

Biological notes from April 20-21, 2016 Expert Panel session in McCall, ID. This spreadsheet contains notes specific to Steelhead Assessment Units.  
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**Look Back Calculation Table (most recent version):**

LowerSalmonEP\_CalcSpreadsheet\_LookBack\_QA\_5-23-16.xlsx

**Look Forward Calculation Table (most recent version):**

LowerSalmonEP\_CalcSpreadsheet\_LookForward\_QA\_5-23-16.xlsx

**Key:**

Bracketing in rationale columns demarks content added during the QA process after the meeting.

**File History Notes:**

Cardno QA completed 5-23-16

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 AU Weight	2012 LF Weight	2012 Low Bookend	Original 2018 Estimate	High 2018 Bookend	Original 2033 Estimate	High 2033 Bookend	LF Weight and Bookends Comments	Estimates Comments
Snake River Steelhead	Big, Camas, and Loon Creek	MLS1A	Lower Big Creek	7.2: Sediment Conditions: Increased Sediment Quantity	45%	100.00%	95	95	96	95	96	LOC rating of 4) Lower Big Creek is completely encompassed within the Frank Church Wilderness area. Sediment sources for this area would be limited to trails, private in holdings and historic mine sites. The lower BC AU is as close to pristine as you can get in the lower 48 states. Restoration work occurring upstream in the Upper BC AU could have positive impacts in the lower BC. There are no current restoration plans for this AU.	Minor trails and old mines in mostly pristine condition
Snake River Steelhead	Big, Camas, and Loon Creek	MLS1B	Upper Big Creek	1.1: Habitat Quantity: Anthropogenic Barriers	55%	20.00%	85	87	89	87	89	LOC Rating of 3) There are 7 identified fish (CH and ST) passage barriers and 1-3 diversion barriers in this watershed. We have three AOP projects proposed in the look forward before 2018.	Barriers are not as important to Chinook as they are steelhead; 7 identified passage barriers and 1-3 diversion barriers
Snake River Steelhead	Big, Camas, and Loon Creek	MLS1B	Upper Big Creek	7.2: Sediment Conditions: Increased Sediment Quantity	55%	70.00%	65	70	85	72	87	LOC Rating of 3)The bulk of the sediment effecting Big Creek watershed is coming from roads followed by mining activities. There are roughly 57 miles of known (keep in mind ongoing surveys can increase this number) nonsystem roads in this watershed. Forty percent of these roads are in Riparian Conservation areas meaning they are close to rivers. There are many obstacles including a current lawsuit that could slow road obliteration in this watershed. Mining habitat restoration will occur in this watershed but due to the large scale size of the mining sites it will take quite some time to fully complete. FS has numerous years of sediment data for this watershed and despite the remote nature of this area is still has unacceptable levels of fines at spawning areas.	Low bookend is less than Secesh based on Forest Service monitoring data.
Snake River Steelhead	Big, Camas, and Loon Creek	MLS1B	Upper Big Creek	8.7: Water Quality: Toxic Contaminants	55%	10.00%	85	86	87	86	89	LOC rating or 4)There are several historic mines and one mine site that is currently conducting test pit drilling (Golden Hand) in this watershed. We are looking to do some mine rehabilitation at the Thunder Mountain site to reduce this.	Benefits from Dewey mine and Sunnyside Pit restorations.

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Snake River Steelhead	Secesh River	SES1	Secesh River	1.1: Habitat Quantity: Anthropogenic Barriers	100%	20.00%	90	92	95	LOC ranking of 3)There has been five culverts and one diversion on Zena Creek have been identified for inadequate fish passage potential in this watershed. In 2012 we are replacing Burgdorf Culvert with an AOP structure. In 2017 Jeneatte Creek is slated to be replaced with an AOP structure. AOP culvert engineering designs work have already been completed in Three Mile Creek, Jeanette Creek, Willow Creek and Burgdorf Creek.	Barriers more important in tribs for steelhead than Chinook. Burgdorf, Jeneatte, Willow, and Threemile cks. Five culverts and one diversion (on Zena) have been identified but only two will be resolved. Zena Creek Reservoir?
Snake River Steelhead	Secesh River	SES1	Secesh River	7.2: Sediment Conditions: Increased Sediment Quantity	100%	80.00%	75	76	87	LOC ranking of 3)Roughly 140 miles of nonsystem roads have been identified in this watershed. Roughly 20 miles are slated for full obliteration, 10 miles in Lake Creek road decomossioning project in 2015 and 10 miles in the Secesh Face project area in 2018.	20 miles slated for decommissioning of the 140 miles of non system roads.

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Snake River Steelhead	South Fork Salmon River	SSS1A	EFSF Salmon and Tribs	1.1: Habitat Quantity: Anthropogenic Barriers	19.20%	30.00%	65	65	65	LOC rating of 3) There are some large scale fish passage barriers in this watershed. The Glory Hole is a large scale fish passage barrier occurring at the Golden Meadows mine site. It is a waterfall feature created from mining activities that blocks passage to the bulk of the spawning grounds. There are several additional fish passage barriers in this watershed. Due to current mining activities we do not have any work planned in this watershed prior to 2018. Once the mining activities cease numerous restoration projects will need to be implemented in this watershed.	Estimates stay the same due to no restoration performed due to current mining activity	65	0	No actions; therefore, no percent change.						65	0	No actions.
Snake River Steelhead	South Fork Salmon River	SSS1A	EFSF Salmon and Tribs	7.2: Sediment Conditions: Increased Sediment Quantity	19.20%	60.00%	60	60	63	LOC rating of 3)170 miles of unauthorized (non-system roads)have been identified in this watershed. Because the system road runs along the edge of this river road resurfacing could have a large impact in sediment reduction. Mining activities have produced large area of non-vegetated landscape contributing to this sedimentation. In the past millions of dollars have been spent for mine restoration work in this site resulting in an increase in returning adult Chinook and Steelhead. It has currently been given a lower priority due to ongoing mining activities. Once the mining ceases this watershed has great potential to respond to restoration activities.	Estimates stay the same due to no restoration performed due to current mining activity. If mining activity ceases this watershed has great potential to respond to watershed restoration activities.	60	0	No actions; therefore, no percent change.						63.1	3.1	See calc table, which follows Chinook, but is adjusted for the steelhead denominator. This yields 3.1% predicted uplift.
Snake River Steelhead	South Fork Salmon River	SSS1A	EFSF Salmon and Tribs	8.1: Water Quality: Temperature	19.20%	5.00%	80	80	81	LOC rating of 3)In the upper EFSR due to mining activities there is very little riparian vegetation due channel modification. Due to this lack of riparian vegetation water temperatures are increased. Reports have shown that some of the tributaries to the upper EFSF are above 16C (daily average) in temperature. This is the temperature where fish and amphibians become stressed.	Estimates stay the same due to no restoration performed due to current mining activity. If mining activity ceases this watershed has great potential to respond to watershed restoration activities.	80	0	No actions; therefore, no percent change.						80	0	No actions.
Snake River Steelhead	South Fork Salmon River	SSS1A	EFSF Salmon and Tribs	8.7: Water Quality: Toxic Contaminants	19.20%	5.00%	65	65	66	LOC rating of 3)This watershed was listed in 1998 as having impaired waterbodies under Section 303(d) of the clean water act. The pollutions of concern are heavy metals associated with mining activities. Restoration activities geared toward reducing these contaminants will resume once the mining activities cease.	Estimates stay the same due to no restoration performed due to current mining activity. If mining activity ceases this watershed has great potential to respond to watershed restoration activities.	65	0	No actions; therefore, no percent change.						65.3	0.3	See calc table, which follows Chinook, but is adjusted for the steelhead denominator. This yields 0.3% predicted uplift.
Snake River Steelhead	South Fork Salmon River	SSS1B	Johnson Creek	1.1: Habitat Quantity: Anthropogenic Barriers	25.80%	80.00%	80	85	88	LOC rating of 3)Roughly 14 culverts have been identified as barriers to fish passage in the Johnson Creek Watershed. Two AOP projects are planned in this watershed (Landmark Creek 2016) and Sheep Creek (2018). There are natural barriers that need to be evaluated in the future.	Sheep Creek and Landmark Creek are largest factors.	80.2	0.2	Two actions (which also helped Chinook, but this limiting factor is 0% weight for Chinook): Cox Creek, 2 culverts, which opened 0.4 mile of juvenile only habitat. Denominator is 101.8 miles, resulting in 0.2% uplift.						80.2	0	See calc table, which follows Chinook, but is adjusted for the steelhead denominator. For steelhead, panel did not include the 2 Cox Creek culverts, which were counted in the Look Back for steelhead (for Chinook, these were included in the Look Forward). Yields 0% predicted uplift (no actions expected).
Snake River Steelhead	South Fork Salmon River	SSS1B	Johnson Creek	7.2: Sediment Conditions: Increased Sediment Quantity	25.80%	10.00%	75	75.25	76	LOC rating of 3)There are roughly 30 miles of unauthorized (closed system roads) in the Johnson Creek watershed. Because this area was not logged as heavily as surrounding watersheds there are less unauthorized roads. We are scheduled to decommission 10 miles of roads in the Burntlog area in 2012. In order to reduce sediment further we would need to consider road resurfacing along Johnson Creek road after 2018.	Sedimentation LF weight was raised to 90% to better reflect its impacts	75.4	0.4	Same actions as for Chinook, resulting in 0.4% uplift.						78.7	3.3	See calc table, which follows Chinook, but is adjusted for the steelhead denominator. Yields 3.3% predicted uplift.
Snake River Steelhead	South Fork Salmon River	SSS1B	Johnson Creek	8.1: Water Quality: Temperature	25.80%	10.00%	75	75	76	LOC rating of 3)This watershed is listed as an impaired waterbodies under the 2010 Section 303(d) of the clean water act for exceeding temperature standards. Riparian planting can make small temperature changes to tributaries to Johnson Creek. Changes to water temperature in the mainstem Johnson Creek can take years to bring about.	Small increase reflects the planting work completed. Temperature is an issue in Johnson Creek but it is very hard to reduce temperature. LF weight was reduced to 10%	75.2	0.2	Same actions as for Chinook, resulting in 0.2% uplift.						75.23	0.03	See calc table, which follows Chinook, but is adjusted for the steelhead denominator. Yields 0.03% predicted uplift.
Snake River Steelhead	South Fork Salmon River	SSS2	Upper SF Salmon Tribs above EFSF Salmon (High Idaho Batholith Tribs - from the headwaters to the mouth of EFSF Salmon)	1.1: Habitat Quantity: Anthropogenic Barriers	1.50%	5.00%	85	88	89	LOC rating of 3) Roughly 4 (PNF) and 13 (BNF) culverts have been identified as barriers to fish passage in the Upper SF. There are ongoing culvert surveys so this number represents a low estimate. A bridge is proposed for 2013 in this watershed.	Add action Rice Ck and Rice Ck trib 3.5 miles Steelhead only	85	0	No actions; therefore, no percent change.						85	0	No actions. Panel discussed Rice Creek culvert, but decided that it was not likely to be prioritized to be done by 2018.
Snake River Steelhead	South Fork Salmon River	SSS2	Upper SF Salmon Tribs above EFSF Salmon (High Idaho Batholith Tribs - from the headwaters to the mouth of EFSF Salmon)	7.2: Sediment Conditions: Increased Sediment Quantity	1.50%	95.00%	75	78	85	LOC rating of 3)There are roughly 226 known unauthorized (closed system roads) in the upper SF. Due to intensive past logging activities road densities are high in this area. We are looking to actively decommission 60 and resurface 15 miles between work done on the Boise and Payette before 2018. There are numerous system roads contributing to the sedimentation of this system.	Actions benefit Steelhead, Chinook and Bull trout. There are numerous system roads contributing to the sedimentation of the this system.	83.7	8.7	Same projects as for Chinook, but using Nez Perce Tribe's steelhead denominator of 146.7 miles results in 8.7% uplift.						90.4	6.7	See calc table, which follows Chinook, but is adjusted for steelhead denominator. Yields 6.7% predicted uplift.

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Snake River Steelhead	South Fork Salmon River	SSS3	Lower SF Salmon Tribs below EFSF Salmon (Hot Dry Canyon Tribs - from mouth of EFSF Salmon to mouth of SF Salmon)	7.2: Sediment Conditions: Increased Sediment Quantity	15.90%	100.00%	80	81	83	LOC rating of 3)There are roughly 40 miles of unauthorized (closed system roads) in the Lower SF. 10 miles of road to trail conversion on the Davis Ranch Road are planned in this watershed in 2014.	Actions benefit Steelhead, Chinook and Bull trout.	80	0	No actions.						80	0	No actions.
Snake River Steelhead	South Fork Salmon River	SSS4	Mainstem SF Salmon	7.2: Sediment Conditions: Increased Sediment Quantity	37.60%	100.00%	70	73	78	LOC rating of 3)The cumulative effect of decommissioning roads on tributaries to the SFSR will help reduce sediment to the Mainstem SF. Projects like the projected Hamilton Bar road to trail (2014) can reduce sediment from flowing directly into the mainstem SF. Road resurfacing project can also reduce the amount of sediment entering into the SFSR.	Incidental benefit accrued from Secesh, Johnson, EF, SF tribs. After reviewing the work we will performing in this AU we felt the % increase should be slightly higher	72.2	2.2	Same actions as for Chinook. Steelhead denominator is 88.7 miles, resulting in 2.2% uplift.						72.6	0.4	More SF Fishing Trail improvements expected in 2016. See calc table. Expected uplift is 0.4%.