	High 2033 Bookend 95	LF Weight and Bookends Comments	Estimates Comments In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie s	9.1: Water Quantity: Increased Water Quantity	2.00%	80	80	80	80	80	82		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributarie S	9.2: Water Quantity: Decreased Water Quantity	30.00%	40	40	40	85	40	90		In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	6.1: Channel Structure and Form: Bed and Channel Form	15.00%	80	80	80	90	80	95		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	35.00%	70	70	70	75	70	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	8.1: Water Quality: Temperature	45.00%	66.1	66.1	66.1	70	66	75		Uplift depends on flow prorations and data (See limiting factor 9.2). No uplift calculated by panel in 2016. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	8.2: Water Quality: Oxygen	0.00%	75	75	75	80	75	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	9.2: Water Quantity: Decreased Water Quantity	5.00%	75	75	81.5				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	Denominator used for caclulating uplift was based on a baseflow of 5 cfs (measured in July 2015) at the point of diversion. There is no gage in Joseph Creek. The Birkmaier Project is at the top of the assessment unit and is adding 0.85 cfs (May-Sep). Weighted based on 5 out of 12 months when flow would be an issue (40% proration), resulting in 6.5% expected uplift (following proration logic used in the Lostine). The panel discussed whether 100% of the critical low flow period was being addressed by these actions and whether the uplift should have been prorated higher or revised when more data become available. There is limited to no monitoring data available for this area. The expert panel identified a need to sum the total water rights and use what is being dedicated instream to estimate benefits. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwo od Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15.00%	55	55	55	70	55	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwo od Creek	7.2: Sediment Conditions: Increased Sediment Quantity	30.00%	55	55	55	65	59	70		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwo od Creek	8.1: Water Quality: Temperature	30.00%	70	70	70	72	70	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS2	Cottonwo od Creek	8.2: Water Quality: Oxygen	5.00%	80	80	80	85	80	90		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS2	Cottonwo od Creek	9.2: Water Quantity: Decreased Water Quantity	20.00%	70	70	70	70	70	75		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	20.00%	90	90	90	100	90	100		No actions applicable to the factor are expected within period in this assessment of expected in function percess Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	6.2: Channel Structure and Form: Instream Structural Complexity	10.00%	75	75	75	80	75	85		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	60	60	60	70	60	75		No actions applicable to th factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	8.1: Water Quality: Temperature	20.00%	60	60	60	62	60	65		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	8.2: Water Quality: Oxygen	10.00%	85	85	85	90	85	95		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/

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ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributarie s	9.2: Water Quantity: Decreased Water Quantity	20.00%	65	65	65	67	65	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS4	Swamp & Davis Creeks	4.1: Riparian Condition: Riparian Vegetation	50.00%	66	66	66	75	66	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS4	Swamp & Davis Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	65	65	65	75	65	85	upstream portions of Swamp Ck. has good riparian filters	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS4	Swamp & Davis Creeks	8.1: Water Quality: Temperature	20.00%	70	70	70	80	70	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS4	Swamp & Davis Creeks	8.2: Water Quality: Oxygen	5.00%	80	80	80	90	80	95	lots of exclosure fencing in place	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake	Joseph	JCS5	Elk &	4.1: Riparian	15.00%	50	50	50.04				The expert panel	In 2016 the expert panel e
River	Creek		Crow	Condition:								identified this as a	Crow Creek-Krebs project
Steelhead			Creeks	Riparian								limiting factor in	fencing, off-site solar and
				Vegetation								2016. There was	systems. The panel acknow
												no high bookend	would take time for chang
												established at the	function. With a denomina
												time it was	miles based on Streamnet
												identified as a	mileage and assuming 1%
												limiting factor.	year, the panel anticipated
												Riparian,	Comments entered RM 6/
												temperature, and	
												sediment are the	
												dominant issues in	
												this assessment	
												unit that relate to	
												this limiting factor.	
												Comments entered	
												RM 6/13/2016.	
Snake	Joseph	JCS5	Elk &	5.2: Peripheral	15.00%	50	50	50				The expert panel	In 2016 the expert panel d
River	Creek		Crow	and								identified this as a	Crow Creek-Krebs project
Steelhead			Creeks	Transitional								limiting factor in	but will have no measurab
				Habitats:								2016. There was	within the 2016-2018 time
				Floodplain								no high bookend	indicated by 0% prorating
				Condition								established at the	calculation spreadsheet. C
												time it was	entered RM 6/13/2016.
												identified as a	
												limiting factor.	
												Comments entered	
												RM 6/13/2016.	

evaluated the t that included gravity watering wledged that it ges in riparian ator set at 26.2 t steelhead 6 growth per ed a 0.04% uplift. /13/2016. discussed the t that is planned ble benefit e period as g factor in Comments

			A	2012 Standardized		Low	Original	Updated	uish 2018	Original	uiah 2022	LF Weight and	
ESU	Population	Code	nt Unit	Limiting Factor	LF Weight	Bookend	Estimate	Estimate	Bookend	2055 Estimate	Bookend	Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	6.2: Channel Structure and Form: Instream Structural Complexity	15.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	50	50	50.2				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Riparian, temperature, and sediment are the dominant issues in this assessment unit that relate to this limiting factor. Comments entered RM 6/13/2016.	In 2016 the expert panel evaluated the Crow Creek-Krebs project and prorated the benefits at 5% resulting in 0.2% expected uplift. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	8.1: Water Quality: Temperature	20.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Riparian, temperature, and sediment are the dominant issues in this assessment unit that relate to this limiting factor. Comments entered RM 6/13/2016.	In 2016 the expert panel d Crow-Creek Krebs project that no effects were expec project in 2018 period. Col entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	8.2: Water Quality: Oxygen	0.00%								In 2016 this was removed factor. Comment entered
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	9.2: Water Quantity: Decreased Water Quantity	15.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. The expert panel also determined that there were no diversions in Elk Creek and two in Crow Creek. Comment entered RM 6/13/2016.	No actions applicable to th factor are expected within period in this assessment of expected in function perce Comments entered RM 6/

iscussed the out determined ted from nments	
as a limiting RM 6/13/2016.	
is limiting 2013-2018 Init. No change ntage. 13/2016.	

ESU Snake River Steelhead	Population Joseph Creek	Code JCS6	Assessme nt Unit Lower Chesnimn us Creek and Prairie Tributarie s	2012 Standardized Limiting Factor 1.1: Habitat Quantity: Anthropogenic Barriers	LF Weight 14.00%	Low Bookend 50	Original 2018 Estimate 50	Updated 2018 Estimate 50	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. The expert panel agreed that the only know barriers in this assessment unit were on USFS land. Comments entered RM 6/13/2016.	Estimates Comments No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	4.1: Riparian Condition: Riparian Vegetation	15.00%	50	50	50.1				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	In 2016 the expert panel evaluated the West Fork Pine Creek (Krebs Project) and the Chesnimnus Creek (Williams Project) that included fencing, planting, and bank layback. The prorations are included in the calculation spreadsheet. Based on the prorations the panel estimated a 0.1% uplift. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	5.2: Peripheral and Transitional Habitats: Floodplain Condition	13.00%	50	50	50.3				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	In 2016 the expert panel evaluated the West Fork Pine Creek (Krebs Project) and the Chesnimnus Creek (Williams Project) that included bank layback. The prorations are included in the calculation spreadsheet. Based on the prorations the panel estimated a 3% uplift. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	6.2: Channel Structure and Form: Instream Structural Complexity	13.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	15.00%	50	50	50.1				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	In 2016 the expert panel evaluated the West Fork Pine Creek (Krebs Project) and the Chesnimnus Creek (Williams Project) that included fencing, planting, and bank layback. The prorations are included in the calculation spreadsheet. Based on the prorations the panel estimated a 0.1% uplift. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	8.1: Water Quality: Temperature	15.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	No actions applicable to this limiting factor are expected were expected to deliver a measurable change within 2013- 2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.

ESU Snake River Steelhead	Population Joseph Creek	Code JCS6	Assessme nt Unit Lower Chesnimn us Creek and Prairie Tributarie s	2012 Standardized Limiting Factor 8.2: Water Quality: Oxygen	LF Weight 0.00%	Low Bookend 50	Original 2018 Estimate 50	Updated 2018 Estimate 50	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments In 2016 the expert panel determined that this was not a limiting factor and changed the limiting factor weight to "0" Comment entered RM 6/13/2016.	Estimates Comments No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimn us Creek and Prairie Tributarie s	9.2: Water Quantity: Decreased Water Quantity	15.00%	50	50	50				The expert panel identified this as a limiting factor in 2016. There was no high bookend established at the time it was identified as a limiting factor. Comments entered RM 6/13/2016.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimn us Creek and Forest Tributarie	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	80	80	80	100	80	100		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimn us Creek and Forest Tributarie	6.2: Channel Structure and Form: Instream Structural Complexity	15.00%	40	40	40	60	40	70		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimn us Creek and Forest Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	40.05	40.05	40.05	65	46.05	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/13/2016.

ESII	Population	Code	Assessme	2012 Standardized	I E Woight	Low	Original 2018 Estimato	Updated 2018 Estimate	High 2018	Original 2033 Estimate	High 2033	LF Weight and Bookends Commonts	Ectimates Comments
Snake	Iosenh		Unner	8 1. Water	25.00%	50	50	50	52	50	60	comments	No actions applicable to this limiting
River	Creek	3037	Chesnimn	Ouality:	23.0070	50	50	50	52	50			factor are expected within 2013-2018
Steelhead			us Creek	Temperature									period in this assessment unit. No change
			and										expected in function percentage.
			Forest										Comments entered RM 6/13/2016.
			Tributarie										
			s										
Snake	Joseph	JCS7	Upper	8.2: Water	5.00%	70	70	70	80	70	85		No actions applicable to this limiting
River	Creek		Chesnimn	Quality:									factor are expected within 2013-2018
Steelhead			us Creek	Oxygen									period in this assessment unit. No change
			and										expected in function percentage.
			Forest										Comments entered RM 6/13/2016.
			Tributarie										
<u> </u>		1007	S		20.000/	65	65	65	67	67			
Snake	Joseph	1021	Upper	9.2: Water	20.00%	65	65	65	67	65	/5		No actions applicable to this limiting
River	Сгеек		Cheshimn	Quantity:									factor are expected within 2013-2018
Steemeau			and	Water Quantity									expected in function percentage
			Forest	Water Quantity									Comments entered RM 6/13/2016
			Tributarie										
			s										
Snake	Grande	LGS1	Lower	2.1: Injury and	20.00%							Bookend values	In 2016 the expert panel determined that
River	Ronde River		Grande	Mortality:								were not	no actions applicable to this limiting factor
Steelhead	lower		Ronde	Predation								established for this	would be implemented within 2013-2018
	mainstem		River									limiting factor.	period in this assessment unit. No change
	tributaries		Mainstem									Comment entered	expected in function percentage.
			- mouth									RM 6/7/2016.	Comments entered RM 6/7/2016.
			to										
			Wenaha										
			River										
Snake	Grande	LGS1	Lower	6.2: Channel	20.00%							Bookend values	In 2016 the expert panel determined that
River	Ronde River		Grande	Structure and								were not	no actions applicable to this limiting factor
steeinead	nower		Ronde	Form: instream								limiting fortor	would be implemented within 2013-2018
	mainstem tributarias		River	Structural								limiting factor.	period in this assessment unit. No change
	unputaries		mouth	Complexity								DM 6/7/2016	Commonts optored RM 6/7/2016
												11101 0/ //2010.	
			Wenaha										
			River										

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel d no actions applicable to th would be implemented wi period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha River	8.1: Water Quality: Temperature	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel d no actions applicable to th would be implemented wi period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha	9.2: Water Quantity: Decreased Water Quantity	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel d no actions applicable to th would be implemented wi period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	River Lower tributarie s to the Lower Grande Ronde River	1.1: Habitat Quantity: Anthropogenic Barriers	14.28%							Bookend values were not established for this limiting factor. The expert panel was not familiar with the Washington tributaries that represent about 60% of the AU. Comment entered RM 6/7/2016.	In 2016 the expert panel d no actions applicable to th would be implemented wi period in this assessment of expected in function perce Comments entered RM 6/

nts panel determined that ole to this limiting factor nted within 2013-2018 assment unit. No change on percentage. d RM 6/7/2016.	
panel determined that ole to this limiting factor nted within 2013-2018 assment unit. No change on percentage. d RM 6/7/2016.	
panel determined that ole to this limiting factor nted within 2013-2018 assment unit. No change on percentage. d RM 6/7/2016.	
panel determined that ole to this limiting factor nted within 2013-2018 asment unit. No change on percentage. d RM 6/7/2016.	

			٥٩٩٩٩٩	2012 Standardized		Low	Original	Updated	High 2018	Original	High 2033	LF Weight and	
ESU	Population	Code	nt Unit	Limiting Factor	LF Weight	Bookend	Estimate	Estimate	Bookend	Estimate	Bookend	Comments	Estimates Comments
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde River	4.1: Riparian Condition: Riparian Vegetation	14.28%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde River	6.2: Channel Structure and Form: Instream Structural Complexity	14.28%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde	7.2: Sediment Conditions: Increased Sediment Quantity	14.28%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde River	8.1: Water Quality: Temperature	14.28%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde River	9.1: Water Quantity: Increased Water Quantity	14.28%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributarie s to the Lower Grande Ronde River	9.2: Water Quantity: Decreased Water Quantity	14.32%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS3	wenana River Mainstem	6.2: Channel Structure and Form: Instream Structural Complexity	100.00%							Bookend values not established for this limiting factor.	In 2016 the expert panel determined that no actions applicable to this limiting factor would be implemented within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS5	Lower Grande Ronde River Mainstem - Wenaha River to Wallowa River	4.1: Riparian Condition: Riparian Vegetation	5.00%	90.05	90.05	90.05	95	90.05	95	Extensive wild & scenic and roadless area designations in this AU with some but little use in the lower AU.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comment entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS5	Lower Grande Ronde River Mainstem - Wenaha River to Wallowa River	6.2: Channel Structure and Form: Instream Structural Complexity	5.00%	90	90	90	95	90	95		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS5	Lower Grande Ronde River Mainstem - Wenaha River to Wallowa River	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	60	60	60	70	60	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS5	Lower Grande Ronde River Mainstem - Wenaha River to Wallowa River	8.1: Water Quality: Temperature	40.00%	60	60	60	70	60	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS5	Lower Grande Ronde River Mainstem - Wenaha River to Wallowa River	9.2: Water Quantity: Decreased Water Quantity	40.00%	60	60	60	80	60	80	Watershed effects from Grande Ronde valley	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	1.1: Habitat Quantity: Anthropogenic Barriers	2.00%	85	85	85	100	90	100		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	4.1: Riparian Condition: Riparian Vegetation	30.00%	50	50	50	51	50	60		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	6.2: Channel Structure and Form: Instream Structural Complexity	5.00%	60	60	60	65	60	70		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	55	55	55	60	57	65		No actions applicable to th factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River Iower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	8.1: Water Quality: Temperature	30.00%	50	50	50	51	50	55		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	9.1: Water Quantity: Increased Water Quantity	3.00%	70	70	70	70	70	75		No actions applicable to th factor are expected within period in this assessment u expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River Iower mainstem tributaries	LGS6	Courtney, Mud, Grossman , and Wildcat Creeks	9.2: Water Quantity: Decreased Water Quantity	10.00%	70	70	70	70	70	75		No actions applicable to th factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS7	Upper Tributarie s of the Lower Grande Ronde	6.2: Channel Structure and Form: Instream Structural Complexity	50.00%							Bookend values have not been established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to the factor are expected within period in this assessment us expected in function perce Comments entered RM 6/
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS7	Upper Tributarie s of the Lower Grande Ronde River	7.2: Sediment Conditions: Increased Sediment Quantity	50.00%							Bookend values have not been established for this limiting factor. Comment entered 6/7/2016.	No actions applicable to th factor are expected within period in this assessment of expected in function perce Comments entered RM 6/

his limiting n 2013-2018 unit. No change centage. /7/2016.
his limiting n 2013-2018 unit. No change centage. /7/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake	Wallowa	WRS1	Lower	7.2: Sediment	50.00%							The expert panel	No actions applicable to this limiting
River	River		Wallowa	Conditions:								did not establish	factor are expected within 2013-2018
Steelhead			River	Increased								bookends for this	period in this assessment unit. No change
				Sediment								limiting factor.	expected in function percentage.
				Quantity								Comment entered	Comments entered RM 6/30/2016.
												RM 6/30/2016.	
Snake	Wallowa	WRS1	Lower	8.1: Water	50.00%							The expert panel	No actions applicable to this limiting
River	River		Wallowa	Quality:								did not establish	factor are expected within 2013-2018
Steelhead			River	Temperature								bookends for this	period in this assessment unit. No change
												limiting factor.	expected in function percentage.
												Comment entered	Comments entered RM 6/30/2016,
												RM 6/30/2016.	
Snake	Wallowa	WRS2	Lower	6.2: Channel	33.40%							The expert panels	No actions applicable to this limiting
River	River		Wallowa	Structure and								did not establish	factor are expected within 2013-2018
Steelhead			Tributarie	Form: Instream								book ends for	period in this assessment unit. No change
			s -	Structural								these limiting	expected in function percentage.
			Howard,	Complexity								factors. Comment	Comments entered RM 6/30/ 2016.
			Wise, and									entered RM	
			Fisher									6/30/2016.	
			Creeks										
Snake	Wallowa	WRS2	Lower	7.2: Sediment	33.30%							The expert panels	No actions applicable to this limiting
River	River		Wallowa	Conditions:								did not establish	factor are expected within 2013-2018
Steelhead			Tributarie	Increased								book ends for	period in this assessment unit. No change
			s -	Sediment								these limiting	expected in function percentage.
			Howard,	Quantity								factors. Comment	Comments entered RM 6/30/ 2016.
			Wise, and									entered RM	
			Fisher									6/30/2016.	
			Creeks										
Snake	Wallowa	WRS2	Lower	8.1: Water	33.30%							The expert panels	No actions applicable to this limiting
River	River		Wallowa	Quality:								did not establish	factor are expected within 2013-2018
Steelhead			Tributarie	Temperature								book ends for	period in this assessment unit. No change
			s -									these limiting	expected in function percentage.
			Howard,									factors. Comment	Comments entered RM 6/30/ 2016.
			Wise, and									entered RM	
			Fisher									6/30/2016.	
			Creeks										

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake	Wallowa	WRS3	Wallowa	1.1: Habitat	5.00%	90	90	90	100	95	100		No actions applicable to this limiting
River	River		River	Quantity:									factor are expected within 2013-2018
Steelhead			Canyon -	Anthropogenic									period in this assessment unit. No change
			Minam	Barriers									expected in function percentage.
			River to										Comments entered RM 6/30/ 2016.
			Dry Creek										
			and										
			Tributarie										
			S										
Snake	Wallowa	WRS3	Wallowa	4.1: Riparian	20.00%	80	80	80	82	80	85		No actions applicable to this limiting
River	River		River	Condition:									factor are expected within 2013-2018
Steelhead			Canyon -	Riparian									period in this assessment unit. No change
			Minam	Vegetation									expected in function percentage.
			River to										Comments entered RM 6/30/ 2016.
			Dry Creek	1									
			dilu Tributario										
			c										
Snake	Wallowa	WRS3	y Wallowa	5.2: Peripheral	15.00%	95	95	95	95	95	95		No actions applicable to this limiting
River	River		River	and									factor are expected within 2013-2018
Steelhead			Canvon -	Transitional									period in this assessment unit. No change
			Minam	Habitats:									expected in function percentage.
			River to	Floodplain									Comments entered RM 6/30/ 2016.
			Dry Creek	Condition									
			and										
			Tributarie										
			s										
Snake	Wallowa	WRS3	Wallowa	6.2: Channel	20.00%	80	80	80	85	80	85		No actions applicable to this limiting
River	River		River	Structure and									factor are expected within 2013-2018
Steelhead			Canyon -	Form: Instream									period in this assessment unit. No change
			Minam	Structural									expected in function percentage.
			River to	Complexity									Comments entered RM 6/30/ 2016.
			Dry Creek	1									
			and										
			Tributarie										
			s	1									

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek and Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	30.00%	70	70	70	72	70	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek and Tributarie s	8.2: Water Quality: Oxygen	10.00%	90	90	90	92	90	95		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS4	Lower Minam River (downstre am of Cougar Creek) and Tributarie s	6.2: Channel Structure and Form: Instream Structural Complexity	33.40%							The expert panels did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS4	Lower Minam River (downstre am of Cougar Creek) and Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	33.30%							The expert panels did not established bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

				2012			Original	Updated		Original		LF Weight and	
			Assessme	Standardized		Low	2018	2018	High 2018	2033	High 2033	Bookends	
ESU	Population	Code	nt Unit	Limiting Factor	LF Weight	Bookend	Estimate	Estimate	Bookend	Estimate	Bookend	Comments	Estimates Comments
Snake	Wallowa	WRS4	Lower	8.1: Water	33.30%							The expert panels	No actions applicable to this limiting
River	River		Minam	Quality:								did not established	factor are expected within 2013-2018
Steelhead			River	Temperature								bookends for this	period in this assessment unit. No change
			(downstre									limiting factor.	expected in function percentage.
			am of									Comment entered	Comments entered RM 6/30/ 2016.
			Cougar									RM 6/30/2016.	
			Creek)										
			and										
			Tributarie										
			S										
Snake	Wallowa	WRS5	Upper	6.2: Channel	100.00%							The expert panel	No actions applicable to this limiting
River	River		Minam	Structure and								did not establish	factor are expected within 2013-2018
Steelhead			River and	Form: Instream								bookends for this	period in this assessment unit. No change
			Tributarie	Structural								limiting factor.	expected in function percentage.
			s (Cougar,	Complexity								Comment entered	Comments entered RM 6/30/ 2016.
			Trout,									RM 6/30/2016.	
			Murphy,										
			and Elk										
			Creeks,										
			Little										
			Minam										
			and North										
			Minam										
			Rivers										
Snake	Wallowa	WRS6	Mid-	4.1: Riparian	25.00%	40	40	40.13	45	40	60		In 2015 the expert panel evaluated the
River	River		Wallowa	Condition:									benefit of actions included in the
Steelhead			River -	Riparian									calculation spreadsheet for steelhead
			Dry Creek	Vegetation									(Wallowa-Baker and Tamkilks). The
			to Lostine										steelhead denominator is 7.4 miles
			River										yielding a 0.13% uplift. Comments
													entered RM 6/30/2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS6	Mid- Wallowa River - Dry Creek to Lostine River	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	20.00%	40	40	48.7				The expert panel added limiting factor 5.1 on 5/4/2016 and reweighted the limiting factors for this assessment unit. The expert panel did not establish a high bookend for this limiting factor. Comments entered	In 2015 the expert panel b anticipated uplift to this lin the actions evaluated and to estimate benefits for Ch Comments entered RM 6/3
Snake River Steelhead	Wallowa River	WRS6	Mid- Wallowa River - Dry Creek to Lostine River	6.1: Channel Structure and Form: Bed and Channel Form	30.00%	40	40	48.7	60	40	75	RM 6/30/2016. in 2015 when the expert panel added limiting factor 5.1 (5/4/2016) and reweighted the other limiting factors they reduced the weight of this limiting factor to 30%. Comment entered RM 6/30/2016.	In 2015 the expert panel be anticipated uplift to this lin the actions evaluated and it to estimate benefits for Ch Comments entered RM 6/3
Snake River Steelhead	Wallowa River	WRS6	Mid- Wallowa River - Dry Creek to Lostine River	6.2: Channel Structure and Form: Instream Structural Complexity	15.00%	40	40	56.2	60	40	75		In 2015 the expert panel be anticipated uplift to this lin the actions evaluated and to estimate benefits for Ch Comments entered RM 6/3

ased the niting factor on rationale used inook. 30/2016.	
ased the niting factor on rationale used inook. 30/2016.	
ased the niting factor on rationale used inook. 30/2016.	

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS6	Mid- Wallowa River - Dry Creek to Lostine River	8.1: Water Quality: Temperature	10.00%	75	75	75.14	85	75	90		The expert panel evaluated a flow action that benefits Chinook in an equivalent assessment unit to estimate benefits for steelhead because there is no limiting factor 9.2 for steelhead in this assessment unit. The panel summed limiting factors 4.1 and 9.2 from Chinook to yield a 0.14% uplift. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	80	80	80	90	80	90		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributarie s	4.1: Riparian Condition: Riparian Vegetation	40.00%	40	40	40	60	40	65		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	40	40	40	60	40	65		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributarie s	8.1: Water Quality: Temperature	25.00%	50	50	50	70	50	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

<mark>ESU</mark> Snake River Steelhead	Population Wallowa River	<mark>Code</mark> WRS7	Assessme nt Unit Dry Creek and Tributarie s	2012 Standardized Limiting Factor 9.2: Water Quantity: Decreased Water Quantity	LF Weight 10.00%	Low Bookend 70	Original 2018 Estimate 70	Updated 2018 Estimate 70	High 2018 Bookend 75	Original 2033 Estimate 70	High 2033 Bookend 80	LF Weight and Bookends Comments The expert panel discussed whether there were any known diversions and that the limiting factor was tied more to poor riparian condition and logging in the headwaters.	Estimates Comments No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
												Agricultural land use contributes to this limiting factor in the lower reaches of the Wallowa River.	
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	55	65	65	90	65	90		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	4.1: Riparian Condition: Riparian Vegetation	10.00%	80	80	80	85	80	90		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%	60	60	60	70	60	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	7.2: Sediment Conditions: Increased Sediment Quantity	4.00%	70	70	70	75	70	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

ESU Snake	Population Wallowa	Code WRS8	Assessme nt Unit Bear	2012 Standardized Limiting Factor 8.1: Water	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate 60	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments No actions applicable to th
River Steelhead	River		Creek and Tributarie s	Quality: Temperature									factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	8.2: Water Quality: Oxygen	1.00%	80	80	80	80	80	80		No actions applicable to the factor are expected within period in this assessment expected in function perce Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributarie s	9.2: Water Quantity: Decreased Water Quantity	45.00%	45	45	45	70	45	70		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	1.1: Habitat Quantity: Anthropogenic Barriers	25.00%	60	60	60	80	70	80		No actions applicable to the factor are expected within period in this assessment of expected in function percess Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	4.1: Riparian Condition: Riparian Vegetation	20.00%	50	50	50	60	50	65		No actions applicable to the factor are expected within period in this assessment of expected in function percess Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	10.00%	60	60	60	70	60	75		No actions applicable to the factor are expected within period in this assessment expected in function perce Comments entered RM 6/
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	6.1: Channel Structure and Form: Bed and Channel Form	10.00%	60	60	60	70	60	75		No actions applicable to the factor are expected within period in this assessment of expected in function perce Comments entered RM 6/

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ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	6.2: Channel Structure and Form: Instream Structural Complexity	10.00%	60	60	60	70	60	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	7.2: Sediment Conditions: Increased Sediment Quantity	5.00%	50	50	50	60	50	65		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	8.1: Water Quality: Temperature	10.00%	60	60	60	70	60	75		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	8.2: Water Quality: Oxygen	5.00%	70	70	70	80	70	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	9.2: Water Quantity: Decreased Water Quantity	5.00%	60	60	60	65	60	70		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS10	Lostine River	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	35	35	62.3	100	95	100	The expert panel revised the low bookend to "35"during the look forward. The revised bookend is higher than Chinook bookend and relates to run timing and steelhead migration during early part of irrigation season. Comments entered RM 6/30/2016.	Based on a denominator of miles (Streamnet) the pane same actions for steelhead evaluated for the Chinook unit WLC7. Flow is limiting and juveniles in this assess the affects are not as acute as they are for Chinook so adjusted the proration acc seasonality of migration are abilities. The panel discuss juvenile migration behavior determined that steelhead to migrate upstream than steelhead juveniles seen d operations. The expert pa benefit of project lengths b steelhead distribution in as boundary. Prorated physic based on adult steelhead r panel discussed flow barriet timing of migration and ex of flow increases. The flow designed to benefit adult of than juvenile steelhead so were based on 2 out of 12 miles of the reach, resulting proration that was divided
Snake River Steelhead	Wallowa River	WRS10	Lostine River	3.1: Food: Altered Primary Productivity	5.00%	70	70	70	70	70	70		No actions applicable to the within 2013-2018 period in change in function percent entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	5.2: Peripheral and Transitional Habitats: Floodplain Condition	10.00%	65	65	65	70	65	75		No actions applicable to th within 2013-2018 period ir change in function percent entered RM 6/30/2016.

of 26.3 steelhead el evaluated the d that were assessment to both adults sment unit, but te for steelhead the panel cordingly for nd jumping sed steelhead or and d were more apt Chinook. Many luring salvage anel adjusted the based on ssessment unit cal barriers run timing. The ers based on pected benefits v program was Chinook rather flow benefits 2 months in 3.5 ng in a 16% by 2 for only 1 his LF expected n this AU. No tage. Comments his LF expected in this AU. No tage. Comments

ESU	Population	Code	Assessme nt Unit	2012 Standardized Limiting Factor	LF Weight	Low Bookend	Original 2018 Estimate	Updated 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Wallowa River	WRS10	Lostine River	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%	65	65.04	65.04	70	65	75		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	60	60	60	75	60	80		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	8.1: Water Quality: Temperature	10.00%	75.7	75.7	79.1	77	75	80		The expert panel evaluated the same actions in the calculation table for Chinook, but reduced the estimate of benefits by half due to run timing/life stage differencse between Chinook and steelhead. See the Chinook rationale that discusses flows. The actions were determined to benefit only juveniles and yield a 3.4% uplift. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	8.2: Water Quality: Oxygen	0.00%	75	75	75	80	75	90		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	9.2: Water Quantity: Decreased Water Quantity	30.00%	81.3	81.3	91	80	50	80		The expert panel evaluated the same actions in the caculation spreadsheet that were evaluated for Chinook, but reduced the estimate of benefits by half due to run timing/life stage difference between Chinook and steelhead and that were determined to only benefit juveniles, yielding 9.7% expected uplift. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	50	50	50	100	50	100		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.

ECII	Population	Codo	Assessme	2012 Standardized	LE Woight	Low	Original 2018 Estimato	Updated 2018	High 2018	Original 2033 Estimato	High 2033	LF Weight and Bookends	Ectimatos Commonts
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	4.1: Riparian Condition: Riparian Vegetation	15.00%	30	30	30	35	30	60	comments	No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15.00%	30	30	30	50	30	60		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	6.2: Channel Structure and Form: Instream Structural Complexity	15.00%	30	35	35	50	38	60		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	7.2: Sediment Conditions: Increased Sediment Quantity	4.00%	60	60	60	70	60	80		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	8.1: Water Quality: Temperature	15.00%	70	70	70	72	70	75		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	8.2: Water Quality: Oxygen	1.00%	70	70	70	80	70	80		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS11	Hurricane Creek	9.2: Water Quantity: Decreased Water Quantity	20.00%	40	40	40	90	40	95		No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	1.1: Habitat Quantity: Anthropogenic Barriers	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this LF expected within 2013-2018 period in this AU. No change in function percentage. Comments entered RM 6/30/2016.

				2012			Original	Undated		Original		LE Weight and	
			Δεςοςετρο	Standardized		Low	2018	2018	High 2018	2033	High 2033	Bookends	
FSU	Population	Code	nt Unit	Limiting Factor	I F Weight	Bookend	Estimate	Estimate	Bookend	Estimate	Bookend	Comments	Estimates Comments
Snake	Wallowa	WRS12	Prairie	4 1. Rinarian	12 50%	Dookena	Lotinate	Lotinute	Dookena	Lotinate	Dookena	The expert panel	No actions applicable to this LE expected
River	River	WINGIZ	Creek	Condition:	12.5070							did not establish	within 2013-2018 period in this All No
Steelhead			Creek	Rinarian								bookends for this	change in function percentage. Comments
oteenieuu				Vegetation								limiting factor.	entered RM 6/30/2016
												Comment entered	
												RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	5.2: Peripheral	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	and								did not establish	within 2013-2018 period in this AU. No
Steelhead				Transitional								bookends for this	change in function percentage. Comments
				Habitats:								limiting factor.	entered RM 6/30/2016.
				Floodplain								Comment entered	
				Condition								RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	6.1: Channel	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	Structure and								did not establish	within 2013-2018 period in this AU. No
Steelhead				Form: Bed and								bookends for this	change in function percentage. Comments
				Channel Form								limiting factor.	entered RM 6/30/2016.
												Comment entered	
												RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	6.2: Channel	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	Structure and								did not establish	within 2013-2018 period in this AU. No
Steelhead				Form: Instream								bookends for this	change in function percentage. Comments
				Structural								limiting factor.	entered RM 6/30/2016.
				Complexity								Comment entered	
												RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	7.2: Sediment	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	Conditions:								did not establish	within 2013-2018 period in this AU. No
Steelhead				Increased								bookends for this	change in function percentage. Comments
				Sediment								limiting factor.	entered RM 6/30/2016.
				Quantity								Comment entered	
												RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	8.2: Water	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	Quality:								did not establish	within 2013-2018 period in this AU. No
Steelhead				Oxygen								bookends for this	change in function percentage. Comments
												limiting factor.	entered RM 6/30/2016.
												Comment entered	
												RM 6/30/2016.	
Snake	Wallowa	WRS12	Prairie	9.1: Water	12.50%							The expert panel	No actions applicable to this LF expected
River	River		Creek	Quantity:								did not establish	within 2013-2018 period in this AU. No
Steelhead				Increased								bookends for this	change in function percentage. Comments
				Water Quantity								limiting factor.	entered RM 6/30/2016.
												Comment entered	
							1	1				RM 6/30/2016.	

ESU Snake River Steelhead	Population Wallowa River	<mark>Code</mark> WRS13	Assessme nt Unit Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie	2012 Standardized Limiting Factor 1.1: Habitat Quantity: Anthropogenic Barriers	LF Weight 5.00%	Low Bookend 50.4	Original 2018 Estimate 55.8	Updated 2018 Estimate 55.8	High 2018 Bookend 100	Original 2033 Estimate 55.4	High 2033 Bookend 100	LF Weight and Bookends Comments	Estimates Comments No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/2016
Snake River Steelhead	Wallowa River	WRS13	s Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie	4.1: Riparian Condition: Riparian Vegetation	15.00%	40.4	40.4	40.4	45	40.4	60		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie s	5.2: Peripheral and Transitional Habitats: Floodplain Condition	20.00%	40.4	41.2	41.2	65	40.4	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie s	6.2: Channel Structure and Form: Instream Structural Complexity	25.00%	40.3	40.8	40.8	65	40.3	80		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

			Assessme	2012 Standardized		Low	Original	Updated	High 2018	Original	High 2033	LF Weight and Bookends	
ESU	Population	Code	nt Unit	Limiting Factor	LF Weight	Bookend	Estimate	Estimate	Bookend	Estimate	Bookend	Comments	Estimates Comments
ESU Snake River Steelhead	Population Wallowa River	Code WRS13	nt Unit Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie	Limiting Factor 7.2: Sediment Conditions: Increased Sediment Quantity	LF Weight 25.00%	50	50.7	50.7	60	50	75	Comments	Estimates Comments No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS13	s Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie s	8.2: Water Quality: Oxygen	5.00%	70	70	70	80	70	85		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstrea m of Lostine River) and Small Tributarie s	9.2: Water Quantity: Decreased Water Quantity	5.00%	80	80.5	80.5	85	81	90		No actions applicable to this limiting factor are expected within 2013-2018 period in this assessment unit. No change expected in function percentage. Comments entered RM 6/30/ 2016.

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