Biological Notes for June 7-8 Expert Panel Look Forward in Lewiston, ID.
Biological notetaker: Kim Gould, Cardno Inc.

Notes:
If a cell is blank, presume not discussed due to no applicable actions for that limiting factor.
Yellow cells are highlighted per Expert Panel request to revisit.
"No action" statements refer to Action Agency nexus projects. Other actions with no Action Agency nexus may have occurred, but are not considered in Expert Panel process.

This file was built on "Clearwater Steelhead__LookBack_2012-2015_BioNotes_MJ.xlsx", with NPT notes added from "Copy of Clearwater_Steelhead_2012-2015_HabFunctions_QAdraft_3 11 16_JH.XLSX" received by Cardno from BPA 2 June 2016.

Highlighting Key
Yellow highlights indicate places where panel followup is required.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	High 2018 Bookend	2033	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	1.1: Habitat Quantity: Anthropogenic Barriers	5%	85	85.6	0.6	Fish distribution surveys showed 33 miles of fish use. Adding 4 miles of Badger Creek, 2 miles I2in Upper Waw'aalamnima, 0.5 mile on Spring, and 1 mile in Upper Doe, gives a sum of 41 miles as the denominator. There is a high gradient above East Fork. One 2015 culvert project on table: it was a full barrier, and opened 0.5 mile, which was 50% prorated for juvenile rearing use. Divided by 41 miles, resulting in 0.6% uplift.	95	100	95	100	9%		Actions are on USFS land and may be a few remaining, but majority of opportunity is on private land (checker board). Installed log weir	AU weights revised per NOAA Intrinsic Potential info & NPT analysis shown in spreadsheet e-mailed 12/13/2012 from Emmit Taylor to Kathy Fisher titled Chin_Sthd_au-summary05-15-12_not						85.6	85.6	0	Powell Cr. Culvert Replacement 2016: moved to assessment unit LAS3A. Inmamatoon to Post Office 2018 Project: moved to limiting factor 6.2. No passage projects in this assessment unit.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	4.1: Riparian Condition: Riparian Vegetation															15	Panel added limiting factors 4.1 and 5.2 on 8 June 2016.	50	Panel added limiting factors 4.1 and 5.2 on 8 June 2016.	50	50	0	No actions expected in 2018, but recognized as a limiting factor in Atlas, and will be addressed in the future.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	4.2: Riparian Condition: LWD Recruitment	25%	66	66.2	0.2	The 108 Road Relocation Waw'aalamnima 2015 project is not listed in the database and needs to be added. Road was impinging on floodplain, causing road failure. Road was relocated to upland, and large wood was added to floodplain. 670 feet of stream affected. Expect 50% function by 2018, resulting in 0.2% uplift.	69	70	68	72	9%	(Due to past timber harvest)	LF weight due to past timber harvest and fire activities. Currently inventorying installed log weirs and wood in all streams. Plan to address installed weirs for passage and install wood in all streams as appropriate, starting in 2013.	See Comments above.		5				66.2	66.2	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	5.2: Peripheral and Transitional Habitats: Floodplain Condition															15	Panel added limiting factors 4.1 and 5.2 on 8 June 2016.	70	Panel added limiting factors 4.1 and 5.2 on 8 June 2016.	70	70	0	No actions expected in 2018, but recognized as a limiting factor in Atlas, and will be addressed in the future.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	6.2: Channel Structure and Form: Instream Structural Complexity	30%	70	70.2	0.2	108 Road Relocation Waw'aalamnima 2015 project (not listed in database and needs to be added). See limiting factor 4.2; panel used same numbers.	74	77	70	80	9%		Installation of wood addressed in LF 4.2 will address this LF.	See Comments above.		25				70.2	80	9.8	Inmamatoon to Post Office 2018 Project (15 miles) and Waw'aalamnima Creek 2017 (12 miles). Projects prorated based on percentage of properly functioning condition expected to be achieved. Reference reach: ~100 pieces/mile. Now at ~10% of that. Design should bring it to about half of the reference reach (road nearby limits what can be added) assuming that racking will add more benefit too. Benefits prorated at 45%, resulting in 29.6% expected uplift. But treatment is not continuous along project length (e.g., 11 structures of 3 pieces per structure along 1/3 of project length), so panel added a second proration to account for extent and intensity of treatment (33%), resulting in 9.8% uplift. Denominator was set as 41 miles.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	25%	62	63.5	1.5	See upland tree planting projects in table. Planting projects were in locations of prior road decommissionings. Culvert projects in database should be in Crooked Fork assessment unit (LAS3A) instead. Panel revisited the issue on 2/11/2016 with additional project information, and updated the project table. Panel included mid-slope weed control (knapweed) actions associated with road project, but assigned a lower weight to these. Road drainage improvements reduce sediment contributions downstream, even if located upland. Soil at deep fill culvert project was not properly compacted at construction, so there was less benefit than anticipated from that project (Panel adjusted weight), but still saw benefits from rest of the road improvement actions. Planting projects helped, but had negligible benefit. From 1996 to 2011: lots of road fixes were done, which has resulted in measured sediment load reduction, although it varies by year. Metric used: stream miles affected. Table contains 9 projects, weighted by landscape position (e.g., 90% for streamside roads) and total possible benefit (accounting for other human sediment sources), resulting in 1.5% uplift.	70	75	64	77	9%		Use LiDAR data to determine extent of existing road network. Plan to decommission roads based on that data.	See Comments above.		20				63.5	64	0.5	For weed treatment, panel used the same calculation framework as for Look Back, which took into account slope position of roads and distance from stream. Panel combined roadside projects into one layer in calc table and changed native "tree" to "shrub" planting in project name. Planting at stream crossings at decommissioned roads: 5 miles out of larger project will affect stream sediments. Assumes 1-2% vegetation growth per year in 2018 period. Delete repeated project in database. Panel determined 0.5% expected uplift.
Lochsa River	LAS1A	Upper Lochsa Tributaries - Postoffice to Parachute Creeks	8.1: Water Quality: Temperature	15%	80	80	0	Table for limiting factor 7.2 lists planting projects, but there is no measurable benefit yet. No change.	81	88	82	90	9%	(Doesn't meet state standards, highly functional)	Benefits from Riparian actions; wood installation (LF 4.2) will indirectly impact this LF.	See Comments above.						80	80	0	Planting projects are not expected to produce enough shade with the growth to 2018 to measurably change water temperatures. No change in function expected.
Lochsa River	LAS2A	Lower Colt Killed Creek	1.1: Habitat Quantity: Anthropogenic Barriers	5%	65	65.6	0.6	Denominator: 30.2 steelhead miles per Streamnet. Panel added 2 miles on Cabin Creek, 2.5 miles on Beaver Creek, 1 mile on Alkire, 2 miles on Walton, and 3 miles on Savage. Cliff and Jay Creeks are steep. Small substrate in Rabbit Creek - no addition there. Total 40.7 miles denominator. 50% weight to Alkire Creek Culvert Replacement because it affects juvenile rearing only. Project fixed a full juvenile barrier, opening 0.5 miles, resulting in 0.6% change.	66	100	66	100	12%	(Walton Creek fish weir and water intake)	Opportunity to address this LF on checkerboard/private lands.	See Comments above.						65.6	65.6	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS2A	Lower Colt Killed Creek	7.2: Sediment Conditions: Increased Sediment Quantity	80%	55	55.5	0.5	Pack Creek decommissioning should not be here - belongs only in LAS3. Studies show that upland knaptweed increases sediment yield/input to streams when converted from bunchgrass, so controlling weed benefits this limiting factor. But this treatment was measured in acres, not stream miles. Panel addressed this by using area treated (whole assessment unit - all stream miles) and table weights. This resulted in 0.5% change. 2/11/2016: Panel added actions and updated table. New uplift is still 0.5%.	60	70	60	72	12%		Opportunity to address this LF on checkerboard/private lands. LiDAR data will be use to identify projects in the future.	See Comments above.						55.5	55.52	0.02	Invasive Weed Treatment 2016-2018. Stream miles affected were prorated by landscape position and distance from stream, in addition to direct stream miles at crossings in calc table. Yields 0.02% expected uplift.
Lochsa River	LAS2A	Lower Colt Killed Creek	8.1: Water Quality: Temperature	15%	70	70	0	No actions. No change.	70.5	80	70.5	82	12%	(Doesn't meet state standards)	Benefits from sediment projects	See Comments above.						70	70	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS2B	Big Sand Creek	8.1: Water Quality: Temperature	100%	95	95	0	No actions. No change. Project(s) is in wrong assessment unit. Should be in LAS1A instead.	95	95	95	95	11%		No actions; wilderness	See Comments above.						95	95	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.

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Lochsa River	LAS3A	Crooked Fork	1.1: Habitat Quantity: Anthropogenic Barriers	5%	65	65	0	Denominator: 27.3 steelhead miles per Streamnet. Panel added 1 mile (rearing) in Spruce, none in Twin, 1 mile in Rock, 1 mile in Haskell, 0.5 mile in Pack, 0.5 mile in South Fork, 1 mile in Chute, and 1 mile in Shotgun. The sum is 33.4 miles, the denominator. Three Pack bridge projects occurred, but projects were not barriers to steelhead because of a natural barrier near the mouth of Pack Creek, so no steelhead passage benefit. No change.	70	100	70	100	11%		There are currently 12 known passage barriers in this AU. 3 will be replaced in 2013.	See Comments above.						65	66.5	1.5	Powell Creek Culvert Replacement 2016: Moved to LAS3A. Removed Shotgun Project Powell: a partial barrier (50% prorating), affecting 1 mile of habitat upstream. Yields 1.5% expected uplift. Note: land purchases and easements are planned, but no actions planned yet for 2018 time period. This applies to several limiting factors.
Lochsa River	LAS3A	Crooked Fork	4.1: Riparian Condition: Riparian Vegetation															5	Panel added limiting factor 4.1 on 8 June 2016 and reweighted.	70	Panel added limiting factor 4.1 on 8 June 2016.	70	70.03	0.03	Riparian planting revegetation project moved to limiting factors 4.1 and 4.2 from limiting factor 8.1. 0.5 mile treated, and prorated at 2% for expected growth rate, resulting in 0.03% uplift.
Lochsa River	LAS3A	Crooked Fork	4.2: Riparian Condition: LWD Recruitment	35%	50	50	0	No actions. No change.	50	55	50	60	11%		No projects currently planned.	See Comments above.		30	Panel added limiting factor 4.1 on 8 June 2016 and reweighted.			50	50.03	0.03	Riparian planting revegetation project moved to limiting factors 4.1 and 4.2 from limiting factor 8.1. 0.5 mile treated, and prorated at 2% for expected growth rate, resulting in 0.03% uplift.
Lochsa River	LAS3A	Crooked Fork	6.2: Channel Structure and Form: Instream Structural Complexity	35%	45	45	0	No actions. No change.	45	50	45	55	11%		No projects currently planned.	See Comments above.						45	45.01	0.01	Pack Creek Remeander: 0.25 mile. Prorated as percentage of expected properly functioning condition achieved by project (1%, not a major part of the bridge project that was in the Look Back), resulting in 0.01% uplift.
Lochsa River	LAS3A	Crooked Fork	7.2: Sediment Conditions: Increased Sediment Quantity	20%	45	53.1	8.1	Pack Creek decommissioning/tree planting, bridge, invasive weed control, and other projects in table, shown as 5 rows (add these projects to database). Studies show that upland knapweed increases sediment yield/input to streams when converted from bunchgrass, so controlling weed benefits this limiting factor. Weightings account for upland road contributions to streams and downstream sedimentation reduction effects. 1% weighting of all for weed control. Panel only considered 2 miles of mainstem Brushy. Panel determined 5.8% uplift. 2/11/2016: Added Cherokee/Twin Road Decommissioning (mid-slope: 50% weight). New uplift is 8.1%.	55	70	55	75	11%		Most of the problem on private land; some actions proposed on USFS land. Weed treatment and tree planting on decommissioned roads will address this LF.	See Comments above.						53.1	53.5	0.4	Culvert projects are sediment fixes, not passage pipes. Calc table contains Invasives Treatment 2016-2018, Shrub Plantings 2016-2018, Brushy Forks 2017-2018, Upper Pack Creek Road Decommissioning, and South Brushy Cr. Road Decommissionings. Panel used same calculation framework as for limiting factor 7.2 in other assessment units, but for prevention efforts, proration incorporates probability/risk (1-2% per year) of failures that would send sediment to streams. Many of the projects drain to Brushy: 0.5 mile of stream affected by each one. In a 1996-type event, these would all affect small sections of Brushy. These are mid-slope, so 50% proration. Yields 0.4% uplift.
Lochsa River	LAS3A	Crooked Fork	8.1: Water Quality: Temperature	5%	50	50	0	Project in database is a 2011 project, so panel disregarded it. No measurable benefit from the other projects in limiting factor 7.2 table (combined).	50.5	55	51	57	11%	(Doesn't meet state standards)	Benefits from sediment projects	See Comments above.						50	50	0	Riparian planting revegetation project was in database, due to there being no riparian vegetation/limiting factor 4.1 listed for this assessment unit (until Panel added LF 4.1). Move this project to limiting factor 4.1 and 4.2. No Actions, No Expected Change.
Lochsa River	LAS3B	Upper Crooked Fork/Boulder Creek	1.1: Habitat Quantity: Anthropogenic Barriers	5%	85	85	0	No fish passage actions. No change.	85	100	85	100	10%		LiDAR data will be use to identify projects in the future.	See Comments above.						85	85	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS3B	Upper Crooked Fork/Boulder Creek	7.2: Sediment Conditions: Increased Sediment Quantity	95%	70	70.6	0.6	Denominator: Streamnet shows 19.3 steelhead miles. Surveys show that steelhead don't go quite that far up. Roadless area has less data. Bull trout are seen higher than cutthroat, so access is possible, but usage not known in all areas. Panel chose to use Streamnet mileage as denominator: 19.3 miles. Two projects on table of actions. Results in 0.6% uplift.	70	80	70	82	10%	(Mostly from natural sources (fire))	LiDAR data will be use to identify projects in the future. Weed treatment and tree planting on decommissioned roads will address this LF.	See Comments above.						70.6	70.61	0.01	Weed treatment 2016-2018: 50 acres, affecting 0.25 mile. There was a fire last year, and some road improvements will be made on about 4 miles of road, but not counted here (not AA? nexus). Yields 0.01% uplift.
Lochsa River	LAS6	Lochsa Mainstem	4.1: Riparian Condition: Riparian Vegetation	60%	85	85	0	No actions. No change.	85	87	85	90	11%		The upper 30 miles of the Lochsa River mainstem is very simplified. This is due in part to Hwy 12 preventing wood recruitment (as well as headwater	See Comments above.		40	Panel added limiting factor 5.1 on 8 June 2016 and reweighted.			85	85	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS6	Lochsa Mainstem	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions															20	Panel added limiting factor 5.1 on 8 June 2016 and reweighted.	50	Panel added limiting factor 5.1 on 8 June 2016. Note: Spill concerns on highway (tanker trucks): low probability, but high risk. MgCl use in winter. Also predation (bass) concerns, but cannot affect with actions, so panel did not add the limiting factor.	50	50.4	0.4	Major Fenn Project 2018: 0.3 mile to be treated. Expect 95% of properly functioning condition once channel is opened. Will control reed canarygrass, resulting in 0.4% uplift.
Lochsa River	LAS6	Lochsa Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	35%	75	76.7	1.7	Streamnet shows 71.4 steelhead miles (mainstem). Panel concurred with this. Table lumped invasive weed treatment actions, and added a row for cumulative upstream project effects from all upstream assessment units (see other assessment unit tables for limiting factor 7.2). Within this assessment unit, panel determined 0.5% uplift. With upstream assessment units (2.3% average of contributing assessment units, weighted at 50%), there is 1.7% uplift.	78	90	78	78	11%		benefits from actions in other assessment units	See Comments above.						76.7	76.71	0.01	Weed control: 0.5 mile of stream affected. Campgrounds and turnouts: small areas, but will affect Lochsa due to location of treatments, so panel prorated at 90% for position, yielding 0.01% uplift.
Lochsa River	LAS6	Lochsa Mainstem	8.1: Water Quality: Temperature	5%	85	85	0	No actions. No change.	86	87	87	88	11%	Doesn't meet state standards; TMDL completed- viewed as natural condition, No TMDL established	Benefits from actions in other AU. This LF will also be slightly impacted by the potential placement of wood in the upper river.	See Comments above.						85	85	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	1.1: Habitat Quantity: Anthropogenic Barriers	5%	70	73.4	3.4	Streamnet shows 30.9 steelhead miles. Panel added 1 mile (South Fork Canyon), Pillar (cutthroats only), 2 miles on Deadman mainstem, and removed 1 mile on Wally, 2 miles on Canyon, and 2.5 miles on West Fork Deadman. Panel also added 1 mile on Nut Creek and 2 miles on Glasser. Net change to Streamnet number is -1.5 miles, which results in 29.4 miles as denominator. Table shows 1 project (Deep Canyon), a full barrier, which affected 5 miles of habitat, but upstream pipes limit benefit to 1 mile, resulting in 3.4% uplift.	73	100	73	100	8%		Found an additional 3 fish passage barriers in Canyon Creek in 2012. Planning to remove these barriers in future projects. Refer to comments in the "look forward actions" spreadsheet.	See Comments above.						73.4	88.7	15.3	Remove Upper Canyon and Bemrick projects from database - these will not be done by 2018. Will do Upper Pete King and West Fork Deadman projects. These will open 1.5 and 3 miles. These are full barriers due to drop height, so 100% proration. Yields 15.3% uplift.

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Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	4.1: Riparian Condition: Riparian Vegetation	25%	70	70.2	0.2	Deep Canyon Road project was weighted using 5-10% growth in function per year, resulting in 0.2% uplift.	70.5	80	71	82	8%		Accrued benefits from rd decommissioning projects	See Comments above.		20				70.2	70.2	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	4.2: Riparian Condition: LWD Recruitment															10	Panel added limiting factor 4.2 on 8 June 2016 and reweighted.	60	Panel added limiting factor 4.2 on 8 June 2016 and reweighted. Low bookend based on assessment of present conditions.	60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	6.2: Channel Structure and Form: Instream Structural Complexity	25%	70	70	0	No actions. No change.	70.5	80	71	82	8%		Benefits from other projects to address sediment	See Comments above.		20				70	70.1	0.1	Beaver Dam Analogues will be installed. This is a pilot project, so small: 0.05 miles. Hope to trap sediment and get some scour pools and willow growth. Low gradient area. Natural beaver dams blew out. Not much food left for them. 50% of properly functioning condition expected, resulting in 0.1% expected uplift.
Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	7.2: Sediment Conditions: Increased Sediment Quantity	35%	50	52.5	2.5	Table lists 6 projects, including road decommissionings and upland invasives treatment. Panel weighted affected stream miles metric by landscape/slope position and possible benefit/other sediment sources remaining (much road work left to do). Denominator was 29.4 miles. EP determined 2.5% uplift.	60	80	62	85	8%		LiDAR will be utilized to determine extent and needs for this LF. In 2012 several more miles of road were found on the ground in the Bear Canyon area.	See Comments above.						52.5	55.6	3.1	Road 460B 2018 Decommissioning and Pete King Road Decommissioning 2018. Permitting will be tight, but is expected to occur in 2018 period. King is stream-adjacent. Road 460B is in floodplain. Both are rated at 90% on landscape position. Percent of total project area benefit possible: 30% and 70%, respectively, yielding 3.1% expected uplift.
Lochsa River	LAS7	Lower Lochsa (Deadman Creek to Pete King Creek)	8.1: Water Quality: Temperature	10%	65	65	0	No actions. No change.	65.5	75	66	77	8%		Benefits from sediment projects	See Comments above.						65	65	0	No measurable change expected in 2018 period.
Lochsa River	LAS8	Middle Lochsa North Face tributaries - Weir to Tick Creeks	1.1: Habitat Quantity: Anthropogenic Barriers	5%	85	85	0	Actions listed in database need to be corrected. Denominator is 48.7 steelhead miles shown in Streamnet. Panel added 2 miles on Lost Creek, 0 mile on Indian Grave (high gradient), 0 mile on Bald Mountain (high gradient), 2 miles on Bull Creek, 2 miles on Gas Creek, 2 miles on Frenchman, 2 miles on Alder (tributaries of Fish Creek), and 2 miles on Bimerick (trout seen in upper meadows). Panel removed 3 miles on Fish Creek (surveys	90	100	90	100	11%		LiDAR will be utilized to determine extent and needs for this LF.	See Comments above.						85	86.7	1.7	107 Road Relocation will open from mouth up to upper limits (2 miles). Partial barrier (50% proration), yielding 1.7% expected uplift. This is the lower culvert mentioned in the Look Back.
Lochsa River	LAS8	Middle Lochsa North Face tributaries - Weir to Tick Creeks	4.1: Riparian Condition: Riparian Vegetation	30%	85	85.2	0.2	1 project. Weighted using 5% per year for vegetation growth functional improvement, resulting in 0.2% uplift.	86	92	87	95	11%	time needed, regeneration returning from previous fires	Bimerick Meadows road-to-trail conversion project is planned for 2015 (2 miles). Weir Creek trail construction (0.5 miles) and rehabilitation project planned for 2013.	See Comments above.		25	Panel added limiting factor 4.2 on 8 June 2016 and reweighted.			85.2	85.21	0.01	107 Road Relocation will plant 0.25 mile of riparian vegetation. Assuming 1% growth per year results in 0.01% expected uplift.
Lochsa River	LAS8	Middle Lochsa North Face tributaries - Weir to Tick Creeks	4.2: Riparian Condition: LWD Recruitment															5	Panel added limiting factor 4.2 on 8 June 2016 and reweighted.	80	Panel added limiting factor 4.2 on 8 June 2016 based on present conditions.	80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lochsa River	LAS8	Middle Lochsa North Face tributaries - Weir to Tick Creeks	7.2: Sediment Conditions: Increased Sediment Quantity	35%	85	85.6	0.6	Table combined basin-wide invasives treatment and native planting into 1 row. Bridge included road improvement actions. Culverts reduced failure and erosion risk. Metric is stream miles affected, weighted by landscape/slope position and total benefit possible/remaining sediment sources. Panel determined 0.6% uplift.	87	95	88	95	11%		Bimerick Meadows road-to-trail conversion project is planned for 2015 (2 miles). LiDAR will be used to determine extent and needs for other road decommissioning projects in this AU.	See Comments above.						85.6	85.8	0.2	107 Road Relocation will reduce sediment inputs from 2 miles of mid-slope length (50% proration), and directly affecting 0.25 mile of stream. This is stopping direct delivery of sediment, so 80% of possible benefit to the limiting factor. Invasive weed treatment is also in calc table: 0.25 stream miles affected (90% proration based on location). Yields 0.2% uplift.
Lochsa River	LAS8	Middle Lochsa North Face tributaries - Weir to Tick Creeks	8.1: Water Quality: Temperature	30%	95	95	0	No action. No change.	95	95	95	95	11%		Currently no projects planned for this LF.	See Comments above.						95	95	0	No Actions, no expected change. Note that parking lot improvements and toilet project will benefit water quality, but not temperature.
Lochsa River	LAS9	Middle Lochsa South Face tributaries - Lottie to Robin Creeks	8.1: Water Quality: Temperature	100%	95	95	0	No temperature actions. NOTE: In Look Forward, add sediment limiting factors.	95	95	95	95	17%	Doesn't meet state standards	Wilderness/roadless area- no projects planned for this AU.	See Comments above.						95	95	0	Invasive weed treatment project. No measurable benefit. Panel declined to add sediment or riparian limiting factors, as no actions are feasible in this assessment unit (roadless area: no access).

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Lolo Creek	LOS1	Eldorado Creek	1.2: Habitat Quantity: Natural Barriers	0%	5	5	0	No action. No change.	5	5	5	5	1%	Eldorado Falls (natural barrier) blocks 95% of the habitat in this drainage.	Natural barrier LF weight set to 0%. Current distribution mimics historic accessability.	AU weights revised per NOAA Intrinsic Potential info & NPT analysis shown in spreadsheet e-mailed 12/13/2012 from Emmit Taylor to Kathy Fisher titled Chin_Sthd_au-summary05-15-12_npt watershed_edited final_12-11-12.xlsx						5	5	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS1	Eldorado Creek	4.1: Riparian Condition: Riparian Vegetation	50%	70	70	0	No action. No change.	70	75	70	80	1%	NPT Lolo Creek monitoring report (2011) reports heavily impacted by history of logging, infrastructure development (roads,	No actions planned	See Comments above.						70	70	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS1	Eldorado Creek	7.2: Sediment Conditions: Increased Sediment Quantity	50%	60	60	0	No action. No change.	65	70	70	75	1%	Upper Lolo EAWS (2003): sediment estimated at 6 tons/sq miles/year and currently elevated by an estimated 33 percent over natural.	20 miles of road decommisioning through Lolo insect and disease.	See Comments above.						60	65	5	Lolo First 50 Decommissioning 2016: 4 miles of decommissioning benefits, lower mile of Eldorado Creek. Benefit prorated to 50% and 10%. New denominator: 1 mile per steelhead use below natural barrier, resulting in 5% expected uplift.
Lolo Creek	LOS2	Jim Brown Creek	1.1: Habitat Quantity: Anthropogenic Barriers	15%	70	80.7	10.7	Streamnet has no steelhead use miles mapped, but 38 miles of cutthroat use and 35.1 miles of 2nd and 3rd order streams. Panel considered gradient layer in GIS. Discussed 12% vs 6% threshold. Steelhead seen stacking up in pool below Jim Brown. Habitat is limited, but has some use. O. mykiss is present, and seen during construction salvage. Panel decided to use 35.1 miles as the denominator. Jim Brown 2012 culvert replacement opened up 5 miles of habitat. There are 26 known remaining culverts, 18 surveyed and 17 miles are still blocked. Two other culverts were replaced on this road. Only one left on mainstem, near top. A new culvert was installed without passage. Prorated for life history stage use of upstream habitat (75%) -- there is some spawning, but mostly used for rearing. Results in 10.7% uplift.	72	85	72	85	7%	NPT Culvert Assessment (2010) identified 13 culverts in this watershed which are identified as fish passage barriers.	Jim Brown MP 39 scheduled for 2013 will return 5 miles of stream habitat; Competed 4 barrier removals in the watershed to date.	See Comments above.						80.7	80.7	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS2	Jim Brown Creek	4.1: Riparian Condition: Riparian Vegetation	15%	40	40.1	0.1	Stream miles affected by 1 project (Jim Brown), which treated 0.075 mile. Panel prorated with 5% per year plant growth to 2018 due to low survival, resulting in 0.1% change.	42	50	43	65	7%	NPT Lolo Creek monitoring report (2011) reports heavily impacted by history of logging, infrastructure development (roads, powerlines, etc), and/or grazing	1 mile of riparian planting planned	See Comments above.						40.1	40.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS2	Jim Brown Creek	7.2: Sediment Conditions: Increased Sediment Quantity	25%	40	41.3	1.3	Jim Brown project replaced undersized pipe that was failure risk, and had been overtopping road. Low gradient, so affected downstream 1 mile. Panel prorated and weighted in table -- 50% weight due to cattle impacts. Panel determined 1.3% change.	41	45	43	50	7%	Upper Lolo EAWS (2003), Jim Brown Coordinated Resource Mangement Plan (1997): Impacts from roads and road construction have had the greatest effect on erosional processes in this watershed,	Secondary benefits from 1 mile of riparian planting to be completed	See Comments above.						41.3	41.3	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS2	Jim Brown Creek	8.1: Water Quality: Temperature	30%	40	40.1	0.1	Used riparian planting effects from limiting factor 4.1 (part of the same project). Rerouting of water at the project location. Was in road ditch, relocated to stream channel (2012) in shady location, which increased weighting. It did also increase channel length and reduced slope. More groundwater interaction now. Panel determined 0.1 increase.	43	45	45	50	7%	NPT Lolo Creek monitoring report (2011) reports warm temperature due to loss of riparian cover due to grazing, elevation, geology, and influence of tributary streams	Based on the data, both of the average water temperature exceedences, the 16Â°C daily average and the instantaneous maximum of 20Â°C, for the Lolo Creek watershed have decreased significantly since measurements began; 1 mile of riparian planting to be completed.	See Comments above.						40.1	40.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS2	Jim Brown Creek	8.2: Water Quality: Oxygen	15%	40	40	0	No action. No change.	42	65	43	70	7%	Upper Lolo EAWS (2003): pollutants of concern include: bacteria, dissolved oxygen, flow and habitat alterations, nutrients, oil and grease, sediment and temperature	Benefits from 1 mile of riparian planting to be completed	See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS3A (previously LOS3	Lower Lolo Creek (previously Lolo Creek)	1.1: Habitat Quantity: Anthropogenic Barriers	10%	85	86.1	1.1	Collette Mine was attached to LOS5, but should be in LOS3. 4.2 acre of floodplain has been disconnected due to 0.19 miles of berm. Removed berm and regraded to reconnect to floodplain. 10 wood structures, 1,000 ft of bank work. NOTE: Will have future phases to consider in Look Forward. Denominator: Streamnet steelhead miles, plus the less steep 2 miles of Crocker Creek, 1 mile of Molly Creek, lower 1 mile of	86	90	86	90	57%	NPT Culvert Assessment (2010) identified 19 culverts in this watershed which are identified as fish passage barriers.	Molly Creek to return 3 miles of stream habitat	See Comments above.	Revised AU boundary. LOS3A is now named "Lower Lolo Creek."					86.1	86.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS3A (previously LOS3	Lower Lolo Creek (previously Lolo Creek)	4.1: Riparian Condition: Riparian Vegetation	40%	60	60.1	0.1	Denominator is 54.5 miles (see limiting factor 1.1). Table has 1 applicable project (Collette), prorated, resulting in 0.1% uplift.	70	75	75	80	57%	NPT Lolo Creek monitoring report (2011) reports heavily impacted by history of logging, infrastructure development (roads, powerlines, etc), and/or grazing	Colette Mine Stream Restoration will restore approximately 5 miles of stream habitat, recontour, and reconnect the flood plain and wetlands	See Comments above.	Revised AU boundary. LOS3A is now named "Lower Lolo Creek."					60.1	60.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS3A (previously LOS3	Lower Lolo Creek (previously Lolo Creek)	6.2: Channel Structure and Form: Instream Structural Complexity	10%	70	70.5	0.5	Collette Mine was attached to LOS5, but should be in LOS3. 4.2 acre of floodplain has been disconnected due to 0.19 miles of berm. Removed berm and regraded to reconnect to floodplain. 10 wood structures, 1,000 ft of bank work. NOTE: Change in database, and consider future phases in Look Forward. Denominator: Streamnet steelhead miles, plus the less steep 2 miles of Crocker Creek, 1 mile of Molly Creek, lower 1 mile of Mud Creek (rest is cutthroat), totaling 54.5 miles. Panel considered how much of this 54.5 miles needs more habitat complexity added. Mainstem is short on wood. Not many big tributaries in that area, and many have high wood loads. More wood in Upper Lolo than Lower. Lower private reaches are canyon. Limit denominator to 29.5 miles, removing lower 18 miles of canyon reach and 7 miles of unmanaged upper sections with good wood loading. Collette Mine project brought wood load up to 100%, but channel is still adapting to wood, so 80% function. Results in 0.5% uplift.	73	75	75	80	57%	Upper Lolo EAWS (2003): roads and trails that cross streams or are adjacent to streams have the hightest potential to deliver sediment to streams. Road densities in the lower part of Lolo equals 4.7 mi/sq mi. and hasthe hightes number of crossings (74).	Colette Mine Stream Restoration will restore approximately 5 miles of stream habitat, recontour, and reconnect the flood plain and wetlands	See Comments above.	Revised AU boundary. LOS3A is now named "Lower Lolo Creek."					70.5	70.5	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS3A (previously LOS3	Lower Lolo Creek (previously Lolo Creek)	7.2: Sediment Conditions: Increased Sediment Quantity	40%	70	71.7	1.7	Table has 2 projects and prorations and action effect weights. Panel increased number of miles affected by Collette Mine project, due to downstream sediment effects, to 2 miles downstream till gradient change. For Molly Creek project, effects spanned 1 mile downstream. Weight of Molly Creek is due to roads on both sides of creek.	77	80	79	85	57%	Upper Lolo EAWS (2003): sediment estimated at 6 tons/sq miles/year and currently elevated by an estimated 33 percent over	35 miles of road decommisioning through Lolo insect and disease EIS	See Comments above.	Revised AU boundary. LOS3A is now named "Lower Lolo Creek."					71.7	71.7	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS4	Musselshell Creek	1.1: Habitat Quantity: Anthropogenic Barriers	25%	30	56.7	26.7	Streamnet steelhead miles are 6.9. Panel thought this was too short. 10 miles of critical habitat, 46 miles of fish (cutthroat) distribution, 44 miles of 2nd and 3rd order streams. ~12 miles of mainstem length. Panel considered gradient GIS layer and known fish use, intrinsic potential layer, and known natural barriers, and added known fish use (e.g., fish are known to be in Gold Creek). Panel decided to use 24 miles as denominator. Fixed tunnel problem in 2012, which opened 15	75	90	75	90	25%	Clearwater Subbasin Plan, NOAA Recovery Plan	14.4 miles of stream access to be restored	See Comments above.						56.7	56.7	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
Lolo Creek	LOS4	Musselshell Creek	4.1: Riparian Condition: Riparian Vegetation	25%	60	60.4	0.4	Deer Gulch project in 2013 treated 0.56 miles with 2 different treatments. Planting was heavily grazed by cattle, so prorated accordingly in table for 2018 function as 15%. Also stream reroute went through mature vegetation for a few hundred feet. Panel determined 0.4% uplift.	65	70	67	75	25%	NPT Lolo Creek monitoring report (2011) reports heavily impacted by history of logging, infrastructure development (roads, powerlines, etc), and/or grazing	4 miles of stream and wetland plantings at Deer Gulch.	See Comments above.						60.4	60.4	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS4	Musselshell Creek	7.2: Sediment Conditions: Increased Sediment Quantity	25%	40	41.6	1.6	Deer Gulch project occurred in 2013 (add to this to the limiting factor in database). Panel considered downstream benefit in this low-gradient section and scale of flow contribution in table weighting. Results in 1.6% uplift.	50	55	55	60	25%	Upper Lolo EAWS (2003): sediment standards can be between 45 % and 55% for 10 out of 30 years. Current sedimant production is 25% over natural.	15 miles s of road decommisioning and improvement in Lolo Insect and Disease	See Comments above.						41.6	41.6	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS4	Musselshell Creek	8.1: Water Quality: Temperature	25%	50	50.4	0.4	See limiting factor 4.1, including stream reroute through mature vegetation. Panel determined 0.4% uplift.	54	60	59	65	25%	Upper Lolo EAWS (2003), NPT Lolo Creek monitoring report (2011) reports warm temperature due to loss of riparian cover due to grazing, elevation, geology, and influence of tributary streams	From approximately 4 miles of stream and wetland planting at Deer Gulch.	See Comments above.						50.4	50.4	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS6 (previously LOS5, revised in 2016 Look Forward)	Upper Lolo Creek (previously Yoosa Creek - revised in 2016 Look Forward)	1.1: Habitat Quantity: Anthropogenic Barriers	10%	85	85	0	Collette Mine was attached to LOS5, but should be in LOS3. 4.2 acre of floodplain has been disconnected due to 0.19 miles of berm. Project removed berm and regraded to reconnect to floodplain. 10 wood structures, 1,000 ft of bank work. NOTE: Will consider future phases in Look Forward. No action. No change.	85	90	85	90	10%	Upper Lolo EAWS (2003): low pool quantity/quality and high cobble embeddedness levels in Yoosa Creek, which is caused by lack of instream (wood) and bank cover (wood/ vegetation).	No actions planned.	See Comments above.	New downstream boundary of LOS5 is confluence of Lolo and Jim Brown creeks. Renames as "Upper Lolo". Will be called LOS6 in Taurus. LOS 5 will be deprecated. Updated assessment unit weights: moved old LOS3 weight to new LOS6 + 10% (= 40% assessment unit weight). See calc table for summary of new assessment unit weights.	10	Now called LOS6. Inherited limiting factors from former LOS3 and reweighted.	80	Updated by panel based on percentage of properly functioning condition.	80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Lolo Creek	LOS6 (previously LOS5, revised in 2016 Look Forward)	Upper Lolo Creek (previously Yoosa Creek - revised in 2016 Look Forward)	4.1: Riparian Condition: Riparian Vegetation	10%	60	60	0	Collette Mine was attached to LOS5, but should be in LOS3. 4.2 acre of floodplain has been disconnected due to 0.19 miles of berm. Project removed berm and regraded to reconnect to floodplain. 10 wood structures, 1,000 ft of bank work. NOTE: Will consider future phases in Look Forward. No action. No change.	60	70	60	75	10%	Upper Lolo EAWS (2003): low pool quantity/quality and high cobble embeddedness levels in Yoosa Creek, which is caused by lack of instream (wood) and bank cover (wood/ vegetation).	No actions planned.	See Comments above.	New DS boundary of LOS5 is confluence of Lolo and Jim Brown creeks. Rename as "Upper Lolo". Will be called LOS6 in Taurus. LOS 5 will be deprecated. Updated AU weights: moved old LOS 3 weigh to new LOS6 + 10% (=40% AU weight). See calc table for summary of new AU weights.	20	Now called LOS6. Inherited limiting factors from former LOS3 and reweighted.	60	Updated by panel based on percentage of properly functioning condition.	60	60.2	0.2	Collette Mine 2017 will treat 0.5 miles of riparian zone. Expecting 10% per year growth here, yielding 0.2% uplift.
Lolo Creek	LOS6 (previously LOS5, revised in 2016 Look Forward)	Upper Lolo Creek (previously Yoosa Creek - revised in 2016 Look Forward)	5.2: Peripheral and Transitional Habitats: Floodplain Condition														New DS boundary of LOS5 is confluence of Lolo and Jim Brown creeks. Rename as "Upper Lolo". Will be called LOS6 in Taurus. LOS 5 will be deprecated. Updated AU weights: moved old LOS 3 weigh to new LOS6 + 10% (=40% AU weight). See calc table for summary of new AU weights.	10	Added limiting factor 5.2.	70	Updated by panel based on percentage of properly functioning condition.	70	71.9	1.9	Collette Mine berm removal will open 90% upstream floodplain in project area, resulting in 1.9% uplift.
Lolo Creek	LOS6 (previously LOS5, revised in 2016 Look Forward)	Upper Lolo Creek (previously Yoosa Creek - revised in 2016 Look Forward)	6.2: Channel Structure and Form: Instream Structural Complexity														New DS boundary of LOS5 is confluence of Lolo and Jim Brown creeks. Rename as "Upper Lolo". Will be called LOS6 in Taurus. LOS 5 will be deprecated. Updated AU weights: moved old LOS 3 weigh to new LOS6 + 10% (=40% AU weight). See calc table for summary of new AU weights.	20	Now called LOS 6. Inherited LFs from former LOS 3 and reweighted.	70	Updated by panel based on percentage of properly functioning condition.	70	71.9	1.9	Same rationale as for limiting factor 5.2.
Lolo Creek	LOS6 (previously LOS5, revised in 2016 Look Forward)	Upper Lolo Creek (previously Yoosa Creek - revised in 2016 Look Forward)	7.2: Sediment Conditions: Increased Sediment Quantity	80%	55	55	0	Collette Mine was attached to LOS5, but should be in LOS3. 4.2 acre of floodplain has been disconnected due to 0.19 miles of berm. Project removed berm and regraded to reconnect to floodplain. 10 wood structures, 1,000 ft of bank work. NOTE: Will consider future phases in Look Forward. No action. No change.	61	65	65	75	10%	Upper Lolo EAWS (2003): sediment estimated at 6 tons/sq miles/year and currently elevated by an estimated 33 percent over natural.	Lolo insect and Disease EIS, approximately 20 miles of road decommissioning planned	See Comments above.	New DS boundary of LOS5 is confluence of Lolo and Jim Brown creeks. Rename as "Upper Lolo". Will be called LOS6 in Taurus. LOS 5 will be deprecated. Updated AU weights: moved old LOS 3 weigh to new LOS6 + 10% (=40% AU weight). See calc table for summary of new AU weights.	40	Now called LOS 6. Inherited LFs from former LOS 3 and reweighted.	55	Updated by panel based on percentage of properly functioning condition.	55	59.6	4.6	Lolo First 50 Road Decommissioning 2016 also benefits 13 miles of the new LOS6 assessment unit. Benefit prorated at 50% and 10% in calc table. 2018 phase of First 50 will benefit 9 miles with same prorations. Yields 4.6% uplift. No sediment benefits from these phases, Collette counted because they are not considered to be chronic sediment sources.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2016-2018 Look Forward Estimate Comments / Rationale - 8/2/16 Lapwai Meeting
Clearwater River lower mainstem	LCS1	Big Canyon Creek	4.1: Riparian Condition: Riparian Vegetation	10%	45	45	0	No actions. No change.	45	50	45	65	12%	Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Short-term (2018) response to initial riparian plantings throughout invasive weed treatment reaches and fencing/off-site watering corridors. Long-term (2033) response to maturation of riparian plantings and natural revegetation of treatment areas. LF TARGET: Riparian buffer extending >=300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2003-2006 NPT canopy cover and riparian width, density and composition data		AU weights revised per NOAA Intrinsic Potential info & NPT analysis shown in spreadsheet received from Emmit Taylor 12/13/2012 titled Chin_Sthd_au-summary05-15-12_rgt watershed_edited final_12-11-12.xlsx						45	45.003	0.003	The Panel did not identify any actions applicable to this Limiting Factor expected within 2013-2018 period in this AU. No change in function percentage.	Stream bank Erosion # 13-1686: Little Canyon Creek "Expected completion 2017. This project reduces road surface erosion, which is delivering sediment to Big Canyon Creek along 500 linear feet. This is an SRBA funded project through Idaho OSC #1308." 150 feet of rock toe included. Prorated as 5%. Uplift = 0.003%
Clearwater River lower mainstem	LCS1	Big Canyon Creek	6.1: Channel Structure and Form: Bed and Channel Form	10%	45	45	0	No actions. No change.	45	50	45	65	12%	Unstable channel conditions noted throughout 2003-2006 NPT surveys; particularly throughout middle reaches of Big Canyon Creek. HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, bank stabilization, wetland development and grassed waterways. Long-term (2033) response to riparian/upland growth, forest regeneration, fencing/off-site watering and beaver recolonization. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2003-2006 NPT bank stability and width:depth ratio data, 2008 NPT / NPSWCD assessment		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS1	Big Canyon Creek	6.2: Channel Structure and Form: Instream Structural Complexity	15%	45	45	0	No actions. No change.	45	50	45	65	12%	See Comments above.		See Comments above.						45	45.05	0.05	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	Stream bank Erosion # 13-1686: Little Canyon Creek "Expected completion 2017. This project reduces road surface erosion, which is delivering sediment to Big Canyon Creek along 500 linear feet. This is an SRBA funded project through Idaho OSC #1308." 150 feet of rock toe included. Prorated as 90% of Properly Function Condition. Uplift = 0.05%.
Clearwater River lower mainstem	LCS1	Big Canyon Creek	7.2: Sediment Conditions: Increased Sediment Quantity	10%	50	50	0	No actions. No change.	50	60	50	65	12%	Beyond effects of turbidity on juvenile and adult physiology, habitat impacts primarily localized within low gradient reaches due to high transport capacity of "flashy" systems. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth and forest regeneration. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) =10% for A & B channels and =20% for C & E channels. EXTANT DATA: 2003-2006 NPT pebble count, surface fines, embeddedness, periphyton and macroinvertebrate data.		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	Road erosion reduction #13-1686: Little Canyon Creek "Expected completion 2017. This project reduces road surface erosion, which is delivering sediment to Big Canyon Creek along 500 linear feet. This is an SRBA funded project through Idaho OSC #1308.". Prorated as 1%. Uplift = 0.0003%.
Clearwater River lower mainstem	LCS1	Big Canyon Creek	8.1: Water Quality: Temperature	25%	30	30	0	No actions. No change.	30	40	30	55	12%	Level of Certainty = 2. Instantaneous max in excess of 26ÂºC recorded at multiple locations; 28.8ÂºC recorded at mouth of Big Canyon Creek. HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian growth and effects of hydrological stabilization actions on W:D ratios and pool habitat. LF TARGET: Water temperature <14ÂºC. EXTANT DATA: 2003-2005 NPT thermograph data; BOR thermograph data		See Comments above.						30	30	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS1	Big Canyon Creek	8.7: Water Quality: Toxic Contaminants	2%	85	85	0	No actions. No change.	85	90	85	90	12%	Level of Certainty = 5. Lack data, but anecdotes about Little Canyon Creek headwater sources common; supported through biological data in upper Little Canyon Creek. HIGH BOOKENDS: Short-term (2018) response to education/enforcement coordination, grassed waterways and wetland development. LF TARGET: Low levels of chemical contamination from agricultural, grazing, industrial and other sources, no excess nutrients. EXTANT DATA: 2003-2005 NPT diatom and macroinvertebrate data		See Comments above.						85	85	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS1	Big Canyon Creek	9.1: Water Quantity: Increased Water Quantity	8%	50	50	0	No actions. No change.	50	55	50	70	12%	Beyond direct impacts to redds, extremely "flashy" spring events linked to all limiting factors except 8.7. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008 NPT / NPSWCD assessment		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS1	Big Canyon Creek	9.2: Water Quantity: Decreased Water Quantity	20%	35	35	0	No actions. No change.	35	40	35	55	12%	Low baseflow levels present within all streams; intermittent reaches present on mainstem Big Canyon and Little Canyon creeks. HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to wetland maturation, riparian/upland growth, forest regeneration and beaver recolonization. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2003-2006 NPT discharge data		See Comments above.						35	35	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	4.1: Riparian Condition: Riparian Vegetation	15%	40	40	0	No actions. No change.	40	50	40	65	13%	Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Prolonged response to invasive weed treatments, maturation of riparian plantings and revegetation of fencing/off-site watering corridors. LF TARGET: Level of Certainty = 3 . Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Prolonged response to invasive weed treatments, maturation of riparian plantings and revegetation of fencing/off-site watering corridors. LF TARGET: Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2008-2011 NPT photos and canopy cover data#Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2008-2011 NPT photos and canopy cover data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	6.1: Channel Structure and Form: Bed and Channel Form	10%	40	40	0	No actions. No change.	40	50	40	60	13%	Level of Certainty = 3. Unstable channel conditions noted through 2008-2011 NPT datasets; particularly throughout Cottonwood, Threemile and Butcher creeks. HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development, bank stabilization and grassed waterways. Long-term (2033) response to wetland maturation, riparian/upland growth, forest regeneration, fencing/off-site watering and beaver recolonization. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2008-2011 NPT undercut bank and wetted width/depth data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	10%	40	40	0	No actions. No change.	40	50	40	60	13%	Relatively low channel/habitat complexity noted through 2008-2011 NPT datasets HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development and grassed waterways. Long-term (2033) response to riparian/upland growth, forest regeneration, fencing/off-site watering, LWD maturation/recruitment and beaver recolonization. LF TARGET: Potential natural values for pool frequency, pool quality and LWD quantity. EXTANT DATA: 2008-2011 NPT channel morphology data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	10%	45	45	0	No actions. No change.	45	55	45	65	13%	Beyond impacts of turbidity on juvenile and adult physiology, habitat impacts primarily localized within low gradient reaches due to high transport capacity of "flashy" systems. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth and forest regeneration. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) =10% for A & B channels and =20% for C & E channels. EXTANT DATA: 2008-2011 NPT dominant substrate and pebble count data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	8.1: Water Quality: Temperature	35%	25	25	0	No actions. No change.	25	30	25	50	13%	Water temperatures appear to exceed lethal levels throughout Cottonwood Creek; may be primary limitation to Lawyer Creek productivity. HIGH BOOKENDS: Short-term (2018) response to drain-tile decom, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian growth and hydrological stabilization actions effect on W:D ratios and pool habitat. LF TARGET: Water temperature <14ÂºC. EXTANT DATA: 2008-2011 NPT instantaneous and Water Resources thermograph data		See Comments above.						25	25	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	9.1: Water Quantity: Increased Water Quantity	5%	40	40	0	No actions. No change.	40	45	40	60	13%	Beyond direct impacts to redds, extremely "flashy" spring events linked to all limiting factors; evidence of extremely disruptive flows within Cottonwood, Threemile and Butcher creeks. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT BF to wetted width data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS2	Camas Prairie tributaries	9.2: Water Quantity: Decreased Water Quantity	15%	30	30	0	No actions. No change.	30	35	30	50	13%	Low baseflow levels present throughout all watersheds; significant portions of mainstem Threemile and Butcher creeks intermittent. HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian/upland growth, wetland maturation, forest regen and beaver recolonization. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT wetted width and depth data		See Comments above.						30	30	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	10%	65	65	0	No actions. No change.	65	95	65	95	18%	Previous value overinflated for original AU. Data for new AU restricted to Tom Taha, Maggie, Sally Ann and Sill Creek; info for remainder of AU received from regional staff. HIGH BOOKENDS: Immediate response to replacement of fish passage barriers; <100% HB as potential for barrier(s) to be located upon uncooperative landowner parcel(s). LF TARGET: Full upstream and downstream passage for adult and juvenile fish at all flows. EXTANT DATA: 2008-2011 NPT groundtruthing observations		See Comments above.						65	65	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	4.1: Riparian Condition: Riparian Vegetation	10%	50	50	0	No actions. No change.	50	55	50	70	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Prolonged response to maturation of riparian plantings and natural revegetation of fencing/off-site watering corridors and weed treatment reaches. LF TARGET: Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2008-2011 NPT photos and canopy cover data		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	6.1: Channel Structure and Form: Bed and Channel Form	15%	45	45	0	No actions. No change.	45	55	45	70	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to levee removal, bank stabilization and wetland development. Long-term (2033) response to riparian/upland growth, forest regeneration and fencing/off-site watering. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2008-2011 NPT undercut bank and wetted width/depth data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	10%	50	50	0	No actions. No change.	50	60	50	75	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to levee removal and wetland development. Long-term (2033) response to riparian/upland growth, forest regeneration, LWD maturation/recruitment and fencing/off-site watering. LF TARGET: Potential natural values for pool frequency, pool quality and LWD quantity. EXTANT DATA: 2008-2011 NPT channel morphology data		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2016-2018 Look Forward Estimate Comments / Rationale - 8/2/16 Lapwai Meeting
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	15%	40	40	0	No actions. No change.	40	45	40	60	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth, road decommissioning and forest regeneration. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) =10% for A & B channels and =20% for C & E channels. EXTANT DATA: 2008-2011 NPT dominant substrate and pebble count data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	8.1: Water Quality: Temperature	15%	40	40	0	No actions. No change.	40	45	40	60	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to wetland development and education / enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian/upland growth and effects of levee removal/hydrological stabilization action on W:D ratios and pool habitat. LF TARGET: Water temperature <14âĂŘC. EXTANT DATA: 2008-2011 NPT instantaneous data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	9.1: Water Quantity: Increased Water Quantity	10%	50	50	0	No actions. No change.	50	55	50	65	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT BF to wetted width data		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS3	Clearwater Mountain tributaries	9.2: Water Quantity: Decreased Water Quantity	15%	40	40	0	No actions. No change.	40	45	40	55	18%	Data for revised AU restricted to Maggie and Sally Ann Creek; details for remainder of AU received from regional staff. HIGH BOOKENDS: Short-term (2018) response to wetland development and education / enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian/upland growth, wetland maturation and forest regeneration. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT wetted width and depth data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	1.1: Habitat Quantity: Anthropogenic Barriers	10%	60	60	0	Two culvert projects opened habitat, but there are barriers below, including lower one, which is a full barrier, so no credit assigned. Table list projects and miles affected (change mileage in database?), but panel prorated to 0%. 75.5 miles of perennial channels from Nez Perce Tribe stream surveys used as denominator.	60	95	60	95	11%	Passage currently blocked to 25% of productive channel as well as critical cool water refugia. HIGH BOOKENDS: Immediate response to replacement of fish passage barriers; <100% HB as potential for barrier(s) to be located upon uncooperative landowner parcel(s). LF TARGET: Full upstream and downstream passage for adult and juvenile fish at all flows. EXTANT DATA: NPT Passage Barrier Assessment	ESTIMATED IMPROVEMENT BASED ON LYNNE R. PROJECTS THAT AREN'T YET LOADED INTO SYSTEM; 8 PROJECTS & ABT. 15 MILES IMPROVED ACCESSED (Jack Spur, Mission Cr, push up berm, Sweetwater, Web Cr, Tom Bell, 8 of 232 barriers). NPT - no projects planned but will continue working on the Lewiston Orchards Irrigation District water diversions that are the largest barriers in the Lapwai Creek drainage.	See Comments above.						60	71.3	11.3	Sweetwater Creek Bridge Replacement: 6 miles opened: partial barrier to juveniles and adults, so 50% proration, resulting in 4% expected uplift.	Mission Creek Bridge Replacement #15-1586 ("184. Install Fish Habitat Structure" should read barrier removal: 11 miles of upstream habitat; was a seasonal partial barrier with debris blockage issues depending on county clean-out timing actions - often blocked during critical migration season, so 50% proration) included. No credit assigned (0% proration) to Flat Iron Bridge Replacement #12-157 ("29. Increase Instream Habitat Complexity and Stabilization": 7 miles of upstream habitat, 4 foot drop, SRBA 2017 project not in database) because there is also a downstream barrier that needs to be addressed before this one helps. East Fork Sweetwater Culvert Replacement 2017 is also above the other barrier, and is slated for 2019 or 2020. New uplift (including previous Look Forward sessions) = 11.3%.
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	4.1: Riparian Condition: Riparian Vegetation	15%	35	36.4	1.4	Table of riparian actions may be more lumped than database action entries. Table lists 10 riparian fencing, planting, and weed control projects, miles treated, and percent function prorations based on annual growth to 2018 (ranges from 1% t0 30%). Value of weed control accounted in weighting, as is state of pre-project condition, plant mortality, and site growth rates. Target of biocontrol is spotted knotweed (treated 15 miles). Added 2 projects to limiting factor 4.1 that are in the database under limiting factor 8.1. Using 75.5 miles as denominator, 1.0096 miles affected * prorations = 1.3 % uplift, which corresponds well	40	55	45	65	11%	Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Short-term (2018) response to initial riparian plantings throughout invasive weed treatment reaches, fencing/off-site watering corridors and removal of RR prism, levees and I95 pullouts. Long-term (2033) response to maturation of riparian plantings and natural revegetation of treatment areas. LF TARGET: Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2003-2006 NPT canopy cover and riparian width, density and compositon data. These efforts will also affect LF 6.1, 6.2, 7.2, and 8.1. High bookend changed from 40 to 55 (2018) and 60 to 65 (2033) per NPT CLW_Lapwai_expert panel edits_Oct2012.xlsx. spreadsheet.	Estimate based on NPT projects only - 3.25 miles total of riparian tree/shrub restoration. Lynne R. projects to be considered in "look back" at 2015 EP Workshop - Plant Vegetation - 36 riparian & 10 wetland acres (in top 3 priority areas in Restoration Plan); riparian fencing, livestock water developments Restoration Plan says 2800 riparian acres need enhancement	See Comments above.						36.4	36.6	0.2	Two projects in calc table: prorated based on vegetation growth of 5% per year in 2018 time period, yielding 0.1% expected uplift.	See calculation table for specs of included projects: Added Mission Cr Bridge Stream bank Enhancement (15-1586); 5% proration = 0% uplift due to rounding. Sweetwater Exclusion Fence #12-153: will benefit springs and Webb Creek, no plantings, but natural regeneration for 800ft. Site 11-128 water developments: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE Q. Project provides off channel water for livestock, protection 600 feet of Mission Creek.."; regeneration of mature plants; 5% proration. South Tom Beall Buffer Project Phase V: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE S. Planting project along 1.25 miles of stream.": will establish a 150 ft. buffer; currently no shade or woody veg; 5% proration. Install Fence at Site 16-1847: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE X. Fence installed along Sweetwater Creek" for 1000ft.: 5% proration. Sweetwater Fence: "BPA project 2002-070-00; expected completion 2018 Fence installed along Sweetwater Creek", same landowner, but this one is for 300 ft. of spring protection "Fors" 0.02 miles directly affected. Sweetwater Fence: "Fors", downstream of other Sweetwater fence "BPA project 2002-070-00; expected completion 2017 Fence installed along Sweetwater Creek." Water Development Fors, Water Development Site 16-1847, Mission Creek bank protection: duplicated entries. Windmill Road Phase I: BPA project 2002-070-00; expected completion 2018. Planting project along 600 feet of stream; 5% proration. Tom Beall Reconnect Phase II: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE T. Planting project along 300 feet of stream"; both banks planted. 5% proration of 300 ft. treated. Tom Beall Reconnect Phase I: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE T. Planting project along 300 feet of stream." New uplift = 0.2%.
	LCS4	Lapwai Creek Basin	5.2: Peripheral and Transitional Habitats: Floodplain Condition															15	Panel added limiting factor 5.2 on 7 June 2016.	29	Approximately 21 out of 75 miles have no side channels.	29	32.9	3.9	Two projects in calculation table: remeandering project prorated at 75% and Sweetwater Creek SC-03A at 90% based on percent of PFC expected to be attained there, yielding percentage uplift. Used 21 miles as denominator, resulting in 3.9% uplift.	
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	6.1: Channel Structure and Form: Bed and Channel Form	5%	50	51.1	1.1	Sweetwater Creek Levee project was done. Bridge Replacement project has yet to happen. Site 12161 stream crossing (not fish habitat, so in wrong limiting factor in database). So table has only 1 project, which treated 0.1 mile. Panel discussed extent and state of treatable channel in reaches in assessment unit, and chose to use 21 treatable (and not meeting properly functioning condition) miles up to confluence as	55	75	55	75	11%	Anthropogenic channel confinement particularly limiting in Lapwai and lower Mission creeks. HIGH BOOKENDS: Short-term (2018) response to removal of RR prism, levees and I95 pullouts. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2003-2006 NPT reports, 2008 NPT assessment. These efforts will also affect LF 4.1, 6.2, 7.2, and 8.1.	ESTIMATE BASED ON NPT PROJECTS - 4 major levee systems to be set-back or removed. LYNNE R. PROJECTS - 3 PUSH BERM REMOVALS 800 LIN FT NOT INCLUDED AND SHOULD BE CONSIDERED WITH "LOOK BACK" IN 2015 EP WORKSHOP.	See Comments above.						51.1	55	3.9	Two projects in calc table: remeandering prorated at 75% and 90% based on percentage of properly functioning condition expected to be attained there, yielding 3.9% uplift. Both future projects use 21 miles as denominator.	Mission Creek Bridge Replacement #15-1586: Opening size will be able to pass more material, but bed and channel form is a secondary minor localized benefit: it's mostly a passage and sediment project, so not counted here. Flat Iron Bridge Replacement: will count in other Limiting Factors. Webb Creek Floodplain project: will move road out of floodplain, and allow meandering, but no direct constructed changes to channel, so weighted as 0% proration. Sweetwater Creek Sediment Reduction #15-1683: near Flat Iron project, sediment benefit, so not counted under Limiting Factor 6.1. New uplift= 3.9%.
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	6.2: Channel Structure and Form: Instream Structural Complexity	10%	40	40.3	0.3	Added projects to table that might not be in the database under this limiting factor. Tom Beal project has rock that affected instream structure (created pool where coho has been seen). Fencing projects should be moved to	45	50	45	60	11%	Relatively low channel/habitat complexity noted through 2003-2006 NPT datasets HIGH BOOKENDS: Short-term (2018) response to floodplain connectivity, no-till, drain tile decommissioning, wetland development and grassed waterways. Long-term (2033) response to riparian/upland growth, forest regeneration, fencing/off-site watering, LWD maturation/recruitment and beaver recolonization. LF TARGET: Potential natural values for pool frequency, pool quality and LWD quantity. EXTANT DATA: 2003-2006 NPT channel morphology data	ESTIMATE BASED ON IDENTIFIED NPT PROJECTS. 0.66 miles of stream channel restroation on NPT trust unit 40 (headwaters of Rock Creek); additional benefits from 4 major levee systems to be addressed.	See Comments above.						40.3	41.9	1.6	Same projects as limiting factors 6.1 and 4.1. Prorated differently (more access to channel rather than banks) at 75% each, yielding 1.5% expected uplift.	Group discussed BiOp time period, so decided not to included fence projects, plantings, and water developments. Mission Creek bank protection: "BPA project 2002-070-00; expected completion 2018. Log revetment, toe rock placement" to create pool with hiding cover is counted as 0.05 miles with 75% proration. New uplift = 1.6%.
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	7.2: Sediment Conditions: Increased Sediment Quantity	10%	40	42.1	2.1	Riparian actions from limiting factor 4.1 used, plus Fountain Grade project added to table. This project dealt with gully erosion: 20 acres treated, but much was upland. Panel considered length of downstream stream that benefited: 0.1 mile. No till areas: counted based on proximity to creek: 10.05 miles of stream affected. Also have model showing amount of sediment diverted from stream (transported down to Sweetwater Creek). Panel added Webb Creek Spring 12-153 (was under a different limiting factor) and added Rock Creek Restoration remeandering (2012) project, 0.7 mile (different than other Rock Creek project). Panel did not count	42	50	43	70	11%	Beyond effects of turbidity on juvenile and adult physiology, habitat impacts primarily localized within low gradient reaches due to high transport capacity of "flashy" systems. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth, forest regeneration and road decommissioning. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) <=10% for A & B channels and <=20% for C & E channels. EXTANT DATA: 2003-2006 NPT pebble count, surface fines, embeddedness, periphyton and macroinvertebrate data.	Estimate based on NPT projects only - Small additional benefits from riparian restoration work.. Lynne R. projects not yet loaded into Taurus system & should be included in look back estimates at 2015 EP workshop (WE 48 Tillage - 5000 acres, WE 47 - Plant Veg 800 acres, Rd Improvements - 18 miles (30% riparian/70% upland); Upland Sediment Control Measures - grass waterways 3000 ft (immediate benefits), 25 gully erosion treatments, 1100' streambank stabilization)	See Comments above.						42.1	45.6	3.5	Panel discussed how changing roughness affects sediment transport: projects are expected to benefit substrate condition quality. Decided to list projects and rated at 5% each, resulting in 0.1% expected uplift.	Mission Creek Bridge Replacement #15-1586: will eliminate fine sediment erosion to creek. See calculation tables for sediment reduction projects and prorations (based on landscape position and percentage of total benefit possible in project area). Sweetwater Exclusion #12-153: mid-slope water development and cattle trail that will be fenced. Webb Creek Enhancement #12-154: soil is rockier, so less of a sediment source. Flat Iron Bridge Replacement #12-157: will nearly eliminate local erosion along 400 ft. of stream. Road erosion reduction #12-158: no treating all sediment sources, because cropland is also a source. Webb Creek Floodplain #13-1689 road:2300ft, prorated based on road's slope position. Sweetwater Creek Sediment Reduction #15-1683: 2 segments: 800ft and 200ft near Mill Creek: treating old logging road with water bars and other BMPs, but a lot of other roads in that area, so prorated lower. Sweetwater drainage no-till conservation: "BPA project 2002-070-00; expected completion 2016. Under BPA contract 72618. WE P. Project reduces erosion and decreases water surface runoff"; 5 tons/acre of sediment reduction expected; treating 90% of those acres. 1.5 miles adjacent to creek. Plus other Sweetwater drainage no-till projects slated for 3 years. Accounted for other sediment sources not corrected in prorations. South Tom Beall Buffer Project Phase V: Will get rapid grassy veg response; 1.25 miles treated. FORS 1847 water development 600 ft. of stream is duplicate, so removed. Mission Creek bank protection: 90% prorate. Windmill: mostly channel erosion, so small/no measurable benefit from plantings. Gully Erosion treatments are considered to be 75-80% effective in reducing erosion (in Sweetwater Cr drainage), will affect 300 ft. of creek, but other sediment sources exist from land use. Removed Tom Beall Reconnect phases. Added Mission Creek and Sweetwater 13-1687 midslope road sediment reduction projects. New uplift = 3.5%.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2016-2018 Look Forward Estimate Comments / Rationale - 8/2/16 Lapwai Meeting
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	8.1: Water Quality: Temperature	25%	30	30.4	0.4	Weed treatment benefits temperature by allowing native plant survival and growth, but this was removed from the table to avoid double counting with other vegetation actions in same sites. Discussed shade function difference bet+i35ween weedy species (removed) and planted native vegetation. Table has 14 projects. Weight accounted for vegetation growth and temperature effect to 2018, e.g. >1%-5% per year, depending on type of project. Revised to 1% for all. Multiplying treated miles by weighting = 0.32 miles, resulting in 0.4% uplift.	35	45	38	55	11%	Instantaneous max in excess of 26ÂºC recorded at multiple locations; 31.8ÂºC recorded at mouth of Lapwai Creek. HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development, education/enforcement coordination on illegal withdrawals and decommissioning of LOID diversions. Long-term (2033) response to riparian growth and effects of hydrological stabilization actions on W:D ratios and pool habitat. LF TARGET: Water temperature <14ÂºC. EXTANT DATA: 2003-2005 NPT thermograph data; BOR thermograph data	NPT PROJECTS CONSIDERED ONLY. Benefits from 3.25 miles of riparian restoration, in addition to benefits from influence on hyporheic flow from NPT trust unit 40 stream restoraiton and 4 major levee systems to be addressed.	See Comments above.		15	Panel modified limiting factor weight on 7 June 2016.			30.4	48.25	17.85	Small benefit from riparian projects in 2018 time period. Panel determined that planned instream flow projects should be included due to Bureau of Reclamation funding, so calc table has LOP Pilot Well Project: 22 miles affected by 4 added cfs of cool water. Added uplift from riparian shade and flow benefit projects, yielding 11.78% uplift. Temperature benefits expected to be measurable far downstream. Water from Soldiers is in the 50s. Panel revised the LF 9.2 uplift calculation (removed proration) which resulted in a revised LF 8.1 uplift of 17.85%.	Vegetation growth response within 2018 period not expected to yield measurable benefits to temperature. These projects accounted for already under different Limiting Factors.
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	8.7: Water Quality: Toxic Contaminants	2%	80	80	0	No action. No change.	80	85	80	90	11%	Lack data, but adjacent to I95 and Culdesac trap range and anecdotal information re. residential impacts common. HIGH BOOKENDS: Short-term (2018) response to education/enforcement coordination, grassed waterways and wetland development . Long-term (2033) response to maturation of riparian plantings adjacent I95. LF TARGET: Low levels of chemical contamination from agricultural, grazing, industrial and other sources, no excess nutrients. EXTANT DATA: NPT water quality analysis of Culdesac trap range.	No projects planned	See Comments above.						80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	9.1: Water Quantity: Increased Water Quantity	8%	45	45	0	No action. No change. [NOTE: At Look Forward, discuss limiting factors in regard to how projects are affecting	46	50	47	60	11%	Beyond direct impacts to redds, extremely "flashy" spring events linked to all limiting factors except 1.1 and 8.7. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows	NPT PROJECTS CONSIDERED ONLY. Benefits from 3.25 miles of riparian restoration, in addition to benefits from	See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS4	Lapwai Creek Basin	9.2: Water Quantity: Decreased Water Quantity	15%	35	35	0	No action. No change. [NOTE: At Look Forward, discuss limiting factors in regard to how projects are affecting hydrographs (e.g., baseflow increases, flashiness, etc.)]	38	55	38	65	11%	Low baseflow levels present within all streams; Webb, Sweetwater and lower Lapwai Creek discharge impacted by BOR water withdrawals. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning, wetland development and decommissioning of LOID diversions. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: USGS gauge data and 2003-2006 NPT discharge data	NPT PROJECTS CONSIDERED ONLY. Benefits from 3.25 miles of riparian restoration, in addition to benefits from floodplain restoration on NPT trust unit 40 stream restoraiton and 4 major levee systems to be addressed.	See Comments above.						35	52.8	17.8	LOP Pilot Well Project: 22 miles affected by 4 added cfs to BiOp flow of 5 cfs. Denominator and seasonal needs/benefits discussed: historical baseflow would have been approximately 15 cfs before irrigation withdrawals. Yields 17.8% uplift. But panel then prorated based on mileage affected (22 of 75 miles in the assessment unit), but taking into account the 66% contribution of Sweetwater flows to the whole assessment unit yields an expected uplift of 11.7%. Panel then revised for consistency and removed the 66% proration, resulting in 17.8% uplift.	Lapwai Reforestation #15-1690: "BPA project 2002-070-00; expected completion 2016. Project converts 30 acres of cropland to forestlands, providing upland hydrology improvements. Project is partially funded by SRBA #1308. BPA funds staff time and engineering"; prorated at 0%. Expected to improve flow conditions. Craig Mountain Meadow Protection project: removed.
Clearwater River lower mainstem	LCS5	Potlatch River Basin	1.1: Habitat Quantity: Anthropogenic Barriers	10%	65	71	6	95.5 steelhead miles per Streamnet. Panel added miles for tributaries, based on known steelhead use, natural barriers, and gradient: 5 miles on Little Potlatch Creek, 21 miles on Little Bear, 10 miles on Big Bear (partial barriers exist; mykiss found up to highway). Middle Fork, Pine Creek was accurate in Streamnet. Panel added 5 miles on Cedar and 0.0 miles on Rock Creek, removed 2 miles from Boulder Creek (natural barrier), and added 1 mile on Brush Creek, 8 miles on Corral, 2 miles on Little Boulder, 2 miles on Hog, 5 miles on Ruby Creek, 1 mile on Fry, 1 mile on Jackson Creek, 3 miles on Bob's Creek, 1 mile on Rogers, 1 mile on Bloom Creek, 1 mile on Pivosh Creek, 3 miles on Mallory Creek, 2 miles on mainstem East Fork. Panel also added 1 mile for Moose	75	75	75	75	28%	Migration barriers are planned for removal on the W. Fork Little Bear. Culvert replacements are scheduled throughout the Potlatch River system that currently serve as migration barriers. Add Comment Per D. Keen 2/21/2013 "An additional barrier on Big Bear Creek is scheduled for evaluation and for passage improvement."	71 miles total improved access Value Edited to "86 miles total improved access" Per D. Keen 2/21/2013	See Comments above.						71	89.1	18.1	Big Meadow Creek Culvert Modification will improve passage at this full barrier to all life history stages, will open 6 miles of habitat. Prorated at 100%. There are velocity barriers at culverts upstream of the culvert. Big Bear Falls: watershed impacts have led to a flashier system, which has changed timing and magnitude of flows that would have allowed seasonal passage at the falls. Passage at the falls is limited now (partial barrier), so prorated at 50%. Will allow better access to 50 miles of upstream habitat. Also: Upper Big Meadow Creek culverts (3 of them, all partial barriers): 3 mile of access. Yields 18.1% uplift.	
Clearwater River lower mainstem	LCS5	Potlatch River Basin	4.1: Riparian Condition: Riparian Vegetation	15%	50	50.7	0.7	Seven projects are listed in table (totaling 4.36 miles), prorated based on growth to 2018 = 1.341 stream miles. Panel discussed of meadow projects, as they are meant to help hydrology (shift	55	55	65	65	28%	A large portion of the diminished riparian cooridors are located within the basin where agricluture has been active and continues to be active as well as areas of active livestock grazing. The riparian conditions in these area will be enhanced through livestock exclusion, riparian plantings with native species, and the implementation of upland agricultural practices that reduce sheet and gully erosion. These efforts will also affect 6.1, 6.2, 7.2, and 8.1.	ADD LSWCD Projects - 8 projects, benefits from projects in other LF.	See Comments above.		10	Panel modified limiting factor weight on 7 June 2016.			50.7	50.9	0.2	Two Mile Meadow Riparian 2018: 2.29 miles; Dammerman Phase 1 2018: 0.75 mile; Mason Meadow 2016: 0.37 mile; Big Meadow: 1.5 mile; Nora Creek 2017: 0.3 miles. Improvement prorated based on expected vegetation growth within 2018 period in these wet areas (rate of achievement of properly functioning condition). Sedge mats grow within a year, so prorated at 10%. Yields 0.2% uplift.	
	LCS5	Potlatch River Basin	5.2: Peripheral and Transitional Habitats: Floodplain Condition															15	Panel added limiting factor on 7 June 2016	30	Panel added limiting factor on 7 June 2016. Much incision throughout assessment unit.	30	33.3	3.3	Calc table contains same projects as for limiting factor 4.1, prorated according to percentage of properly functioning condition expected to be attained by 2018, given the amount of incision seen in this area. Panel discussed denominator and noted that not all reaches will have floodplains due to different geomorphology/confinement. Panel may want to revisit with a more refined denominator. Mapped miles less than 2% slope = 167 miles, but panel noted that not all of that can have floodplains. Assuming that 50% of the length is the right morphology for floodplain, 90 miles was the new denominator, resulting in 3.3% uplift.	
Clearwater River lower mainstem	LCS5	Potlatch River Basin	6.1: Channel Structure and Form: Bed and Channel Form	10%	45	47.1	2.1	Table uses projects from limiting factor 4.1, weighed based on function as developed and expected to 2018. Sedge meadow projects matured quickly (80-90% function). Found redds and juvenile rearing in Fry Meadow right away. Bloom Creek saw fast gravel and sediment response to channel reconstruction. Total steelhead miles for denominator: 179.5 miles (see limiting factor 1.1 for denominator calculation). Results in 2.1% uplift.	55	55	60	60	28%	Channel structure and stability will be enhanced in the agricluture and forest landscapes through meadow and instream channel restorations where channel sinuosity has been lost and riparian restoration plantings. Areas of focus through 2018 will include Big Bear Creek, Little Bear Creek, Corral Creek, Fry Creek, and E. Fork Potlatch River.	6.25 stream miles total - most are meadow restoration projects.	See Comments above.						47.1	50.6	3.5	Includes East Fork Potlatch River Large Woody Debris project on U.S. Forest Service property. Panel discussed rate of form response after project construction based on past projects. Calc table yields 1.8% uplift. Assuming that 50% of the length is the right morphology for floodplain, 90 miles was the new denominator, yielding 3.5% uplift.	
Clearwater River lower mainstem	LCS5	Potlatch River Basin	6.2: Channel Structure and Form: Instream Structural Complexity	10%	40	41.7	1.7	Panel reviewed table from limiting factor 6.1 regarding work elements and for applicability to limiting factor 6.2. Panel considered installed complexity as well as	45	45	55	55	28%	Instream structural complexity will be enhanced through instream channel restorations (e.g., large woody debris when appropriate) and riparian plantings with native species will take place to add instream structural complexity	Big Bear Creek - 2 miles, riparian meadow restoration; IDFG - 2 projects, Bloom Cr, restoration - channel realignment, E Fork LWD project;	See Comments above.						41.7	43.5	1.8	Same projects and rationale as for limiting factor 6.1, yielding 1.8% uplift. But Denominator = 179.5 steelhead bearing stream miles	
Clearwater River lower mainstem	LCS5	Potlatch River Basin	7.2: Sediment Conditions: Increased Sediment Quantity	15%	40	41	1	Panel reviewed table from limiting factor 4.1 regarding work elements and for applicability to limiting factor 7.2. Panel discussed how these projects affected	50	50	55	55	28%	Upland forest and agriculture practices will be installed to minimize the delivery of fine sediments to critical streams. Emphasis will be placed on road rocking projects near fish bearing streams, replacing undersized culverts, and implementing agricultural practices designed to minimize sheet, rill and gully erosion.	10 LSWCD Projects + projects from other LF (i.e. Riparian)	See Comments above.		10	Panel modified limiting factor weight on 7 June 2016.			41	41	0	Minor secondary benefits to sediment from projects in other limiting factors. No measurable change expected.	

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2016-2018 Look Forward Estimate Comments / Rationale - 8/2/16 Lapwai Meeting
Clearwater River lower mainstem	LCS5	Potlatch River Basin	8.1: Water Quality: Temperature	20%	30	30	0	Panel considered table of projects and discussed effect of Meadow project hyporheic changes to temperature. There are local benefits, but not measurable in assessment period at the assessment unit scale. Temperature is related to flow, but in this case, benefits are local, and affect winter temperatures (moderating overwintering habitat conditions) which is not included in this limiting factor. NOTE: for Look Forward, consider adding a limiting factor that addresses cold winter conditions, or is limiting factor 8.1 the right one (see Yankee Fork for comparison)? No change in percentage: relevant actions, but not measurable yet.	35	35	45	45	28%	Practices will place an emphasis on restoring degraded riparian areas to minimize direct summer solar inputs to local streams. Meadow restorations will take place to provide for a source of cool groundwater inputs to streams. These efforts will also affect 4.1, 6.1, and 6.2.	2 LSWCD Projects - riparian fencing, 3.5 river miles	See Comments above.		15	Panel modified limiting factor weight on 7 June 2016.			30	34.4	4.4	Panel noted that dissolved oxygen is a factor in this assessment unit, but considered it within limiting factor 8.1 and limiting factor 9.2 and noted that dissolved oxygen is improved by actions that benefit flow and temperature. Sum of riparian and flow uplifts results in 4.4% uplift. Panel noted that augmentation water is cold.	
Clearwater River lower mainstem	LCS5	Potlatch River Basin	9.2: Water Quantity: Decreased Water Quantity	20%	30	30	0	NOTE: For Look Forward, need to add limiting factor 9.3 to address hydrographic issues, which is one of the main problems that has been identified in this assessment unit. No change in percentage: relevant actions, but not measurable yet.	35	35	40	40	28%	Meadows and wetland restorations will take place to provide for a source of base flows throughout the summer and fall. These efforts will also affect 6.2 and 8.1.	1 LSWCD project - flow augmentation from City of Troy reservoir; 1 IDFG reforestation project 2500 primarily upland acres Comment Edited Per D. Keen 2/21/2013 "1 LSWCD project - flow augmentation from City of Troy reservoir; 1 IDFG reforestation project 2500 primarily upland acres, 2 IDFG Flow augmentation projects- Spring Valley Reservoir and alternative site for reservoir construction."	See Comments above.						30	34.2	4.2	Panel noted that dissolved oxygen is a factor in this assessment unit, but considered it within limiting factors 8.1 and 9.2 and noted that dissolved oxygen is improved by actions that benefit flow and temperature. Spring Valley Reservoir Flow Augmentation to supplement low flow season flows by 0.25 cfs. Affects at least 12 miles. Of that, about 7 miles go dry now. Mainstem Potlatch baseflow in August is 6 cfs. Using this as a denominator results in 4.2% uplift.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	4.1: Riparian Condition: Riparian Vegetation	15%	55	55	0	No actions. No change.	55	60	55	75	7%	Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Short-term (2018) response to initial riparian plantings throughout invasive weed treatment reaches and fencing/off-site watering corridors. Long-term (2033) response to maturation of riparian plantings, natural revegetation of treatment areas and forest regeneration. LF TARGET: Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2008-2011 NPT photos and canopy cover data		See Comments above.						55	55	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	6.1: Channel Structure and Form: Bed and Channel Form	5%	45	45	0	No actions. No change.	45	50	45	60	7%	Unstable channel conditions noted through 2008-2011 NPT datasets HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development, bank stabilization and grassed waterways. Long-term (2033) response to wetland maturation, riparian/upland growth, forest regeneration, fencing/off-site watering and beaver recolonization. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2008-2011 NPT undercut bank and wetted width/depth data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	6.2: Channel Structure and Form: Instream Structural Complexity	10%	50	50	0	No actions. No change.	50	55	50	65	7%	Relatively low channel/habitat complexity noted through 2008-2011 NPT datasets HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development and grassed waterways. Long-term (2033) response to wetland maturation, riparian/upland growth, forest regeneration, fencing/off-site watering, LWD maturation/recruitment and beaver recolonization. LF TARGET: Potential natural values for pool frequency, pool quality and LWD quantity. EXTANT DATA: 2008-2011 NPT channel morphology data		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	7.2: Sediment Conditions: Increased Sediment Quantity	15%	40	40	0	No actions. No change.	40	45	40	55	7%	Beyond impacts of turbidity on juvenile and adult physiology, habitat impacts primarily localized within low gradient reaches due to high transport capacity of "flashy" systems. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth, road decommissioning and forest regeneration. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) =10% for A & B channels and =20% for C & E channels. EXTANT DATA: 2008-2011 NPT dominant substrate and pebble count data		See Comments above.						40	40	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	8.1: Water Quality: Temperature	25%	35	35	0	No actions. No change.	35	40	35	50	7%	Max temps appear particularly limiting to Jim Ford and mid-lower Orofino Creek HIGH BOOKENDS: Short-term (2018) response to drain-tile decom, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian growth and effects of hydrological stabilization actions on W:D ratios and pool habitat. LF TARGET: Water temperature <14âºC. EXTANT DATA: 2008-2011 NPT Instantaneous and Water Resources thermograph data		See Comments above.						35	35	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	9.1: Water Quantity: Increased Water Quantity	5%	45	45	0	No actions. No change.	45	50	45	55	7%	Beyond direct impacts to redds, extremely "flashy" spring events linked to all limiting factors. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decom and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT BF to wetted width data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6A	Weippe Prairie	9.2: Water Quantity: Decreased Water Quantity	25%	30	30	0	No actions. No change.	30	35	30	50	7%	Low rheic flows appear particularly limiting to Whiskey and Big Creek HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian/upland growth, wetland maturation, forest regeneration and beaver recolonization. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT wetted width and depth data		See Comments above.						30	30	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	1.1: Habitat Quantity: Anthropogenic Barriers	2%	75	75	0	No actions. No change.	75	95	75	95	7%	Barrier at mouth of Lindsay Creek responsible for majority of habitat loss. HIGH BOOKENDS: Immediate response to replacement of fish passage barriers; <100% HB as potential for barrier(s) to be located upon uncooperative landowner parcel(s). LF TARGET: Full upstream and downstream passage for adult and juvenile fish at all flows. EXTANT DATA: 2008-2011 NPT groundtruthing observations		See Comments above.						75	75	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	4.1: Riparian Condition: Riparian Vegetation	10%	45	45	0	No actions. No change.	45	50	45	60	7%	Conservative LF weight as linked to all other impacts. HIGH BOOKENDS: Short-term (2018) response to initial riparian plantings throughout invasive weed treatment reaches, fencing/off-site watering corridors and removal or setback of levees. Long-term (2033) response to maturation of riparian plantings and natural revegetation of treatment areas. LF TARGET: Riparian buffer extending =300' from floodplain with riparian vegetation having >75% similarity to potential natural community composition. EXTANT DATA: 2008-2011 NPT photos and canopy cover data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	6.1: Channel Structure and Form: Bed and Channel Form	10%	45	45	0	No actions. No change.	45	50	45	65	7%	Unstable channel conditions noted through 2008-2011 NPT datasets HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development, bank stabilization and grassed waterways. Long-term (2033) response to wetland maturation, riparian/upland growth, forest regeneration, fencing/off-site watering and beaver recolonization. LF TARGET: Bank stability >90% for Rosgen C channel, >95% for A & B channel, 100% for E channel. Width:Depth ratio<10 for A channel, <20 for B channel, <40 for C channel and <7 for E channel. EXTANT DATA: 2008-2011 NPT undercut bank and wetted width/depth data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	6.2: Channel Structure and Form: Instream Structural Complexity	15%	50	50	0	No actions. No change.	50	55	50	70	7%	Relatively low channel/habitat complexity noted through 2008-2011 NPT datasets HIGH BOOKENDS: Short-term (2018) response to no-till, drain tile decommissioning, wetland development and grassed waterways. Long-term (2033) response to wetland maturation, riparian/upland growth, fencing/off-site watering, forest regeneration, LWD maturation / recruitment and beaver recolonization. LF TARGET: Potential natural values for pool frequency, pool quality and LWD quantity. EXTANT DATA: 2008-2011 NPT channel morphology data		See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	7.2: Sediment Conditions: Increased Sediment Quantity	10%	45	45	0	No actions. No change.	45	55	45	70	7%	Beyond impacts of turbidity on juvenile and adult physiology, habitat impacts primarily localized within low gradient reaches due to high transport capacity of "flashy" systems. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, wetland development, bank stabilization and fencing/off-site watering. Long-term (2033) response to riparian/upland growth and road decommissioning. LF TARGET: Cobble Embeddedness <20%. Surface fines (<6mm) =10% for A & B channels and =20% for C & E channels. EXTANT DATA: 2008-2011 NPT dominant substrate and pebble count data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	8.1: Water Quality: Temperature	20%	35	35	0	No actions. No change.	35	40	35	50	7%	Max temps appear particularly limiting to lower Cottonwood Creek. HIGH BOOKENDS: Short-term (2018) response to drain-tile decommissioning, wetland development and education/enforcement coordination on illegal withdrawals. Long-term (2033) response to riparian growth and effects of hydrological stabilization actions on W:D ratios and pool habitat. LF TARGET: Water temperature <14âºC. EXTANT DATA: 2008-2011 NPT Instantaneous and Water Resources thermograph data		See Comments above.						35	35	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	9.1: Water Quantity: Increased Water Quantity	8%	45	45	0	No actions. No change.	45	50	45	60	7%	Beyond direct impacts to redds, extremely "flashy" spring events linked to all limiting factors. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of peak flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT BF to wetted width data		See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2016-2018 Look Forward Estimate Comments / Rationale - 8/2/16 Lapwai Meeting
Clearwater River lower mainstem	LCS6B	Lower canyon tributaries	9.2: Water Quantity: Decreased Water Quantity	25%	30	30	0	No actions. No change.	30	35	30	45	7%	Low baseflow levels present within all streams, intermittant reaches present throughout majority of streams. HIGH BOOKENDS: Short-term (2018) response to no-till, grassed waterways, drain tile decommissioning and wetland development. Long-term (2033) response to wetland maturation, riparian/upland growth and forest regeneration. LF TARGET: Discharge volume and timing of base flows comparable to a watershed functioning within its natural disturbance regime. EXTANT DATA: 2008-2011 NPT wetted width and depth data		See Comments above.						30	30	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.	

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
South Fork Clearwater River	SCS1	American River	1.1: Habitat Quantity: Anthropogenic Barriers	10%	75	103.4	28.4	62.4 miles in Streamnet steelhead habitat mapping. Panel considered this to be a conservative estimate. Intrinsic potential mapping did not look accurate to panel. Nez Perce Tribe calculated habitat, starting with all streams, minus 1st order streams, taking into account channel width and gradients (<12% slope). Panel agreed on 12% gradient cutoff for steelhead use. See handout with map and GIS calculations of potential habitat in basin: 250 miles total, before exclusions; 186 miles, which includes spawning and rearing reaches. Panel thought that the true number is probably between the 62.4 miles Streamnet number and the 186 miles. 50-75 miles are still blocked. 111 miles of American River mainstem was affected by 80-ft-long partial adult velocity barrier culvert; some juveniles might have wanted to migrate upstream there for thermal refuge, depending on season. Private road barriers are less known. No	80	90	80	90	12%	GIS mapping depicts 167 culverts in the American River Watershed. Best professional judgement that at least 10% are fish passage barriers blocking approximately 25% of the habitat. Target= 100% passable.	Culvert surveys from 2012 show about 8 passage barriers; address 4 to 5 in 2012-18. A partial barrier at very low and very high flows still exists at the mouth of American River. This is an expernsive project	AU weights revised per NOAA Intrinsic Potential info & NPT analysis shown in spreadsheet e-mailed 12/13/2012 from Emmit Taylor to Kathy Fisher titled Chin_Sthd_au-						103.4	108.8	5.4	Big Elk Creek project expected in 2017: culvert replacement with bottomless arch. Will open 10 miles. It is a partial barrier to steelhead adults and juveniles at high flows due to velocity, so prorated at 50%. No other barriers are upstream. Yields 5.4% uplift, using 93 miles as denominator.
South Fork Clearwater River	SCS1	American River	4.1: Riparian Condition: Riparian Vegetation	20%	35	35	0	No applicable actions.	40	65	45	80	12%	Loss of riparian veg from grazing, dredge mining, and urbanization. Occular observations. SF Cleawater River TMDL Appendix K (IDEQ 2003); American and Crooked River EIS (USFS 2005), Aquatic Specialist Report (USFS 2007). CNF and NPNF Matrix of Watershed Condition for Chinook, Steelhead, and Bull Trout is > 75% shade. Most sub-watersheds are less than 50%	Approximently 2 miles of riparian area (10 acres) along American River will be planted. There are many miles left along the mainstem American River, Big Elk and Little Elk Creeks to	See Comments above.						35	35.05	0.05	Added Elk Creek Vegetation Planting project, expected in 2016 or 2017: 0.25 mile to be planted. Prorated based on expected growth rates in this area, trench planting, and large plants, so 10% per year, resulting in .05% uplift to 2018.
South Fork Clearwater River	SCS1	American River	4.2: Riparian Condition: LWD Recruitment	10%	50	50	0	No applicable actions.	50	65	52	75	12%	Loss of riparian veg from grazing, dredge mining, and urbanization. Occular observations, SF Cleawater River TMDL Appendix K (IDEQ 2003); American and Crooked River EIS (USFS 2005), Aquatic Specialist Report (USFS 2007). CNF and NPNF Matrix of Watershed Condition for Chinook, Steelhead, and Bull Trout is > 75% shade. Most sub-watersheds are less than 50%. Assume that floodplain projects will promote recruitment or woody debris will be physically added from restoration activities.	Planting along American River will provide LWD recruitment in the long term.	See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS1	American River	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	10%	60	60	0	No applicable actions.	60	65	60	68	12%	Historic side channel and wetland condition is difficult to estimate. Since floodplains have been drastically altered and lost, it is likely that a significant amount of wetlands and side channels were also lost. Percent lost is based on an estmate of lost floodplains in the watershed. With the restoration of floodplain functions, it is likely that wetland and side channel functions will also be restored.	No side channels or wetlands will be constructed or improved in this watershed by 2018. Projects are being explored for beyond 2018.	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS1	American River	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15%	45	45	0	No applicable actions.	45	65	45	75	12%	Loss of floodplain for approximately 14 miles of American River, 4 miles of Buffalo Gulch due to dredge mining. Impaired floodplain function along 12 miles Big and Little Elk Creeks from grazing activities. No projects are planned that address this liminting factor before 2018.	No floodplain or side channel work will be done by 2018. Projects are being explored for beyonnd 2018.	See Comments above.						45	45	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS1	American River	6.2: Channel Structure and Form: Instream Structural Complexity	15%	50	50	0	No applicable actions.	50	70	50	75	12%	American River should have 140 pools per mile to meet the CNF and NPNF Matrix of Watershed Condition for Chinook, Steelhead, and Bull Trout. Pool frequency ranges from 18 pools per mile in American River to about 48 pools per mile is the tributaries (South Fork Clearwater River TMDL- Appendix K, 2003). Target for pool quanity based on stream width; pool quality >4, LWD near natural levels.	No instream work will be done in the American River watershed by 2018. Projects are being explored for beyond 2018.	See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS1	American River	7.2: Sediment Conditions: Increased Sediment Quantity	15%	40	40.1	0.1	One (2012) action in database, which treated 2.9 miles, 15 acres (= 0.000344 square miles) of road decommissioned. American River has over 2.3 miles of road per square mile of watershed. There is high cobble embeddedness in American mainstem. Fixed road sediment sources, but mostly mid-slope actions, only 2 stream crossings in project. Panel discussed local vs. detectable effects at watershed scale, use of downstream effects in proration, and which metric and denominator to use. Road projects can cross ridges, affecting different streams. Upland, mid-slope, and streamside roads have different effects. Sediment modeling results are available for this area, but not entire Clearwater watershed, and were completed prior to this assessment period. Other project considered: culvert replacement, which blocked, so sediment source and failure risk. Could use cubic yards of sediment prevented as metric? Assessment unit area: 92 square miles. But all acres are not equal, in terms of effect to streams, so area is not the right metric. Use NMFS properly functioning condition for road network density as comparison indicator? Studies have shown that 90% of sediment comes from 10% of road segments. Getting to that level of detail would require a lot of data collection. Sum and prorate using road location: Forest Service counts only length of road within 300 ft of stream, but, due to concentration of flow by roads, this understates benefit to streams downstream of action. Also include stream crossings that have sediment benefits. Table prorates using slope position (3 categories: upland 10%, mid-slope 50%, and streamside 90%) and overall weighting relative to assessment unit (including slope, landslide-prone locations to account for high-elevation areas that can contribute more sediment, which are considered [among several factors] by Forest Service and Nez Perce Tribe in project prioritization). Actions can be road decommissioning, but also fixing problems on roads that will remain in service. Discussion of reducing risk - how to count vs. reducing current sedimentation. Panel decided to count stream miles downstream affected, down to next confluence (10 miles), prorated, and used steelhead stream miles as denominator. This resulted in 2.7% uplift. Panel added additional modifier column for percent benefit, given total improvement possible and given other roads/problem culverts/sediment sources in project vicinity. In this case, panel used 50% modifier, resulting in 1.3% uplift. Panel revisited calculation method to try watershed area method because Red River has different project types. Panel decided this may be applicable to other areas, but keep previous method for now. Revised in afternoon: kept structure, but adjusted percentages; = 0.03%. 2/11/2016: New denominator (see limiting factor 1.1), which results in 0.05% uplift, rounded to 0.1%.	45	60	50	75	12%	167 mapped culverts that are potentially sediment sources. Road surveys conducted in 2012 show that road densities are 2.5 miles per square mile. Approximately 75 miles of trail in American River watershed with the majority of trail miles in the riparian area.	Approximately 70 miles of road are non-system roads and can potentially be decommissioned. 15-20 miles will be decommissioned by 2018. Grazing still exists on private land and are being explored for beyond 2018.	See Comments above.						40.1	40.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS1	American River	8.1: Water Quality: Temperature	5%	60	60	0	No change.	63	75	65	85	12%	SF Clearwater River TMDL (2003) lists the majority of streams in the South Fork Clearwater Rivers as being impaired for temperature. Projects that improve riparian condition and instream complexity are likley to improve temperature conditions in the watershed.	Benefits from riparian planting actions.	See Comments above.						60	60	0	Not enough time to see measurable results from planting projects within the 2018 time period. No uplift assigned.
South Fork Clearwater River	SCS10	Ten Mile Creek	1.1: Habitat Quantity: Anthropogenic Barriers	30%	85	85	0	No action. No change.	90	95	90	95	11%	There are 9 known road crossings, based on stream miles and assuming 2 are barriers, this results in a LBE of 85% and assuming 1 could be replaced by 2018 results in a HBE of 95%. Future crossing inventory and assessment is needed to prioritize actions.	1 unidentified stream crossings a scheduled for 2013-2018. Based on stream miles blocked and the total number of stream miles in the AU/watershe	See Comments above.						85	85	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS10	Ten Mile Creek	7.2: Sediment Conditions: Increased Sediment Quantity	70%	82	83.9	1.9	Project in Tenmile drainage (in 2012) included replacement of failing bridge with wide span. This was a preventative action to reduce risk of erosion/failure: otherwise, it would have continued to erode at each peak flow. Road continues up to SCS6. Project affected 4 miles of stream, prorated to 90% for landscape/slope position and 10% for other human-caused sedimentation in area (other roads, timber harvest) upstream. Discussed road density. Denominator: Panel used Streamnet steelhead miles, 18.5 miles. This results in 1.9% uplift.	85	87	87	90	11%	Goal for cobble embeddedness is less than 30%; occular estimates of cobble embeddedness in Ten Mile Creek is less than 40%. Goal for road density is 2 mile/sq. mile. Current road density in the roaded portion is 1.2 mi./sq. mi. There are 29 miles of known roads in the drainage. Additonal non inventoried roads increase road densities above stated values.	Sediment reduction due to Tenmile Creek Bridge replacment, 2012	See Comments above.						83.9	83.9	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS2	Crooked River	1.1: Habitat Quantity: Anthropogenic Barriers	5%	80	80	0	No actions. No change.	83	90	83	90	13%	There are over 60 mapped stream crossings in the Crooked River watershed (GIS). Three of the larger tributaries have partial or complete fish barriers and contribute to 10% of the potential habitat. There are at least three other know barriers to streams with rearing habitat. Target= 100% fish passage.	Replacing 2 culverts in Crooked River by 2018.	See Comments above.						80	80.6	0.6	Fivemile culvert removal project will open 0.5 mile of habitat after timber project is done (2016). It is a partial barrier (velocity - 24-inch pipe in a 4-foot stream). 44 miles as denominator. Yields 0.6% uplift.
South Fork Clearwater River	SCS2	Crooked River	4.1: Riparian Condition: Riparian Vegetation	20%	25	25.3	0.3	Considered riparian growth/functional change 2012 to 2018. One action (Crooked River) in database: 2.5 acres over 0.25 mile (one side) in 2013: planted previous floodplain project area Had good survival, but 1 gallon plants are still small (2.5-3 ft tall). Extent: 7 miles of river. Streamnet steelhead miles: 26.5. Nez Perce Tribe wanted to use 44 stream miles, using same criteria as for SCS1 (mainstem and main tributaries, not counting steep "feeder" streams). No natural barriers known within this range, but data for upper limits of fish distribution are not available everywhere. For example, steelhead are known to be in Fivemile, but are not shown in Streamnet distribution map. Note that upstream assessment units can have effects that influence downstream units. Panel agreed to use specific data on steelhead stream miles when they have it, but default to Streamnet if it is not available. Panel decided to use 44 miles as the denominator. Panel prorated percent functional improvement / percent of properly functioning condition based on average annual growth rates. Cottonwoods did not have high survival. Other vegetation getting 1-2 ft per year, depending on precipitation. Using 50% proration, panel determined 0.3% uplift.	35	50	40	65	13%	Loss of floodplain for entire 12 miles of mainstem Crooked River. Loss of floodplain for lower 1 mile Five Mile Creek; loss of floodplain for lower Quartz Creek; loss of floodplain for lower 2 miles Relief Creek, loss of floodplain for lower 1 mile Rainbow Gulch Creek. Sources: local observation, American and Crooked River Project EIS 2005, SF Clearwater River Landscape Assessment 1998. Target= > 75% adequate shade.	Benefits from the Crooked River Meanders project. Approximately 120 acres will be rehabilitated and new floodplain will be replanted. Approximately 1 mile of streambank will be planted along the mainstem Crooekd River.	See Comments above.						25.3	25.3	0	Not sure if Option 2 project will happen.
South Fork Clearwater River	SCS2	Crooked River	4.2: Riparian Condition: LWD Recruitment	5%	40	40	0	No action in database. Plantings will affect this limiting factor in the long term, but not within the 2018 time period. Also, low cottonwood survival, so no change. Most survivors were shrubby species, and thus will not provide large wood.	45	55	46	60	13%	Loss of floodplain for entire 12 miles of mainstem Crooked River. Loss of floodplain for lower 1 mile Five Mile Creek; loss of floodplain for lower Quartz Creek; loss of floodplain for lower 0.5 mile of Baker Gulch, loss of floodplain for lower 2 miles Relief Creek, loss of floodplain for lower 1 mile Rainbow Gulch Creek. Sources: personal observation, American and Crooked River EIS 2005, South Fork Landscape Assessment 2003.	The Meanders project will use existing woody debris in the project area that would not likely be recruited to create instream habitat. Also, recontrcuting floodplain will allow woody debris from upstream to recruit in the lower two miles instead of being	See Comments above.						40	40	0	Not sure if Option 2 project will happen.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
South Fork Clearwater River	SCS2	Crooked River	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	10%	35	35	0	No action. No change	40	45	45	50	13%	Historic side channel and wetland condition is difficult to estimate. Since floodplains have been drastically altered and lost, it is likely that a significant amount of wetlands and side channels were also lost. Percent lost is based on an estimate of lost floodplains in the watershed. With the restoration of floodplain functions, it is likely that wetland and side channel functions will also be restored.	Design criteria from 2012 show increased side channels accessible to fish during all flows. Design criteria also provides wetland meadows adjacent to Crooked River in place of dredge ponds.	See Comments above.						35	35.5	0.5	Crooked River Project Phases I and II will be in bypass channel during initial project period (complete in 2020, or no benefit till 2020), ~~so no benefit assigned for 2018 period.~~ Option 2 will create approximately 6 acres of wetlands by regrading the floodplain. This portion of the project is likely to occur by 2018.
South Fork Clearwater River	SCS2	Crooked River	5.2: Peripheral and Transitional Habitats: Floodplain Condition	20%	35	35	0	No actions. No change.	45	50	50	60	13%	Loss of floodplain for entire 12 miles of mainstem Crooked River. Loss of floodplain for lower 1 mile Five Mile Creek; loss of floodplain for lower Quartz Creek; loss of floodplain for lower 2 miles Relief Creek, loss of floodplain for lower 1 mile Rainbow Gulch Creek. Sources: local observation, American and Crooked River EIS 2005, South Fork Landscape Assessment 2003.	Design criteria from 2012 shows that by removing mine tailings along the lower 2 miles of Crooked River approx. 120 acres of floodplain, with various stages of flooding, will be provided.	See Comments above.						35	38.3	3.3	Crooked River Project Phases I and II will be in bypass channel during initial project period (complete in 2020, or no benefit till 2020), ~~so no benefit assigned for 2018 period.~~ Option 2 will create approximately 6 acres of wetlands by regrading the floodplain. This portion of the project is likely to occur by 2018.
South Fork Clearwater River	SCS2	Crooked River	6.2: Channel Structure and Form: Instream Structural Complexity	25%	40	40	0	No actions. No change.	55	65	60	80	13%	Loss of natural channel morphology for entire mainstem Crooked River (12 miles); loss of natural channel morphology for lower 2 miles Relief Creek. SF Clearwater River Subbasin Assessment- Appendix K (IDEQ 2003); Crooked River Habitat Improvement Project (USFS 1985); South Fork Clearwater Landscape Assessment 1998. Target= Pool quantity based on channel width, pool quality >4, LWD near natural levels.	Design criteria from 2012 field season show an increace of approximately 1 mile of new stream channel and approx. 4 miles of improved instream structural complexity.	See Comments above.						40	40.9	0.9	Crooked River Project Phases I and II will be in bypass channel during initial project period (complete in 2020, or no benefit till 2020). As per J.H. from NPT, Option 2 includes adding 10 large woody debris structures along 0.5 miles of river. The streambed will not be excavated and pools will form naturally, therefore a 80% improvement was applied = 0.4 stream miles improved. Relative to the 44 steelhead bearing stream miles in the assessment unit, there will be a 0.9% improvement. EWW 9.12.16
South Fork Clearwater River	SCS2	Crooked River	7.2: Sediment Conditions: Increased Sediment Quantity	10%	60	60.5	0.5	Panel discussed chronic sedimentation vs. unquantified acute risk from failures. Work occurred on the 311 Road, East Fork Crooked Creek, which affected a relatively small area. The watershed above had recently burned, and there was some scour at culvert. 1-2 cubic yards had been scoured already, plus there was risk of 200 cubic yards from potential failure. Could assess project based on area or length affected. Calculated using same proration structure as that used in SCS1, with 90% assigned to areas with high potential to fail. Was not a chronic sediment source, but had high potential to fail. How much of an impact would that failure have to the whole assessment unit? Depends on location: if all of it ended up in East Fork Crooked Creek, it could affect more spawning than in other areas. Due to location, weight of total benefit was set at 5%, which yields 0.5% uplift. Panel discussed assigning percentage based on annual risk of failure between project and 2018. Panel decided to keep 0.5% number.	62	65	65	70	13%	Percent fines in Crooked River watershed approximately 15% (IDEQ Appendix K, 2003). There are 38 mapped culverts in the watershed. The majority of those are high in the watershed and likely sources of fine sediment. Road denisty is approximately 2.0 miles per square mile. Watershed condition indicators suggest >1 mi per square mile. Target= Embeddedness <20%, surface fines <20 % for C&E channels and <10 % for A&B Channels.	Two culverts are being replaced in the Crooked River watershed by 2018, which will reduce some sediment. Projects that will affect levels of sediment the most are planned beyond 2018. However, the Meanders project will provide better sediment transport in the lower two valley miles.	See Comments above.						60.5	60.5	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS2	Crooked River	8.1: Water Quality: Temperature	5%	60	60	0	See limiting factor 4.1 action, which affected limiting factor 8.1 too. The other listed action did not affect this limiting factor (need to change in database?). Water temperatures are high in Crooked River. Panel prorated improvement as in limiting factor 4.1. Channel width is ~30 ft, with north-south-facing watershed aspect. No change.	65	70	68	80	13%	SF Clearwater River TMDL (2003) lists the majority of streams in the South Fork Clearwater Rivers as being impaired for temperature. Projects that improve riparian condition and instream complexity are likley to improve temperature conditions in the watershed.	Improvements from the Meanders project. Restoring the floodplain will provide better groundwater connection and reducing the amount of	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS3	John's Creek	1.1: Habitat Quantity: Anthropogenic Barriers	20%	80	80	0	No actions. No change.	85	90	85	90	13%	There are 9 known road crossings, based on stream miles blocked and assuming 3 are barriers, this results in a LBE of 80% and assuming 2 could be replaced by 2018 results in a HBE of 90%. Future crossing inventory and assessment is needed to prioitize actions.	1 unidentified stream crossing is planned in the Hugary Ridge EIS for 2013-2018. Based on stream miles blocked and the total number of stream miles in the AU replacing 1 culvert in 2013- 2018 gets to us to 85%	See Comments above.						80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS3	John's Creek	4.1: Riparian Condition: Riparian Vegetation	40%	80	80	0	No actions. No change.	81	85	85	90	13%	Specific areas of the watershed are affected by livestock resulting in loss of stream bank stability and increased width depth ratio. Goal bank stability of greater than 90% and width depth ratio of less than 10. Current conditions are approximately 70-80% and width depth ratios are 15-20	Slight additional benefit from road decommissioning reducing impacts to riparian zone. No additional activities planned for 2013-2018.	See Comments above.						80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS3	John's Creek	7.2: Sediment Conditions: Increased Sediment Quantity	40%	80	80	0	No actions. No change.	82	85	84	90	13%	Goal for cobble embeddedness is less than 30%; occular estimates of cobble embeddedness in Johns Creek is less than 40%. Goal for road density is 1 mile/sq. mile. Current road density in the roaded portion is 2.2 mi./sq. mi. There are 54 miles of known roads in the drainage. Additonal non inventoried roads increase road densities above stated values.	5 miles decommissioning in the roaded portion planned for 2013 2018.	See Comments above.						80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS4	Meadow Creek	1.1: Habitat Quantity: Anthropogenic Barriers	10%	80	80	0	No actions. No change.	80	90	80	90	8%	There are 67 known road crossings, 34 are known barriers based on stream miles blocked , this results in a LBE of 80% and assuming 8 could be replaced by 2018 results in a HBE of 90%. Future crossing inventory and assessment is needed to prioitize actions.	No actions planned for 2013-2018	See Comments above.						80	80	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS4	Meadow Creek	4.1: Riparian Condition: Riparian Vegetation	15%	60	61.1	1.1	McComas Meadows planting was a 1-mile project, but the entire area was not intensely treated, only 0.25 mile per year (need to adjust in database). Table has a row for each of 4 years' 0.25-mile action. Also, include riparian weed treatment of 0.25 mile (not a stand-alone project, but part of many projects, so assigned 0 miles). Table thus has 5 projects, treating less than 1 mile total, due to overlap. Streamnet steelhead distribution is 15 miles only, which includes mainstem and not North Meadow, which is the coldest water tributary in assessment unit. Panel added 6.0 miles of known steelhead use, resulting in 21 miles as the denominator. Panel prorated based on percentage of properly functioning condition expected in 2018: 15% to 30%; resulting in 1.1% uplift.	65	70	70	75	8%	Specific areas of the watershed are affected by livestock resulting in loss of stream bank stability and increased width depth ratio. Goal bank stability of greater than 90% and width depth ratio of less than 10.	3.0 miles riparian planting planned for 2013-2018. Additional benefit from road decommissioning reducing access to riparian zone.	See Comments above.						61.1	61.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS4	Meadow Creek	4.2: Riparian Condition: LWD Recruitment	15%	65	65	0	Riparian projects did not affect this limiting factor within 2012-2018 period. Planted species will not provide large wood. No change. Remove actions from database.	65	70	65	75	8%	Lack of recuitment of riparian vegetation in some areas has resulted in less than desired LWD. Goal is greater than 30 pieces of LWD per mile.	3.0 miles riparian planting planned for 2013-2018. Riparian planting will not provide LWD recruitment until the long term (75 plus years).	See Comments above.						65	65	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS4	Meadow Creek	7.2: Sediment Conditions: Increased Sediment Quantity	45%	50	50.7	0.7	Meadow Face Road Decommissioning: III (2012) and IV (2014) occurred in various parts of the assessment unit. Table lists estimated stream miles affected, measuring down to next downstream major tributary junction, weighed by slope position and total possible benefit (of anthropogenic sediment sources existing, including grazing, mining). Over 100 miles of road worked on. Chosen metric is stream miles affected. Panel calculated uplift as 0.7%.	55	70	60	75	8%	Goal for cobble embeddedness is less than 30%; occular estimates of cobble embeddedness in Meadow Creek is less than 40%. Goal for road density is 1 mile/sq. mile. Current road density is 4.6 mi./sq. mi. There are 174 miles of known roads in the drainage. Additonal non inventoried roads increase road densities above stated values.	15 miles decommissioning planned for 2013-2018. Additional benefit from 3.0 miles riparian planting planned for 2013-2018.	See Comments above.						50.7	50.7	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS4	Meadow Creek	8.1: Water Quality: Temperature	15%	65	66.1	1.1	Panel considered riparian projects listed under limiting factor 4.1 as affecting limiting factor 8.1. Table lists four 0.25-mile segments, weighted for percentage shade function through 2018, considering plant growth and channel width (~15 ft). Metric is stream miles affected; 21 mile denominator. Panel determined 1.1% change.	68	70	70	75	8%	Goal is 20 degree max and 16 degree max for spawning. Over 40 days annually exceeded 20 degrees in each of the past few years.	3.0 miles riparian planting planned for 2013-2018. Recent trends show 20-25 days excedence.	See Comments above.						66.1	66.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS5	Mill Creek	1.1: Habitat Quantity: Anthropogenic Barriers	15%	83	91.9	8.9	Three passage projects have occurred. Total steelhead stream miles: Streamnet has 15.1 miles in mainstem Mill Creek. Panel chose to use this number, plus tributaries with known spawn+I38ing and rearing use (Merton 2 miles, Black George 1 mile, Hunt 2 miles, Corral 1 mile, Camp 2 miles, Adams 1 mile, totaling 9 miles added), resulting in 24.1 miles total as denominator. Adams Creek still has a barrier remaining upstream of project. Panel prorated project based on full/partial barrier, adult/juvenile blockage in table. Total stream miles affected = 4.3; prorated = 3.7. Calculated uplift as 15.4% improvement. NOTE: Revisit low bookend at Look Forward. [KG 2 June 2016: in review process, Nez Perce adjusted, noting "Change stream miles ot 22.8 based on USFS distribution maps" = 8.9% uplift]	90	94	90	94	7%	There are 48 known road crossings, based on stream miles blocked 10 a known as barriers, this results in a LBE of 83% and assuming 6 could be replaced by 2018 results in a HBE of 94%. Future crossing inventory and assessment is needed to prioitize actions.	4 stream crossings a scheduled for 2013-2018, 2 at Black George, Hunt Creek, and 1 with the planned road decommissioning. Based on stream miles blocked and the total number of stream miles in the AU replacing /removing these culverts in 2013- 2018 gets to us to 90%	See Comments above.						91.9	91.9	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS5	Mill Creek	4.1: Riparian Condition: Riparian Vegetation	30%	60	60.1	0.1	Four Mill Creek projects occurred, with 0.1 mile planted annually for 4 years. Added 25% multiplier column to table to take into account spatial overlap. 0.0225 effective miles. Do not total. Panel determined 0.1% uplift.	65	70	67	75	7%	Specific areas of the watershed are affected by livestock resulting in loss of stream bank stability and increased width depth ratio. Goal bank stability of greater than 90% and width depth ratio of less than 10.	1.0 miles riparian planting planned for 2013-2018. Additional benefit from road decommissioning reducing	See Comments above.						60.1	60.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS5	Mill Creek	4.2: Riparian Condition: LWD Recruitment	20%	60	60	0	No projects (adjust database). No change.	60	65	60	70	7%	Lack of recuitment of riparian vegetation in some areas has resulted in less than desired LWD. Goal is greater than 30 pieces of LWD per mile.	1.0 miles riparian planting planned for 2013-2018. Riparian planting will not provide LWD recruitment until the long term	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
South Fork Clearwater River	SC55	Mill Creek	7.2: Sediment Conditions: Increased Sediment Quantity	20%	70	71	1	Fixed an ATV and cattle ford that was a chronic sediment source: installed bridge over Mill Creek. Treated 0.1 mile of 24.1 mile. But turbidity impact was extending farther downstream by at least 0.5-0.8 mile. Panel prorated to 50% to account for other sediment sources in that reach, resulting in 1% uplift.	72	75	73	80	7%	Goal for cobble embeddedness is less than 30%; occular estimates of cobble embeddedness in Meadow Creek is less than 40%. Goal for road density is 2 mile/sq. mile. Current road density is 2.6 mi./sq. mi. There are 95 miles of known roads in the drainage. Additonal non inventoried roads increase road densities above stated values.	10 miles decommissioning planned for 2013-2018. Additional benefit from 1.0 miles riparian planting planned for 2013-2018.	See Comments above.				60	Panel thought that low bookend was too high, given what is known to need replacement. Revised low bookend to 60%.	60	64.5	4.5	Road 309 (2017) project to treat 5 miles of road; affects 2.3 miles, but other sediment sources in this area. Prorated according to close proximity to stream. Yields 4.5% expected uplift.
South Fork Clearwater River	SC55	Mill Creek	8.1: Water Quality: Temperature	15%	70	70.1	0.1	See limiting factor 4.1 actions, which affected limiting factor 8.1. Prorated improvement, as for limiting factor 4.1, resulting in 0.1% uplift.	72	75	75	85	7%	Goal is 20 degree max and 16 degree max for spawning. Over 30 days annually exceeded 20 degrees in each of the past few years.	1.0 miles riparian planting planned for 2013-2018. Recent trends show 10-15 days excedence.	See Comments above.						70.1	70.1	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SC56	Misc Clearwater Tribs	1.1: Habitat Quantity: Anthropogenic Barriers	25%	75	75	0	No actions in database. No change.	77	80	77	80	2%	There are 168 known road crossings, based on stream miles and assuming 42 are barriers, this results in a LBE of 75% and assuming 8 could be replaced by 2018 results in a HBE of 80%. Future crossing inventory and assessment is needed to prioritize actions. Reassigned LF based on review of watershed conditions and goals.	3 stream crossings a scheduled for 2013-2018, 2 at Black George, Hunt Creek, and 1 with the planned road decommissioning. Based on stream miles blocked and the total number of stream miles in the AU replacing /removing these culverts in 2013- 2018 gets to us to 77%	See Comments above.				40	Panel thought that low bookend was too high, given what is known to need replacement. Revised to 40%.	40	69.4	29.4	Leggett, Peasley, and Moose Creek projects. Using revised denominator of 22.8 miles from Nez Perce Tribe, based on 22.8 miles, which includes Moose Creek and some others that include lower sections of some creeks. Treated mileages are in calc table. Improvement prorated as partial barriers to all life history stages (50%), but Moose and Peasley Creek upstream habitat is less valued (Peasley is steep), so lowered to 25% proration. These are the biggest 3 blockages in the assessment unit, but others exist. Yields 29.4% uplift.
South Fork Clearwater River	SC56	Misc Clearwater Tribs	4.1: Riparian Condition: Riparian Vegetation	25%	60	60	0	No actions in database. No change.	60	70	60	80	2%	Specific areas of the watershed are affected by livestock resulting in loss of stream bank stability and increased width depth ratio. Goal bank stability of greater than 90% and width depth ratio of less than 10. Reassigned LF based on review of watershed conditions and goals.	No actions planned for 2013-2018	See Comments above.		20	Panel reweighted on 7 June 2016.			60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
	SC56	Misc Clearwater Tribs	6.2: Channel Structure and Form: Instream Structural Complexity															10	Panel added limiting factor 6.2 on 7 June 2016.	80	Panel added limiting factor 6.2 on 7 June 2016. Assigned 80% low bookend based on assessment of present percentage of properly functioning condition. Panel specified that the high bookend should be 90%.	80	80.7	0.7	Leggett Creek Historical Mine stream restoration: Remove tailing piles, adding sinuosity, rock and wood, pull roads back, and plantings along 3.2 miles. Panel prorated to 50%, resulting in 0.7% expected uplift.
South Fork Clearwater River	SC56	Misc Clearwater Tribs	7.2: Sediment Conditions: Increased Sediment Quantity	35%	50	57.9	7.9	Three projects in database. Road 46 failure fix reduced sediment input to stream. Steelhead spawn in mainstem. No anadromy in Grouse Creek, but sediment effects occur downstream in mainstem (project should instead be recorded in assessment unit SC59). Planting project listed in database should be lumped in with road project. Steelhead miles in Streamnet: 18.9 miles; panel used this as the denominator. Panel weighting actions in table, as per earlier discussed road projects. Uplift determined as 17.1%. [KG 2 June 2016: in review process, Nez Perce adjusted, noting "Lowered weighting of total benfit possible in the steelhead streams of this AU. Excess roads and potentially failing culverts still exist adjacent to these other Steelhead streams and need to be addressed." and "Change stream miles to 22.8 based on USFS distribution maps" = 7.9% uplift]	55	60	60	70	2%	Goal for cobble embeddedness is less than 30%. Goal for road density is 2 mile/sq. mile. Current road density is 2.6 mi./sq. mi. There are 163 miles of known roads in the drainage. Additonal non inventoried roads increase road densities above stated values. Reassigned LF based on review of watershed conditions and goals.	30 miles decommissioning in the roaded portion planned for 2013-2018. Additional benefits 5.1 miles road improvement planned for Leggett and Peasley Creeks	See Comments above.		30	Panel reweighted on 7 June 2016.			57.9	57.9	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SC56	Misc Clearwater Tribs	8.1: Water Quality: Temperature	15%	60	60	0	No actions in database. No change.	60	65	60	75	2%	The NPPC 1994 standards 20 degree max and 16 degree max for spawning is exceeded annually. Reassigned LF based on review of watershed conditions and goals.	No actions planned for 2013-2018	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SC57	Newsome Creek	1.1: Habitat Quantity: Anthropogenic Barriers	5%	83	83	0	No actions. No change.	83	90	83	90	13%	Only 2 high priority culverts for fish passage identified (both replaced already). More may be found upon further investigation.	Identified high priority culverts for fish passage replaced already. No actions planned, but more may be found upon further investigation.	See Comments above.						83	83	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SC57	Newsome Creek	4.1: Riparian Condition: Riparian Vegetation	10%	45	47	2	Planting had conifers, so consider this in the future as benefiting limiting factor 4.2. Mostly willows, though. Panel concurred with Streamnet's 51.1 steelhead miles in the assessment unit. Planted 2.5 miles of riparian zone. Used large planting stock: 1-5 gallon, so benefits should accrue more quickly. Survival was in the 90% range. Planted in 2014. Panel prorated using 10% per year growth (40%). This results in a 2% uplift.	50	50	55	65	13%	Newsome Watershed Assessment (EAWS) recommended riparian restoration for reaches heavily impacted by dredge mining and streamside roads (approx. 10 stream miles)	All stream and floodplain restoration to be planted by 2018.	See Comments above.						47	47.2	0.2	Newsome Creek Restoration Phase 1, Reach 2 2018: 1.95 miles treated. Prorated at 5% due to large stock as per Look Back project methods, but less time to growth through 2018. Yields 0.2% uplift.
South Fork Clearwater River	SC57	Newsome Creek	4.2: Riparian Condition: LWD Recruitment	10%	40	40.2	0.2	Panel considered project in limiting factor 4.1: 10-15% of plants were conifers. Panel prorated as 4% total, resulting in 0.2% uplift.	40	42	40	45	13%	Newsome Watershed Assessment (EAWS) recommended riparian restoration for reaches heavily impacted by dredge mining and streamside roads (approx. 10 strea miles)	Conifers will be planted as part of the floodplain/valley bottom revegetation after the stream restoration complete. The benefits from planting on LWD is a long-term benefit (75 years plus).	See Comments above.						40.2	40.2	0	Conifers will be planted. Prorated to 0%, because not enough time for growth to 2018.
South Fork Clearwater River	SC57	Newsome Creek	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions															15	Panel added limiting factor 5.1 on 7 June 2016.	30	Panel added limiting factor 5.1 on 7 June 2016. Not many functioning side channels remain in this assessment unit.	30	41.4	11.4	Newsome Creek Restoration Phase 1, Reach 2 2017 efforts: 1.95 miles. Planning on bringing it up to close to properly functioning condition. Prorated to 70%, resulting in 2.7% uplift. Used 12 miles as denominator.
South Fork Clearwater River	SC57	Newsome Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	15%	40	60.8	20.8	Denominator used for other limiting factors (51.1 miles) includes tributaries, which don't have much floodplain, so panel excluded those miles based on channel types. Panel used 12 miles (11 miles of mainstem, plus mouths). Mine tailing project (divided into 4 phases) combined in table. Project measured in acres, too. Watershed assessment guided phasing and priorities. Panel prorated reach 2 as 100%, due to extent and treatment, and Reach 3 as 90%. This results in 20.8 percent. Panel expected a big result from this project.	50	55	57	65	13%	Newsome EAWS recommends restoration of areas impacted by dredge mining (approx 8 miles)	Reach 2 will be implemented over a 2-3 year period to maximize floodplain connectivity.	See Comments above.						60.8	60.8	0	Newsome Cr Restoration Phase 1, Reach 2 2017 efforts: 1.95 miles, but it's a side channel action, so no benefit to LF 5.1.
South Fork Clearwater River	SC57	Newsome Creek	6.2: Channel Structure and Form: Instream Structural Complexity	40%	40	42.3	2.3	Newsome Restoration project treated 0.15 mile, with wood treatment along entire section. No remeandering. Reference reach has 35 pieces per 100 meters. Panel discussed denominator and value of wood addition alone for the limiting factor. Many beavers are in this area, so other complexity elements exist. Previous bookend at last expert panel seems to have considered only mainstem (11 miles) - see 2012 notes. Using 12 miles as the denominator (adding tributary mouths to 11 miles) with 100% prorate results in 4.6%. Installed 13 large wood structures with 7-9 logs per structure, which is 104 pieces in 0.5 mile, ~13 pieces per 100 m; however, panel thought that wood was at capacity in treated reach and there was no room for more, so at 100% for wood. Also considered channel change through time to 2018 for proration: it is on the right trajectory, but not there yet. Full action has been done, but creek is still adjusting, so prorated benefit to 50%, which results in 2.3% uplift.	50	60	55	65	13%	Newsome Watershed Assessment (EAWS) recommended stream habitat complexity for the entire mainstem from the mouth up to Radcliff Creek (approx. 11 miles)	Reach 2 will be implemented over a 1-2 year period after the floodplain has been reconnected. Newsome Cr. From the mouth to the townsite will be evaluated as well. The stream restoration includes the installation of approximately 350 instream structures.	See Comments above.		30	Panel reweighted on 7 June 2016.			42.3	54.5	12.2	Newsome Creek Restoration Phase 1, Reach 2 2017 efforts: 1.95 miles. Planning on bringing it up to close to properly functioning condition. Prorated to 75% resulting in 2.9 uplift. Panel revised denominator to 12 miles, resulting in 12.2% expected uplift.
South Fork Clearwater River	SC57	Newsome Creek	7.2: Sediment Conditions: Increased Sediment Quantity	15%	42	42.2	0.2	Haysfork project fixed large "glory hole" and sediment pond, berm. 80% has stabilized with vegetation. Pond was no longer needed or functioning. Project removed berm to avoid sedimentation from potential failure. There was no eroding, but was expected to present large future risk. Project affected stream, mainstem down to Newsome Town site: 3.5 miles. Was mid-slope, so panel weighted it at 50%, and 5% of total possible benefit. Denominator: panel used full 51.1 miles Streamnet mileage because all contributing water affects sediment downstream. This results in 0.2% uplift.	45	70	47	75	13%	Newsome Watershed Assessment (EAWS) recommended road density reduction from 3.4 mi/mi^2 to 1.4 mi/mi^2	Approx. 168 miles of roads covered under NEPA. Road improvement and decommissioning will take several years to complete.	See Comments above.		10	Panel reweighted on 7 June 2016.			42.2	42.2	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SC57	Newsome Creek	8.1: Water Quality: Temperature	5%	60	61.2	1.2	Two projects in database and table: Newsome tailings removal floodplain (hyporheic flow and floodplain water storage improvements) and plantings. Previously: lots of ponds, no riparian vegetation. Now there is less water warming. See limiting factor 4.1. Note: Should be listed in database under limiting factor 5.2 too. Table shows actions collapsed to 1 row, with affected stream miles and percent weighting for improvement through 2018. Total project is 4 miles. Denominator is 51.1 miles from Streamnet. Panel adjusted with 15% weighting, resulting in 0.6 effective miles. This results in 1.2% uplift. NOTE: For Look Forward, more uplift expected in future from vegetation growth.	63	65	65	70	13%	Newsome Watershed Assessment (EAWS) cites dredge mining and reduced vegetation cover as major contributors to increased stream temps.	Benefits from vegetation planting and channel work. Hyporheic flow	See Comments above.						61.2	61.5	0.3	Newsome Creek Restoration Phase 1, Reach 2: some hyporheic benefits, prorated at 8%, resulting in 0.03% expected uplift.
South Fork Clearwater River	SC58	Red River	1.1: Habitat Quantity: Anthropogenic Barriers	10%	60	64.8	4.8	Four culvert replacement projects in table (combined into 1 row): 9 miles opened (need to correct in database, which shows 12 miles). Had historical presence/use, but only resident fish seen at salvage. All were full barriers with outlet drops. Juvenile rearing use only on these tributaries. Spawning occurs in mainstem. These small creeks, even low order, have higher productivity than expected given how high in the watershed they are. Water temperatures are cold, so they are valuable future refuge. 8-10 remaining high priority culverts to be replaced. Denominator discussion: Streamnet steelhead miles: 83.1 miles, but should add 3 miles of Dawson Creek up to headwaters, 3 miles of Ditch Creek, 2 miles of Jungle Creek, 1.5 miles of Schooner Creek, and 1.5 of Baston Creek. This adds 11 miles, for a total of 94.1 miles as denominator. Panel prorated improvement in table to 50% based on known other passage issues in area affected and steelhead life history stage. Results in 4.8% change.	65	80	65	80	16%	200 stream/road crossings. 40 are passage barriers.	Six crossings currently indentified and prioritized for design and replacement. Additional culverts will be addressed in outyears (beyond 2018).	See Comments above.						64.8	67.5	2.7	Dawson Creek culvert replacements: 2 culverts scheduled for 2018: 5 miles. Full barriers, but prorated as 50% due to upstream high gradient habitat, yielding 2.7% uplift. Might also do a conservation easement in this assessment unit, but not counted due to uncertainty of the action.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
South Fork Clearwater River	SCS8	Red River	4.1: Riparian Condition: Riparian Vegetation	25%	50	51.1	1.1	Red River Meadows conservation easement planting project treated both sides, so using stream miles (2 miles) as metric. Project used larger (1 gallon) rooted stock, and had good survival of alder (less susceptible to browse than willow), trench planting, intense in some selected areas. Panel prorated in table based on vegetation growth seen and expected to 2018: 10% per year for this project, which has been relatively successful. Other project was smaller. Results in 1.1% uplift.	60	65	65	75	16%	RR EAWS - loss of large established woody veg in meadows. Red Pines NEPA clears 32 miles for planting. LOC: 2. Red River EAWS recommends easements and/or land purchase on private meadow in-holdings	36-48 streambank (one side of river) miles total to be planted. Estimate does not include future potential conservationn easements or land purchases.	See Comments above.						51.1	51.5	0.4	Two projects in calc table: Lower Red River 2016-2018 (2.5 miles treated) and Red River Meadows Planting (1 mile). Benefit prorated based on vegetation growth expected in 2018 period. Yields 0.4% uplift.
South Fork Clearwater River	SCS8	Red River	4.2: Riparian Condition: LWD Recruitment	5%	60	60	0	No large wood expected from the type of planting conducted. No change.	60	65	60	70	16%	Red River EAWS identifies lack of LWD due to streamside roads & past dredge mining. Most of RR has streamside roads or is meadow complexes.	Conifers will be planted as part of the floodplain/valley bottom revegetation after the stream restoration complete. The benefit from riparian planting on LWD is a long-term benefit.	See Comments above.						60	60	0	No conifers in limiting factor 4.1 projects.
South Fork Clearwater River	SCS8	Red River	5.2: Peripheral and Transitional Habitats: Floodplain Condition	5%	65	65	0	No action. No change.	71	75	73	80	16%	RR EAWS identified RR Narrows as key project for floodplain restoration (2 stream miles). Some work exists on private property as well.	Benefits estimated include channel restoration. This reflects a combination of multiple WEs.	See Comments above.						65	66.7	1.7	Lower Red River project: Floodplain berm removals to reconnect floodplain, meander reactivation: 2.25 miles. Prorated at 70% of properly functioning condition, resulting in 1.7% uplift.
South Fork Clearwater River	SCS8	Red River	6.2: Channel Structure and Form: Instream Structural Complexity	20%	40	40	0	No action. No change.	43	60	47	70	16%	Red River Narrows project area key area for restoration (2 miles). Meadows also simplified habitat (approx. 12 miles)	Estimate is a combination of multiple WEs. Meadows will not have LWD structures placed, will focus on floodplain connectivity and revegetation.	See Comments above.						40	42.2	2.2	Lower Red River project: excavation of deep pools and increased sinuosity. Benefit prorated at 90%, yielding 2.2% expected uplift.
South Fork Clearwater River	SCS8	Red River	7.2: Sediment Conditions: Increased Sediment Quantity	20%	50	58.3	8.3	Table lists 3 projects (need to add log culvert removal project to database) prorated by landscape position and total benefit possible given other effects on sediment. Metric is stream miles affected, as modified by table weightings, considering proximity of road project to stream network. E.g., Deadwood was mostly stream-side and mid-slope (65% weight). Still have 65 miles of road to improve and 46 miles to decommission, meaning that 25% of work remains to be done. Using denominator of 94.1 miles, this results in uplift of 8.3%. This is reflected in sediment monitoring, showing improvements compared to 1980s.	60	70	62	80	16%	Road densities are 3.6 mi/mi^2. Goal for road densities are 1.0 mi./sq. mi.	45-50 miles total of road decommissioning and 10-15 miles of road improvements to be completed. Road density is taken from 1998 data. NPT and FS has implemented many miles of road decommissioning	See Comments above.						58.3	58.3	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS8	Red River	8.1: Water Quality: Temperature	15%	40	40	0	Table of projects is based on limiting factor 4.1 table. Temperature effects from these plantings will take a while before being measurable (~0.5% per year of growth). Panel weighted as 0%, resulting in 0% uplift.	45	60	55	70	16%	RR EAWS - temps commonly exceeded in mainstem RR, streamside shading reduced.	Benefits from stream & floodplain restoration (hyphorheic flow) as well as riparian planting work.	See Comments above.						40	40.2	0.2	Planting projects from limiting factor 4.1 and vegetation and width/depth change components of project from limiting factor 6.2. Benefit prorated based on vegetation growth in 2018 period, resulting in 0.2% expected uplift.
South Fork Clearwater River	SCS9	South Fork Clearwater Mainstem	6.2: Channel Structure and Form: Instream Structural Complexity	20%	60	60	0	All other SCS assessment units drain to SCS9. No structural actions in mainstem.	60	70	60	75	5%		No actions for 2013-2018 planned.	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
South Fork Clearwater River	SCS9	South Fork Clearwater Mainstem	7.2: Sediment Conditions: Increased Sediment Quantity	40%	60	61.75	1.75	All other SCS assessment units drain to SCS9. Panel discussed whether upstream actions created effects that are measurable in mainstem, and reviewed tributary projects completed. Panel decided to use 1-2% (chose 1.75%) uplift as a cumulative/aggregate proxy for a project-by-project estimation. Sediment is a prominent limiting factor in larger basin, and lots of projects are addressing this limiting factor. Contributing assessment units: SCS1 (0.03%), SCS2 (0.5%), SCS4 (0.7%), SCS5 (1%), SCS6 (17.1%), SCS7 (0.2%), SCS8 (8.3%), and SCS10 (1.9%) = 3.7% average uplift (see tables).	65	70	67	75	5%	Improvements would come from habitat actions within the tributaries.	No actions for 2013-2018 planned. Benefits attributted to upstream tributary improvements including road improvements, riparian improvments, riparian production, and road decmmossioning.	See Comments above.						61.75	61.75	0	No measurable benefits to mainstem expected from Look Forward sediment actions.
South Fork Clearwater River	SCS9	South Fork Clearwater Mainstem	8.1: Water Quality: Temperature	40%	50	50	0	All other SCS assessment units drain to SCS9, but effect to temperature would not be measurable down here. Panel concluded that there were actions that affected this limiting factor, but no change in %.	55	60	60	70	5%	Improvements would come from habitat actions within the tributaries.	No actions for 2013-2018 planned. Benefits attributted to upstream tributary improvements including road improvements, riparian improvments, riparian production, and road decmmossioning.	See Comments above.						50	50	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.

Population	Code	Assessment Unit	2012 Standardized Limiting Factor	2012 LF Weight	2012 Low Bookend	Updated 2018 Estimate (2012-2015 Look Back)	Look Back Change %	2012-2015 Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 AU Weight	2012 LF Weight and Bookend Comments	2012 Estimates Comments	2012 AU Weight Comments	Revised AU Weight (Look Forward Meeting 2016)	Revised LF Weight (Look Forward Meeting 2016)	2016-2018 LF Weighting Comments / Rationale	Revised 2016 Low Bookend (Look Forward Meeting 2016)	2016 Low Bookend Comments / Rationale	2016 Low Bookend (Look Forward revisions override Look Back calculated functions)	LookForward Updated 2018 Estimate	2016-18 Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale
Selway River	SRS1	Lower Selway River	1.1: Habitat Quantity: Anthropogenic Barriers	30%	75	84.5	9.5	Denominator: Streamnet steelhead miles, which is 39.4 miles. 30 miles of critical habitat. Total fish distribution is 189 miles. Panel examined Streamnet mapping, and confirmed for most tributaries. Panel added 3 miles on "23-Mile" Creek, 1 mile on Gendney Creek, 3 miles on Boyd, 3 miles on Nineteen Mile Creek, 1 mile on Elk City, 3 miles on Swiftwater, 1 mile on Island Creek (partial/seasonal barrier waterfall low), 2 miles on Sob Creek (may be resident, but unknown), and 3 miles on Falls Creek, which totals 21 added miles. With the Streamnet miles, this is 60.4 total	83	90	83	90	6%	4 large stream crossings were identified as passage barriers. 2 have been relaced with 2 remaining. Surveys need to be completed in remainder of Lower Drainage.	3 culvert replacements for approx. 24 miles upstream passage	AU weights revised per NOAA Intrinsic Potential info & NPT analysis shown in spreadsheet e-mailed 12/13/2012 from Emmit Taylor to Kathy Fisher titled Chin_Sthd_au-summary05-15-12_npt watershed_edited final_12-11-12.xlsx						84.5	85.3	0.8	One project: not Race Creek. Nineteenmile Bridge Project (2016) will open 1 mile. It is a partial barrier, so prorated at 50%, resulting in 0.8% uplift.
Selway River	SRS1	Lower Selway River	7.2: Sediment Conditions: Increased Sediment Quantity	50%	65	65.1	0.1	Add 2015 Race Creek Culvert Replacement (2 pipes) to database. Project affected 1 mile. Table has 1 project (removed 3 that were previously listed because they did not measurably benefit this limiting factor), weighted for landscape/slope position and total benefit possible/other anthropogenic sediment sources. Results in 0.1% uplift.	68	75	69	80	6%	Goal for cobble embeddedness is less than 30%. Goal for road density is 1 mile/sq. mile.	20-30 miles of road improvement/decommissioning	See Comments above.						65.1	65.3	0.2	Same project as limiting factor 1.1; prorated at 10%.
Selway River	SRS1	Lower Selway River	8.1: Water Quality: Temperature	20%	60	60	0	No actions. No change.	60	65	60	70	6%	Goal is (20 degree max and 16 degree max for spawning), average temperature for the lower Selway River is over 19 degrees (2001).	No actions planned	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2016-2018 period in this assessment unit. No change in function percentage.
Selway River	SRS2	Meadow Creek	7.2: Sediment Conditions: Increased Sediment Quantity	100%	90	90	0	No actions. No change.	92	95	93	95	11%	Selway and Middle Fork Clearwater Rivers Subbasin Assessment (2001) describe sediment yield as 8% over base levels.	Horse Creek Road improvement/decommission, Falls Creek Road improvement	See Comments above.						90	94.1	4.1	Horse and Goddard Creek road decommissioning: 10 miles of road, 12 miles of creek affected. Benefit prorated to 50%, in part due to landscape position of roads. In the treated area, 50% of sediment is from roads. Yields 4.1% expected uplift.
Selway River	SRS3	O'Hara Creek	4.1: Riparian Condition: Riparian Vegetation	20%	60	60	0	No actions. No change.	67	70	70	75	7%	Selway and Middle Fork Clearwater Rivers Subbasin Assessment (2001) cites that stream temperatures in the Selway at Ohara Creek average 19.5 degrees C.	Plant 3 miles of riparian vegetation-O'Hara Creek	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Selway River	SRS3	O'Hara Creek	7.2: Sediment Conditions: Increased Sediment Quantity	60%	50	54.8	4.8	Streamnet steelhead use shows 9.1 miles, 9.1 miles of critical habitat. Panel added 1 mile on Hamby, 1 mile on Stillman, and 2 miles on Saddle, totaling 13.1 miles as denominator. O'Hara Road: replaced 4 culverts and improved road prism to reduce sediment delivery to stream. This was 3.5 miles of stream-adjacent road. Panel weighted accordingly (90%), and weighted for other sediment sources in area (20%: this was a major contributor, but others still exist). Still have 1-2 miles to do. NOTE: these future phases need to be included in Look Forward. Results in 4.8% improvement.	58	65	62	75	7%	Selway and Middle Fork Clearwater Rivers Subbasin Assessment (2001) describe road density at approx 1.8 mi/sq. mi with 52 miles of excess roads. Goal is 1 mi/sq. mi. Culverts should be inventoried for sediment sources.	15 miles road improvments	See Comments above.						54.8	57.5	2.7	O'Hara Creek Road Improvement 2017: 2 miles of road treated, will benefit 5 miles of creek that are adjacent or downstream within the assessment unit. These are riparian roads, so prorated at 90%, with 8% of sediment problem coming from roads. Yields 2.7% uplift. 113 road miles in assessment unit, with 26 within the riparian zone (7.8% of riparian roads).
Selway River	SRS3	O'Hara Creek	8.1: Water Quality: Temperature	20%	60	60	0	No actions. No change.	61	65	62	70	7%	Selway and Middle Fork Clearwater Rivers Subbasin Assessment (2001) cites that stream temperatures in the Selway at Ohara Creek average 19.5 degrees C.	Plant riparian vegetation-O'Hara Creek	See Comments above.						60	60	0	The panel did not identify any actions applicable to this limiting factor expected within 2013-2018 period in this assessment unit. No change in function percentage.
Selway River	SRS4	Wilderness Area (Moose Creek, Upper Selway River, etc.)	7.2: Sediment Conditions: Increased Sediment Quantity	100%	85	85	0	No actions. No change.	85	90	85	90	76%	Selway and Middle Fork Clearwater Rivers Subbasin Assessment (2001) describe sediment yield as 3% over base levels.	No actions planned	See Comments above.						85	85.03	0.03	As with Look Back in Lochsa, knapweed treatment decreases sediment yield. 24 miles downstream to benefit from action. Benefit prorated based on landscape position. 100 acres to be treated in 2018. Yields 0.03% expected uplift.