

NOTES:
This workbook contains **habitat functions** data downloaded directly from the Taurus database. Functions include those documented during the **Look Back** process covering the **2012-2015** work window for steelhead.

ESU	Population	Code	Assessment 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%	80.05	80.05	80.25	80.05	80.05	85	Limiting factor affected by upstream effects.	As per Chinook assessment unit IRC1: 1 project evaluated for benefits, using a denominator of 36.4 miles results in an uplift of 0.2 %. 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 effected by naturally hot upstream factors contributing to higher water temperatures.	As per Chinook assessment unit IRC1 one project was evaluated for benefits in 2016, but prorated at 0%, so no measurable uplift was recorded. 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS2	Lower Imnaha Tribs	4.1: Riparian Condition: Riparian Vegetation	25.00%	50	50	50	51	50	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS2	Lower Imnaha Tribs	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	50	50	50	51	50	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS2	Lower Imnaha Tribs	8.1: Water Quality: Temperature	25.00%	50	50	50	51	50	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS2	Lower Imnaha Tribs	8.2: Water Quality: Oxygen	5.00%	80	80	80	90	80	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS3	Cow, Lightning, & Horse Creeks	1.1: Habitat Quantity: Anthropogenic Barriers	25.00%							Bookend estimates have not been established for this limiting factor. Comment entered RM 6/10/2016.	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
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 established for this limiting factor. Comment entered RM 6/10/2016.	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%							Bookend estimates have not been established for this limiting factor. Comments entered RM 6/10/2016.	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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 established for this limiting factor. Comments entered RM 6/10/2016.	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS4	Upper Imnaha River Mainstem	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	85	85	85	100	85	100		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS4	Upper Imnaha River Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	80.01	80.01	80.01	82	80.01	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS4	Upper Imnaha River Mainstem	8.1: Water Quality: Temperature	30.00%	80	80	80	82	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	70	70	70	100	80	100		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	4.1: Riparian Condition: Riparian Vegetation	20.00%	60	60	60	62	60	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	6.1: Channel Structure and Form: Bed and Channel Form	20.00%	50	50	50	55	50	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS5	Upper Imnaha R. Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	15.00%	65	65	65	70	65.1	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	8.1: Water Quality: Temperature	15.00%	80	80	80	82	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	8.2: Water Quality: Oxygen	5.00%	80	80	80	82	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	9.1: Water Quantity: Increased Water Quantity	0.00%	70	70	70	72	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS5	Upper Imnaha R. Tributaries	9.2: Water Quantity: Decreased Water Quantity	10.00%	65	65	65	70	65	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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%	70	75	80.6	90	75	90	weir; 3900 rd culvert; 020 road culvert; little sheep diversion; Buehler barrier (addressed in 2010); all partial barriers - juvenile & adult	2012: Estimate assumes that still have the Litte Sheep satellite facility & double culverts on county road. In 2016 the panel evaluated the same project and proration considered for Chinook in BSC1 (Big Sheep Buhler Diversion). The action opened 17 miles of steelhead habitat. Denominator based on 53.1 Streamnet steelhead miles, resulting in 10.6% uplift. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS6	Lower Big Sheep Mainstem	4.1: Riparian Condition: Riparian Vegetation	10.00%	40	40	40	60	40	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	8.2: Water Quality: Oxygen	5.00%	80	80	80	85	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	80	85	88.4	100	85	100		2012: All naturally produced steelhead are passed above weir; provide volitional passage for juveniles. In 2016 the expert panel evaluated actions from IRS6 that were determined to benefit upstream assessment units. Although StreamNet includes 51.1 miles for steelhead not all tributaries would be affected by the action. Based on treatment affect of 13 miles, uplift was estimated at 8.4%. Only one barrier remains in this assessment unit on Camp Creek. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	4.1: Riparian Condition: Riparian Vegetation	20.00%	70	70	70	71	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	50	50	50	55	50	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	8.1: Water Quality: Temperature	22.00%	50	50	50	55	50	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	8.2: Water Quality: Oxygen	5.00%	75	75	75	80	75	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	9.1: Water Quantity: Increased Water Quantity	3.00%	80	80	80	80	80	82		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS7	Lower Big Sheep and Little Sheep Cr. Tributaries	9.2: Water Quantity: Decreased Water Quantity	20.00%	65	65	65	70	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS8	Upper Big Sheep & Little Sheep Mainstems	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	80	80	90	90	80	90		Limiting factor 1.1 action from IRS6 benefits upstream assessment units. Buhler Diversion project benefited 11.9 miles in this assessment unit (entire steelhead mileage), which yields 33% uplift. However, panel decreased proration to 10% to account for distance upstream, resulting in 10% uplift. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstems	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	80.05	80.05	80.05	85	80.05	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstems	8.1: Water Quality: Temperature	10.00%	80	80	80	85	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS8	Upper Big Sheep & Little Sheep Mainstems	9.2: Water Quantity: Decreased Water Quantity	70.00%	30	30	30	80	30	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS9	Upper Big Sheep & Little Sheep tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	20.00%	51	51	53.5	100	71	100		2012: Lick Ck. about 5% & WVIC other 15% In 2106 the expert panel evaluated the action for LF1.1 action from IRS6 that was determined to benefit upstream assessment units. Buhler Diversion project benefited 5.5 miles out of 21.8 steelhead miles in this assessment unit. Panel decreased proration to 10% to account for distance upstream, yielding 2.5% uplift. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributaries	4.1: Riparian Condition: Riparian Vegetation	15.00%	75	75	75	76	75	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	50.25	50.25	50.25	60	53.25	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributaries	8.1: Water Quality: Temperature	10.00%	60	60	60	61	60	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributaries	8.2: Water Quality: Oxygen	3.00%	85	85	85	90	85	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.

ESU	Population	Code	Assessment 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	IRS9	Upper Big Sheep & Little Sheep tributaries	9.1: Water Quantity: Increased Water Quantity	2.00%	80	80	80	80	80	82		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Imnaha River	IRS9	Upper Big Sheep & Little Sheep tributaries	9.2: Water Quantity: Decreased Water Quantity	30.00%	40	40	40	85	40	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/10/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	35.00%	70	70	70	75	70	80	upstream influence; FS pebble counts indicate sediment not as bad as previously thought; 75 bookend from upstream projects	EP LB 2015: No actions, no change. - MAH.4.5.2016

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Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	8.1: Water Quality: Temperature	45.00%	66	66	66.1	70	66	75		In 2016 the expert panel evaluated the Birkmaier lease for 0.8 cfs at the confluence. Base flows are 3-5 cfs (Jul 1 = 5 cfs measured with no irrigation). The flows help maintain temperature, but not thought to produce measurable temperature reduction benefit, so prorated as 0. Or, if 0.8 cfs is divided by 5 cfs base flow, proration is 16%, resulting in 0.3% uplift. Based on forward looking infrared (FLIR) data recorded at RM 9 in late August temperatures were 16 degrees C, warming to 18 degrees C downstream. Panel chose to prorate to 5%, resulting in 0.1% uplift. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS1	Joseph Cr. Mainstem	8.2: Water Quality: Oxygen	5.00%	75	75	75	80	75	85	some winter feeding areas	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwood Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15.00%	55	55	55	70	55	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwood Creek	7.2: Sediment Conditions: Increased Sediment Quantity	30.00%	55	55	55	65	59	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

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Snake River Steelhead	Joseph Creek	JCS2	Cottonwood Creek	8.1: Water Quality: Temperature	30.00%	70	70	70	72	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwood Creek	8.2: Water Quality: Oxygen	5.00%	80	80	80	85	80	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS2	Cottonwood Creek	9.2: Water Quantity: Decreased Water Quantity	20.00%	70	70	70	70	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	20.00%	90	90	90	100	90	100		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	10.00%	75	75	75	80	75	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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 Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	60	60	60	70	60	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributaries	8.1: Water Quality: Temperature	20.00%	60	60	60	62	60	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributaries	8.2: Water Quality: Oxygen	10.00%	85	85	85	90	85	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS3	Joseph Creek Small Tributaries	9.2: Water Quantity: Decreased Water Quantity	20.00%	65	65	65	67	65	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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	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	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	4.1: Riparian Condition: Riparian Vegetation	14.28%							Bookend estimates have not been established for these limiting factors. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	5.2: Peripheral and Transitional Habitats: Floodplain Condition	14.28%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	6.2: Channel Structure and Form: Instream Structural Complexity	14.28%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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	7.2: Sediment Conditions: Increased Sediment Quantity	14.28%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	8.1: Water Quality: Temperature	14.28%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	8.2: Water Quality: Oxygen	14.28%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS5	Elk & Crow Creeks	9.2: Water Quantity: Decreased Water Quantity	14.32%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	4.1: Riparian Condition: Riparian Vegetation	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	5.2: Peripheral and Transitional Habitats: Floodplain Condition	12.50%							Bookend estimates not determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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 Chesnimnus Creek and Prairie Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	12.50%							Bookend estimates have not been established for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	8.1: Water Quality: Temperature	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	8.2: Water Quality: Oxygen	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS6	Lower Chesnimnus Creek and Prairie Tributaries	9.2: Water Quantity: Decreased Water Quantity	12.50%							Bookend estimates have not been determined for this limiting factor. Comment entered RM 6/13/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimnus Creek and Forest Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	80	80	80	100	80	100		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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	JCS7	Upper Chesnimnus Creek and Forest Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	15.00%	40	40	40	60	40	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimnus Creek and Forest Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	40.05	40.05	40.05	65	46.05	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimnus Creek and Forest Tributaries	8.1: Water Quality: Temperature	25.00%	50	50	50	52	50	60		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimnus Creek and Forest Tributaries	8.2: Water Quality: Oxygen	5.00%	70	70	70	80	70	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.
Snake River Steelhead	Joseph Creek	JCS7	Upper Chesnimnus Creek and Forest Tributaries	9.2: Water Quantity: Decreased Water Quantity	20.00%	65	65	65	67	65	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/13/2016.

ESU	Population	Code	Assessment 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 River	2.1: Injury and Mortality: Predation	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha River	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha River	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%							Bookend values were not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
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 not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS1	Lower Grande Ronde River Mainstem - mouth to Wenaha River	9.2: Water Quantity: Decreased Water Quantity	20.00%							Bookend values not established for this limiting factor. Comment entered 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessment 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	LGS2	Lower tributaries to the Lower Grande Ronde River	1.1: Habitat Quantity: Anthropogenic Barriers	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016. Grouse Ck. Buford Ck. & Rattlesnake culverts - full juvenile & adult barriers; EP not familiar with the Washington tribs which represents about 60% of the AU	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributaries to the Lower Grande Ronde River	4.1: Riparian Condition: Riparian Vegetation	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributaries to the Lower Grande Ronde River	6.2: Channel Structure and Form: Instream Structural Complexity	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributaries to the Lower Grande Ronde River	7.2: Sediment Conditions: Increased Sediment Quantity	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributaries to the Lower Grande Ronde River	8.1: Water Quality: Temperature	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessment 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	LGS2	Lower tributaries to the Lower Grande Ronde River	9.1: Water Quantity: Increased Water Quantity	14.28%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS2	Lower tributaries to the Lower Grande Ronde River	9.2: Water Quantity: Decreased Water Quantity	14.32%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS3	Wenaha River Mainstem	6.2: Channel Structure and Form: Instream Structural Complexity	100.00%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	AU includes extensive wild & scenic and roadless area designations and receives some but little use of the lower AU.	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	6.2: Channel Structure and Form: Instream Structural Complexity	5.00%	90	90	90	95	90	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessment 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	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	60	60	60	70	60	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	8.1: Water Quality: Temperature	40.00%	60	60	60	70	60	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	90	85	100	90	100		2012:about 8 miles improved access. EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessment 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	6.2: Channel Structure and Form: Instream Structural Complexity	5.00%	60	60	60	65	60	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	55	55	55	60	57	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	8.1: Water Quality: Temperature	30.00%	50	50	50	51	50	55		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	9.1: Water Quantity: Increased Water Quantity	3.00%	70	70	70	70	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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	9.2: Water Quantity: Decreased Water Quantity	10.00%	70	70	70	70	70	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.

ESU	Population	Code	Assessment 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	LGS7	Upper Tributaries of the Lower Grande Ronde River	6.2: Channel Structure and Form: Instream Structural Complexity	50.00%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Grande Ronde River lower mainstem tributaries	LGS7	Upper Tributaries of the Lower Grande Ronde River	7.2: Sediment Conditions: Increased Sediment Quantity	50.00%							Bookend values not established for this limiting factor. Comment entered RM 6/7/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/7/2016.
Snake River Steelhead	Wallowa River	WRS1	Lower Wallowa River	7.2: Sediment Conditions: Increased Sediment Quantity	50.00%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS1	Lower Wallowa River	8.1: Water Quality: Temperature	50.00%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS2	Lower Wallowa Tributaries - Howard, Wise, and Fisher Creeks	6.2: Channel Structure and Form: Instream Structural Complexity	33.40%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/20/2016,	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS2	Lower Wallowa Tributaries - Howard, Wise, and Fisher Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	33.30%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS2	Lower Wallowa Tributaries - Howard, Wise, and Fisher Creeks	8.1: Water Quality: Temperature	33.30%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek - and Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	90	90	90	100	95	100		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek - and Tributaries	4.1: Riparian Condition: Riparian Vegetation	20.00%	80	80	80	82	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek - and Tributaries	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15.00%	95	95	95	95	95	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek - and Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%	80	80	80	85	80	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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 Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	30.00%	70	70	70	72	70	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS3	Wallowa River Canyon - Minam River to Dry Creek - and Tributaries	8.2: Water Quality: Oxygen	10.00%	90	90	90	92	90	95		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS4	Lower Minam River (downstream of Cougar Creek) and Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	33.40%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS4	Lower Minam River (downstream of Cougar Creek) and Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	33.30%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS4	Lower Minam River (downstream of Cougar Creek) and Tributaries	8.1: Water Quality: Temperature	33.30%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS5	Upper Minam River and Tributaries (Cougar, Trout, Murphy, and Elk Creeks, Little Minam and North Minam Rivers	6.2: Channel Structure and Form: Instream Structural Complexity	100.00%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS6	Mid-Wallowa River - Dry Creek to Lostine River	4.1: Riparian Condition: Riparian Vegetation	25.00%	40	40	40	45	40	60		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS6	Mid-Wallowa River - Dry Creek to Lostine River	6.1: Channel Structure and Form: Bed and Channel Form	50.00%	40	40	40	60	40	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
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	40	60	40	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	85	75	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	80	80	80	90	80	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributaries	4.1: Riparian Condition: Riparian Vegetation	40.00%	40	40	40	60	40	65	Reagan Gulch Promise road	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	20.00%	40	40	40	60	40	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS7	Dry Creek and Tributaries	8.1: Water Quality: Temperature	25.00%	50	50	50	70	50	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS7	Dry Creek and Tributaries	9.2: Water Quantity: Decreased Water Quantity	10.00%	70	70	70	75	70	80	no diversions known; tied more to poor riparian condition, logging in headwaters, etc. Ag ground - Dry Ck. charged in lower reaches from Wallowa River diversions	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	10.00%	55	55	55	90	65	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	4.1: Riparian Condition: Riparian Vegetation	10.00%	80	80	80	85	80	90		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%	60	60	60	70	60	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	4.00%	70	70	70	75	70	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS8	Bear Creek and Tributaries	8.1: Water Quality: Temperature	10.00%	60	60	60	70	60	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	8.2: Water Quality: Oxygen	1.00%	80	80	80	80	80	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS8	Bear Creek and Tributaries	9.2: Water Quantity: Decreased Water Quantity	45.00%	45	45	45	70	45	70	Little Bear diversion; flow not limiting upstream adults but does limit juvenile rearing	EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	1.1: Habitat Quantity: Anthropogenic Barriers	25.00%	60	60	60	80	70	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	4.1: Riparian Condition: Riparian Vegetation	20.00%	50	50	50	60	50	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	5.2: Peripheral and Transitional Habitats: Floodplain Condition	10.00%	60	60	60	70	60	75		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
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		EP LB 2015: No actions, no change. - MAH.4.5.2016
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	7.2: Sediment Conditions: Increased Sediment Quantity	5.00%	50	50	50	60	50	65		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change 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		EP LB 2015: No actions, no change. - MAH.4.5.2016
Snake River Steelhead	Wallowa River	WRS9	Whisky Creek	8.2: Water Quality: Oxygen	5.00%	70	70	70	80	70	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	9.2: Water Quantity: Decreased Water Quantity	5.00%	60	60	60	65	60	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	1.1: Habitat Quantity: Anthropogenic Barriers	15.00%	85	95	95.6	100	95	100		In 2015 the expert panel evaluated the benefit of actions implemented for Chinook as contributing to steelhead in this assessment unit that yielded a 10.6% uplift. The StreamNet miles for the Chinook denominator were applied to steelhead. The expert panel made a note to revise the bookend for this limiting factor in the look forward. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	3.1: Food: Altered Primary Productivity	5.00%	70	70	70	70	70	70		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS10	Lostine River	6.2: Channel Structure and Form: Instream Structural Complexity	20.00%	65	65	65.04	70	65	75		In 2015 the expert panel evaluated the benefit of actions implemented for Chinook as contributing to steelhead in this assessment unit that yielded a 0.04% uplift. The StreamNet miles for the Chinook denominator were applied to steelhead. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	7.2: Sediment Conditions: Increased Sediment Quantity	10.00%	60	60	60	75	60	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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	75	75.7	77	75	80		In 2015 the expert panel evaluated the benefit of actions implemented for Chinook as contributing to steelhead in this assessment unit that yielded a 0.7% uplift. The StreamNet miles for the Chinook denominator were applied to steelhead. 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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%	50	50	81.3	80	50	80		In 2015 the expert panel evaluated the benefit of actions implemented for Chinook as contributing to steelhead in this assessment unit that yielded a 31.3% uplift. The StreamNet miles for the Chinook denominator were applied to steelhead. 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS11	Hurricane Creek	4.1: Riparian Condition: Riparian Vegetation	15.00%	30	30	30	35	30	60		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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	30	30	50	38	60		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS11	Hurricane Creek	8.2: Water Quality: Oxygen	1.00%	70	70	70	80	70	80		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is 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 limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	4.1: Riparian Condition: Riparian Vegetation	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	6.1: Channel Structure and Form: Bed and Channel Form	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS12	Prairie Creek	6.2: Channel Structure and Form: Instream Structural Complexity	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	7.2: Sediment Conditions: Increased Sediment Quantity	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	8.2: Water Quality: Oxygen	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS12	Prairie Creek	9.1: Water Quantity: Increased Water Quantity	12.50%							The expert panel did not establish bookends for this limiting factor. Comment entered RM 6/30/2016.	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	5.00%	50.4	55.4	55.8	100	55.4	100		The expert panel evaluated the benefit of actions for Chinook in assessment unit WLC3 that they agreed apply to this limiting factor and assessment unit. The steelhead denominator that included 1.9 miles of Trout Creek was changed to 36.3 miles, resulting in 5.4% uplift. The panel prorated the estimate of benefits for steelhead juvenile use at 25%. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	4.1: Riparian Condition: Riparian Vegetation	15.00%	40.4	40.4	40.43	45	40.4	60		The expert panel evaluated the estimate of benefits from actions evaluated for Chinook for this assessment unit that resulted in a 0.03% uplift. Comment entered RM 6/30/2016.

ESU	Population	Code	Assessment 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	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	5.2: Peripheral and Transitional Habitats: Floodplain Condition	20.00%	40.4	40.4	41.2	65	40.4	80		The expert panel evaluated the estimate of benefits from the Six Ranch project that treated 0.38 miles. The panel prorated improvements at 75% based on the affect of the action on floodplain conditions, yielding 0.8% uplift. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	25.00%	40.3	40.3	40.8	65	40.3	80		The expert panel evaluated the Six Ranch Project that treated 0.38 miles. Using the same proration that was used for Chinook the estimated uplift was 0.5%. Comment entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	25.00%	50	50	50.7	60	50	75		The expert panel estimated benefits of the same actions that were evaluated for Chinook in this assessment unit. Using a denominator for steelhead of 36.3 miles the expected uplift is 0.7%.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	8.2: Water Quality: Oxygen	5.00%	70	70	70	80	70	85		EP LB 2015: No actions, no change. - MAH.4.5.2016. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. Therefore, there is no change in function percentage. Comments entered RM 6/30/2016.
Snake River Steelhead	Wallowa River	WRS13	Upper Wallowa River (Upstream of Lostine River) and Small Tributaries	9.2: Water Quantity: Decreased Water Quantity	5.00%	80	80	80.5	85	81	90		See the calculation spreadsheet that includes the Trout Creek Alpine Meadows Project that was also evaluated for Chinook. Using the same denominator that was used for Chinook yields a 0.5% uplift. The expert panel noted that the water right affecting the uplift is held by the city and not subject to forfeiture. Comments entered RM 6/30/2016.