These are the Biological Notes (specific to Steelhead) from the Upper Columbia Expert Panel, conducted in Wenatchee, WA. These notes encompass the Look Back and Look Forward process conducted over multiple meetings. Specifically, those meetings included the Look Back meeting (Feb 24-25, 2016), a Look Back meeting held with the Yakama Nation (April 27, 2016), and the Look Forward meeting (June 21-23, 2016). Raw notes were collected during Panel discussions, and later checked for typographical errors and for consistency with supporting tables.

Primary biological note taker: Kim Gould, Cardno, Inc.

Column Highlighting Key

Blue: Data collected in original 2016 look back meeting (2/24-2/25/2016, and), a separate Look Back meeting with the Yakama Nation (4/27/2016), and subsequent comments by the Yakama Nation.

Green: Look Back notes and uplifts updated during June 2016 Look Forward meeting. Uplift values and functions scores reflect all look back conversations to date

Pink: Look Forward data gathered in June 2016

Light Yellow: The 2016 Low Bookend used for calculation of the Look Forward function score.

Light Green (Okanogan only): Weighting changes from the 2016 Look Forward process (6/21-6/23/2016)

Cell Highlighting Key

Yellow: Cells indicating where follow-up/additional data are needed from the panel.

Populati	Code	Assessn	2012 Standardized	Estimate Estimate Commen Comments ts / / Rationale Rationale 2012 Low (specific (specific to Bookend to 2018 2033	Yakam Nation Look Back Meetin	a Yakama Nation post- meeting comme	Additional Look Back 2018 & 2033 Estimate Comments/R ationale	Look Back % Change by 2018 (6/23/16)	Updated 2018 Estimate (2012-2015 Look Back workshop)	2033 Estimate d % change (6/23/16	Updated 2033 Estimate (2012- 2015 Look	2016 Low	Look Forward % Change by 2018	Updated 20 <u>18</u> Estimate (2016- 2018	2016-2018 Look Forward 20 <u>18</u> Estimate Comments / Rationale	Look Forward % Change by 2033	Updated 20 <u>33</u> Estimate (2016-2018 Look Forward	2016-2018 Look Forward 20 <u>33</u> Estimate Comments / Rationale	2013-2018	+ 2 #### \k	High 2 2018 Boo I	Hig 201 h Lin 203 tin 3 Fac 300 or cen W/	l2 ni g Ass ct m r U ei We	sess ent nit 2012 Limiting Factor Weight and sight Bookend Comments	2012 Estimates Comments	2012 Asses smen t Unit Weig ht
				ts/Ration s/Rational ale e specific specific to the to the 2033 2018 estimate estimate captured	nts/Rat onale capture d during look back	i nts provide d by the g Yakama Nation betwee	Comments/R ationale captured during Look Forward	2018 Upint percentage calculated by panel through discussions and meetings up to	2018 2018 function score for Look Back process	2033 uplift percenta ge calculat ed by	Updated 2033 function score for Look Back	Bookend used for Updated Estimates (2018 and 2033) in	uplift calculat ed for the Look Forward	2018 function score after adding Look	e specific to the 2018 estimate captured during Look Forward meeting (6/21- 6/23/2016).	calculated for the Look Forward (2016- 2018)	2033 function score after adding Look Forward	Comments/Rationale specific to the 2033 estimate captured during Look Forward meeting (6/21-6/23/2016).								
Entiat	ERS1	Lower Entiat	2.3: Injury and Mortality: Mechanical Iniury	Trout No Unlimited actions. fish No % screen change.	No comme t	n comment	n	0	0	0	0	0	20	20	See equivalent Chinook Assessment Unit for uplift rationale. Same	20	20	See equivalent Chinook Assessment Unit for uplift rationale. Same projects.				5	% 48	3.9%		
Entiat	ERS1	Lower Entiat	3.1: Food: Altered Primary Productivity	40 Ations. actions. No % Change. Change.	No comme t	No comment	n	0	40	0	40	40	0	40	Action Agency nexus applicable to this Limiting Factor were	0	40	Agency nexus applicable to this Limiting Factor were expected within the	40	40	50	50 5	% 48	3.9%	Nutrient project scoping underway- potential benefits to be determined during 2015 look back	
Entiat	ERS1	Lower Entiat	4.1: Riparian Condition: Riparian Vegetation	25 Panel projects discussed and differenc proration's	credit for s riparian	Entiat 2.6-3.5	Panel concurred.	0.1	25.1	0.5	25.5	25.1	0	25.1	Action Agency nexus applicable to this Limiting Factor were	0	25.5	Agency nexus applicable to this Limiting Factor were expected within the	25	25	30	35 15	% 48	3.9%	CCD planting planned but not estimated - consider in 2015 workshop	
Entiat	ERS1	Lower Entiat	5.1: Peripheral and Transitional Habitats: Side Channel and	10 Same Same projects projects and and proration proration's	No comme t	n comment	n	1.3	11.3	1.3	11.3	11.3	0	11.3	No actions with Action Agency nexus applicable to this Limiting Factor were	0	11.3	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the	10	10	15	15 0	1% 48	3.9%	0% weight - therefore, side channels are considered in limiting factor 6.2, instream complexity	
Entiat	ERS1	Lower Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	Same Same projects projects 80 and and proration proration's 's as with same	No comme s t	n comme t	n	0.1	80.1	0.1	80.1	80.1	0	80.1	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the	0	80.1	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this	81	81	85	85 15	% 48	Not a lot of opportunity but extrememly high benefit and priority as 3.9% refuge and rearing areas are rare in this portion of the watershed	Roaring Creek - steelhead stream, may apply to juvenile Chinook rearing	ſg
Entiat	ERS1	Lower Entiat	6.1: Channel Structure and Form: Bed and Channel Form	projects projects and and 70 proration proration's 's as with as with ERC1, but ERC1, but	No comme t	n comme t	n	0.3	70.3	0.6	70.6	70.3	0	70.3	Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit	: 0	70.6	Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No	71	71	72	72 10	% 48	Although there may not be a lot of 3.9% opportunity for making changes, it is still high priority area		
Entiat	ERS1	Lower Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	Same projects and proration 's as with ERC1, but different denomin totr (23 miles per Streamnet t)= 5.0% uplift for 2018. Same projects and as with ERC1, but different denominal or (23 miles per Streamnet)=5% uplift for 2033. Not additive.	s t comme t	No n commei t	n	5	30	5	30	30	0	30	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	0	30	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	33	35	50	70 25	% 48	8.9%	Estimate considers river mile 0.8 - 2.3 Boulder Cluster, Foreman Side Channel, Entiat Fish Hatchery - all include some large woody debris, engineered log jams - based on Lower Entiat Reach Assessment. All 7 projects represent about 1/2 of opportunities	} r
Entiat	ERS1	Lower Entiat	7.2: Sediment Conditions: Increased Sediment Quantity	No No actions. actions. No % No % change. change.	No comme t	No comme t	n	0	23	0	23	23	0	23	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	0	23	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	23	23	50	50 15	% 48	3.9%	Other actions may improve sediment conditions- evaluate in 2015 Workshop	:
Entiat	ERS1	Lower Entiat	9.2: Water Quantity: Decreased Water Quantity	NoNoactions.actions.50No %No %No %change.change.	No comme t	n comme t	n	0	50	0	50	50	0.5	50.5	See equivalent Chinook Assessment Unit for uplift rationale. Same projects.	0.5	50.5	See equivalent Chinook Assessment Unit for uplift rationale. Same projects.	50	50	55	55 10	% 48	3.9%		

					Estimate Commen	Estimate Comment	Yakama Nation	Yakama Nation	Additional Look Back		Updated 2018	2033 Estimate	Update 2033	ł	Look	Updated 2018			Updated 2033				H	lig 2012 h Lim	2			2012 Asses
					ts /	1	Look	post-	2018 & 2033		Estimate	d %	Estimat	e	Forward	Estimate	2016-2018 Look	Look	Estimate			н	igh 2	.03 ting	Assess			smen
Popula	ti	Assessm	2012 Standardized	2012 Low	Rationale (specific	Rationale	Back	meeting comme	Estimate Comments/R	Look Back % Change by 2018	(2012-2015 Look Back	change (6/23/16	2012-	2016 Low	% Change	(2016- 2018	Forward 20 <u>18</u> Estimate Comments	Forward % Change by	(2016-2018 Look	2016-2018 Look Forward 2033 Estimate Comments		20 B	018 00 B	3 Fact	Unit	2012 Limiting Factor Weight and		t Unit Weig
on	Code	ent Unit	Limiting Factor	Bookend	to 2018	2033	Notes	nts	ationale	(6/23/16)	workshop))	Look	Bookend	by 2018	Look	/ Rationale	2033	Forward	/ Rationale	2013-2018	### ke	end k	en Wei	Weight	Bookend Comments	2012 Estimates Comments	ht
					LOOKED		opdate	Line two									Action Agency nexus			Agency nexus applicable								
			1.1: Habitat		steelhead	Same as	spreadsh	replace	Panel								applicable to this	Ŷ		to this Limiting Factor					/			
Entiat	EDC2	Mad	Quantity:	0.0	in	for 2018	eet.	ments	concurred	15	00.5	15	00.5	00.5	0	00 5	Limiting Factor were		00 5	were expected within the	100	100	100 1	100 200	16.2%		Tillicum Creek culverts are the last	
EIILIAL	ENJZ	River	Anthropogenic	30	upstream	Not	Yakama	opened	project	1.5	39.5	1.5	99.5	99.5	U	99.5	expected within the	0	99.5	2018 period in this	100	100	100 1	20%	10.2%		barriers	
			Barriers		areas,	additive.	Nation	up 0.25mi	additions.								2018 period in this			Assessment Unit. No					/			
					found		to get	0.25mi									Assessment Unit.			change in function					<u> </u>			
					No	No											No actions with			No actions with Action					/			
		Mad	3.1: Food:		actions.	actions.	No	No									applicable to this	°		to this Limiting Factor			_		!			
Entiat	ERS2	River	Altered Primary Productivity	40	No %	No %	commer	commen		0	40	0	40	40	0	40	Limiting Factor were	0	40	were expected within the	40	40	50	50 20%	16.2%			
			Troductivity		change.	change.	ľ	ľ									expected within the			2018 period in this					/			
-			4.1: Riparian		No	No	No	No									No actions with			Assessment Unit No No actions with Action					+			-
Entiat	ERS2	Mad	Condition:	70	actions.	actions.	commer	commen		0	70	0	70	70	0	70	Action Agency nexus	0	70	Agency nexus applicable	70	70	75	80 209	6 16.2%			
Linciae	2.102	River	Riparian		No %	No %	t	t		Ŭ		Ŭ			Ŭ		applicable to this	ľ		to this Limiting Factor	,,,			20/1	10.270			
			6.1: Channel		No	No	No	No									No actions with	2		No actions with Action				+	+			+
Entiat	ERS2	Mad	Structure and	90	actions.	actions.	commer	commen		0	90	0	90	90	0	90	Action Agency nexus	0	90	Agency nexus applicable	90	90	92	92 20%	6 16.2%			
		River	Form: Bed and		NO %	NO %	t	t									applicable to this			to this Limiting Factor					/			
																	See equivalent											
																	Chinook Assessment	t		See equivalent Chinook					/			
			6.2: Channel Structure and		No	No	No	No									Unit for uplift			Assessment Unit for uplift					/			
Entiat	ERS2	Mad	Form: Instream	91	actions.	actions.	commer	commen		0	91	0	91	91	1.8	92.8	projects, but	1.8	92.8	rationale. Same projects,	91	91	97	99 0%	6 16.2%			
		River	Structural		NO %	NO %	t	t									different			but different denominator in all units					/			
			Complexity		change.	change.											denominator in all			except for ERS3B.					/			
																	units except for								/			
																	No actions with			No actions with Action				+	+			+
			7.2: Sediment		No	No	No	No									Action Agency nexus	5		Agency nexus applicable					/			
Entiat	ERS2	Mad	Increased	23	actions.	actions.	commer	commen		0	23	0	23	23	0	23	applicable to this	0	23	to this Limiting Factor	23	23	50	50 20%	6 16.2%		Roads are a source of sediment	
		River	Sediment		NO %	NO %	t	t									Limiting Factor were			were expected within the					/			
			Quantity		change.	change.											2018 period in this			Assessment Unit. No					/			
			0.2.11/		No	No											No actions with			No actions with Action								
		Mad	9.2: Water		N0 actions	NO	No	No									Action Agency nexus	5		Agency nexus applicable					/			
Entiat	ERS2	River	Decreased		No %	No %	commer	commen		0	0	0	0	0	0	0	Limiting Factor were	0	0	were expected within the				0%	16.2%			
			Water Quantity		change.	change.	t	t									expected within the			2018 period in this					/			
					Denomin												2018 period in this			Assessment Unit No					+			
					ator:																				/			
					Streamne																				/			
					t and																				/			
					Intrinsic Potential																				/			
					are																				/			
					similar.																				/			
					Only																				/			
					Include												Tillikum projects will	I		Tillikum projects will not					/			
			1.1: Habitat		mile of	No											not happen within			happen within 2018					/			
Entiat	EDCOA	Middle	Quantity:	05	Stormy?	actions.	No	No		0	OF		0.5	05	0	05	2018 period. CCFEG		05	period. CCFEG projects	05	05	100 1	100 50	/ 21 /0/			
EIILIAL	ENJOA	Entiat	Anthropogenic	35	Expert	No %	t	t		U	95	U I	95	95	U	95	nexus, so removed.	0	95	have no AA nexus, so	95	95	100 1	.00 5%	5 Z1.470			
			Barriers		Panel:	change.	ľ	ľ									No actions in 2018			removed. No actions in					/			
					Use Streamne												period.			2018 period.					/			
					t miles:																				/			
					12.2 mi.																				/			
	1				No																				1 1			
					ACTIONS.																				1			
	1				barrier																				1 1			
	1				projects																				1 1			
					for look																				1			
					forward.												No actions with			No actions with Action			+	+	+			+
		Middle	3.1: Food:		No	No	No	No									Action Agency nexus	5		Agency nexus applicable					1 1			
Entiat	ERS3A	Entiat	Altered Primary	40	No %	No %	commer	commen		0	40	0	40	40	0	40	applicable to this	0	40	to this Limiting Factor	40	40	50	55 10%	s 21.4%			
			Productivity		change.	change.	t	t									expected within the			were expected within the 2018 period in this								

					Estimate	Estimate	Yakama	Yakama	Additional		Updated	2033	Update	ł		Updated			Updated				Hig	2012			2012
					Commen	Comments	s Nation	Nation	Look Back		2018 Ectimate	Estimate	2033		Look	20 <u>18</u>	2016 2018 Look	Look	20 <u>33</u>			LL in	h	Limi			Asses
			2012		Rationale	/ Rationale	Back	meeting	Estimate	Look Back %	(2012-2015	change	(2012-	-	%	(2016-	Forward 2018	Forward %	(2016-2018	2016-2018 Look Forward		201	8 3	Fact ment			t Unit
Populat	i	Assessm	Standardized	2012 Low	(specific	(specific to	Meeting	comme	Comments/R	Change by 2018	Look Back	(6/23/16	2015	2016 Low	Change	2018	Estimate Comments	Change by	Look	2033 Estimate Comments		Bo	Boo	or Unit	2012 Limiting Factor Weight and		Weig
on	Code	ent Unit	Limiting Factor	Bookend	to 2018	2033	Notes	nts	ationale	(6/23/16)	workshop))	Look	Bookend	by 2018	Look	/ Rationale	2033	Forward	/ Rationale	2013-2018 #	## ken	d ken	Wei Weigh	Bookend Comments	2012 Estimates Comments	ht
			4.1: Riparian		3/11/16: As per	correspon	No	No									Chinook Assessment			Assessment Unit for uplift							
Entiat	ERS3A	Middle	Condition:	60	panel,	ding	commen	commen		0.2	60.2	1.1	61.1	60.2	0	60.2	Unit for uplift	0.7	61.8	rationale. Same projects,	62	64 6	5 70	15% 21.49	6		
		Entiat	Riparian		improve	Chinook	t	t									rationale. Same			but different							
					ment	Assessmer See	1		Icnangeo								projects, but See equivalent			denominator in all units			+				
			and Transitional		correspo	correspon	No	No	prorations								Chinook Assessment			Assessment Unit for uplift							
Entiat	ERS3A	Middle	Habitats:	60	nding	ding	commen	commen	after 6/21	6.2	66.2	6.2	66.2	66.2	22	88.2	Unit for uplift	22	88.2	rationale. Same projects,	68	68 7	0 70	35% 21.4%	6		
		Entiat	Floodplain		Assessme	Assessmer	t	t	meeting as								projects but			denominator in all units							
			Condition		see's	34E :+		-	instructions								different			avecant for EDC2D			+			Estimate considers Dinwater Project	
		Middlo	6.1: Channel		correspo	correspon	No	No									See equivalent			See equivalent Chinook						described under limiting factor 6.2	
Entiat	ERS3A	Entiat	Form: Bed and	90	nding	ding	commen	commen		3.2	93.2	3.2	93.2	93.2	5.3	98.5	Unit for uplift	5.3	98.5	Assessment Unit for uplift	97	97 9	9 99	5% 21.4%	6	Estimate assumes no social	
			Channel Form		Chinook	Chinook	t	t									rationale.			rationale.						constraints affecting project	
			6.2: Channel		See	See	No	No	[Adjusted 3D								See equivalent			See equivalent Chinook							
Entiat	ERS3A	Middle	Form: Instream	25	nding	ding	commen	commen	per Chinook -	14.7	39.7	14.7	39.7	39.7	22.5	62.2	Unit for uplift	22.5	62.2	rationale. Same projects.	35	37 5	0 60	25% 21.4%		16 mile reach - 10 mile private, 6 US	
		Entiat	Structural		Chinook	Chinook	t	t	KG								rationale. Same			but different						Forest Service - work all on private	
			Complexity 7.2: Sediment		Assessme See	Assessmer See			6/28/2016]								No actions with			denominator in all units No actions with Action							
		. 4: -l -ll -	Conditions:		correspo	correspon	No	No									Action Agency nexus	;		Agency nexus applicable						May be some benefits from riparian	
Entiat	ERS3A	Entiat	Increased	75	nding	ding	commen	commen		0	75	0	75	75	0	75	applicable to this	0	75	to this Limiting Factor	75	75 8	2 85	5% 21.4%	r b	project so may add improvements	
		Linde	Sediment		Chinook	Chinook	t	t									Limiting Factor were			were expected within the						during 2015 workshop	
			Quantity		Assessme	Assessmer	1										No actions with			No actions with Action							
		Middle	Ouantity:				No	No									Action Agency nexus	;		Agency nexus applicable							
Entiat	ERS3A	Entiat	Increased Water				commen	commen			0		0	0	0	0	applicable to this	0	0	to this Limiting Factor				21.49	,		
			Quantity				L	L									expected within the			2018 period in this							
		Union	1.1: Habitat		No	No	Na										No actions with			No actions with Action							
Entiat	FRS3B	Upper Middle	Quantity:	93	actions.	actions.	commen	Commen		0	93	0	93	93	0	93	Action Agency nexus	0	93	Agency nexus applicable		q	9 99	13 59	6		
Linciae	211000	Entiat	Anthropogenic	55	No %	No %	t	t		Ŭ	55	Ŭ	55	55	Ŭ	55	Limiting Factor were		55	were expected within the			5 55	10107			
			Barriers		change.	change.											expected within the			2018 period in this							
		Upper	3.1: Food:		actions.	actions.	No	No									Action Agency nexus			Agency nexus applicable							
Entiat	ERS3B	Middle	Altered Primary	40	No %	No %	commen	commen		0	40	0	40	40	0	40	applicable to this	0	40	to this Limiting Factor	40	40 5	0 55	45% 13.5%	6		
		EIILIAL	A 1: Disperion		change.	change.	L	L									Limiting Factor were			were expected within the							
		Upper	Condition:		actions.	actions.	No	No									Action Agency nexus			Agency nexus applicable							
Entiat	ERS3B	Middle	Riparian	80	No %	No %	commen	commen		0	80	0	80	80	0	80	applicable to this	0	80	to this Limiting Factor		8	5 90	13.59	,		
		Entiat	Vegetation		change.	change.	L	L									Limiting Factor were			were expected within the			+				
		Upper	Structure and		No	No	No	No									Chinook Assessment			Assessment Unit for uplift							
Entiat	ERS3B	Middle	Form: Instream	80	actions.	actions.	commen	commen		0	80	0	80	80	9.6	89.6	Unit for uplift	9.6	89.6	rationale. Same	80	80 9	0 90	55% 13.5%	Do not expect increased benefit after		
		Entiat	Structural		change.	change.	t	t									rationale. Same			projects, and same							
			Complexity														projects and same			denominator as for			+ +				
																	No actions with			No octions with Action							
																	applicable to this	'		Agency nexus applicable							
		Linner	7.2: Sediment		No	No	No	No									Limiting Factor were			to this Limiting Factor							
Entiat	FRS3B	Opper Middle	Increased	23	actions.	actions.	commen	commen		0	23	0	23	23	0	23	expected within the	0	23	were expected within the		3	0 30	13 59	6		
Linciae	2.1000	Entiat	Sediment	20	No %	No %	t	t		Ŭ		Ŭ			Ŭ		2018 period in this	ľ		2018 period in this			0 00	10107			
			Quantity		cnange.	cnange.											Assessment Unit.			Assessment Unit. No							
																	function			percentage.							
																	percentage.										
	1			1													No actions with										
																	Action Agency nexus			No actions with Action							
																	applicable to this			Agency nexus applicable							
		Upper	9.1: Water		No	No	No	No									Limiting Factor were			to this Limiting Factor							
Entiat	ERS3B	Middle	Quantity:		actions.	actions.	commen	commen		0	0	0	0	0	0	0	expected within the	0	0	were expected within the				13.59	6		
		Entiat	Ouantity		change	change	t	t									Assessment Unit			Assessment Unit No							
			,														No change in			change in function							
																	function			percentage.							
																	percentage.										

					Estimate	Estimate	Yakama	Yakama	Additional		Updated	2033	Updated			Updated			Updated				Hig 2	2012			2012
					Commen	Comment	Nation	Nation	Look Back		2018	Estimate	2033		Look	20 <u>18</u>			20 <u>33</u>				h	limi			Asses
					ts /	1	Look	post-	2018 & 2033		Estimate	d %	Estimate		Forward	Estimate	2016-2018 Look	Look	Estimate			Hig	h 203	ting Assess			smen
			2012		Rationale	Rationale	Back	meeting	Estimate	Look Back %	(2012-2015	change	(2012-		%	(2016-	Forward 2018	Forward %	(2016-2018	2016-2018 Look Forward		201	18 3	Fact ment			t Unit
Populat		Assessm	Standardized	2012 Low	(specific	(specific to	Meeting	g comme	Comments/R	Change by 2018	Look Back	(6/23/16	2015	2016 Low	Change	2018	Estimate Comments	Change by	Look	2033 Estimate Comments		Во	o Boo	or Unit	2012 Limiting Factor Weight and		Weig
on	Code	ent Unit	Limiting Factor	Bookend	to 2018	2033	Notes	nts	ationale	(6/23/16)	workshop))	Look	Bookend	by 2018	Look	/ Rationale	2033	Forward	/ Rationale	2013-2018	### ker	nd ken	Wei Weight	Bookend Comments	2012 Estimates Comments	ht

Populatio	Code	Assessment Unit	2012 Standardiz ed Limiting Factor	2012 Low Bookend	Estimate Comments / Rationale	Yakama Natio Look Back Meeting Note (4/27/2016)	n s Yakama Nation post- meeting comments	YN Suggeste Lool Back % Change	Additional Look Back Estimate Comments/Rationale (6/21-6/23/2016)	Look Back % Change	Updated 2018 Estimate (2012 2015 Look Bac Process)	2- k 2016 Low Bookend	Look Forward % Change	Updated 2018 Estimate (2016- 2018 Look Forward Period)	2016-2018 Look Forward Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 Limiting Factor Weight	Assessment Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	2012 Assessment Unit Weight Comments
			1000	Dookena	Comments/Rationale captured during look back meeting held 2/24-2/25/2016	onale captured during look back meeting with the	by the Yakama Nation between the 4/27/2016 meeting and the look forward	suggested by the Yakama Nation prior to Look Forward Meeting	Look Back Comments/Rationale captured during Look Forward meeting with the	copy tercentage calculated by panel through discussions and meetings up to	function score for Look Back process resulting from	Bookend used for Look Forward calculations.	calculated for the Look Forward (2016-2018)	function score after adding Look Forward uplift.	Comments/Rationale captured during Look Forward meeting (6/21-6/23/2016.			Donchu	Dooncing				Connicito	
Methow	MES1	Beaver Creek	1.1: Habitat Quantity: Anthropog enic Barriers	77	Same actions and rationale as for MEC1; denominator used was 9.2 miles from Streamnet. Uplift = 19.1%.	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting. Denominator?		Panel concurred regarding steelhead denominator. Other barriers exist: e.g., rock vortex weist: e.g., rock vortex weist: Note that low bookend is too low.	19.1	96.1	96.1	3.6	99.7	Frasier Creek barriers (ten barriers affecting about 2.5 miles) are upstream of anadromy, so no credit assigned at this point. WDFW//Maltais Diversion (2 miles affected): also above anadromy. Beaver Creek Stokes Culvert-to-Bridge was a partial (velocity) barrier (6.7 miles affected) is within SH use. Yields 3.6% uplift.	90	90	90	90	10%	4.2%	Cambell diversion		
Methow	MES1	Beaver Creek	2.3: Injury and Mortality: Mechanical Injury	80	Same actions and rationale as for MEC1; denominator used was 9.2 miles from Streamnet. Upper Beaver Creek Diversion Screens. Prorated because none work perfectly to avoid all injury compared to removal. There are 4 more to deal with. Metric, number of screens. 2.7% uplift (which is 18% of what needs to be done (delta between bookends).	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		There are 2 diversions remaining. This project addressed one, resulting in 7.5% uplift.	7.5	87.5	87.5	0	87.5	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	95	95	5%	4.2%	Are being addressed	Replace 4 brush screens w/drum screens + Battie = 5	
Methow	MES1	Beaver Creek	4.1: Riparian Condition: Riparian Vegetation	70	Same actions and rationale as for MEC1; denominator used was 9.2 miles from Streamnet. Uplift = 0.5%. 3/11/16: As per panel, improvement D weights (prorating factors) were retroactively assigned based on 1% plant growth toward Properly Functioning Condition per year.	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0.8	70.8	70.8	0	70.8	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	80	75	80	20%	4.2%	Good until you get to the WDFW property (if you are considering stream margin and not floodplain vegetation).	Basis: 32.65 riparian acres; 1.7 riparian miles; 3.2 wetland acres	
Methow	MES1	Beaver Creek	6.1: Channel Structure and Form: Bed and Channel Form	60	Same actions and rationale as for MEC1; denominator used was 9.2 miles from Streamnet. Uplift = 7.6%	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	7.6	67.6	67.6	0	67.6	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	70	70	80	80	10%	4.2%		1.29 mile added or enhanced	
Methow	MES1	Beaver Creek	6.2: Channel Structure and Form: Instream Structural Complexity	60	Same actions and rationale as for MEC1; denominator used was 9.2 miles from Streamnet. Uplift = 15.2%	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	14.7	74.7	74.7	0	74.7	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	80	80	10%	4.2%		Basis: 6.2 mi; 2 structures	
Methow	MES1	Beaver Creek	7.2: Sediment Conditions: Increased Sediment Quantity	55	No project. No % change. Upland roads need to be treated. NOTE: discuss in look forward.	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0	55	55	0	55	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	56	56	65	75	15%	4.2%		Didn't consider road decommissioning in 2012 estimate	
Methow	MES1	Beaver Creek	8.1: Water Quality: Temperatu re	40	Same actions and D rationale as for MEC1. Uplift = 4.5%	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook with uplift calculated using steelhead-specific denominators as needed.	3.5	43.5	43.5	0	43.5	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	45	45	55	55	5%	4.2%			

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Methow	MES1	Beaver Creek	9.2: Water Quantity: Decreased Water Quantity	60	Same actions and) rationale as for MEC1. Uplift = 17.8%	May add steelhead actions in Beaver Creek, but need to resolve issues prior to determining what might be included.	Discuss this at the meeting		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	13.9	73.9	73.9	0	73.9	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	80	80	25%	4.2%	Cambell diversion; maybe others (?)	550 acre-feet (2 cubic feet of water per second) 16.5 mi About 25% of total diversions	t
Methow	MES2	Black Canyon	1.1: Habitat Quantity: Anthropog enic Barriers	90	[Not discussed in detail. Note that for MES2-12, although boundaries are the same between steelhead and Chinook, Assessment Unit codes are not	No comment	No comment				90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	100	100	20%	0.1%	1 culvert remaining (higher up)		
Methow	MES2	Black Canyon	4.1: Riparian Condition: Riparian Vegetation	80) detail.]	No comment	No comment				80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80	80	90	95		0.1%	6		
Methow	MES2	Black Canyon	6.2: Channel Structure and Form: Instream Structural Complexity	90	[Not discussed in detail.]	No comment	No comment				90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	90	90		0.1%	6		
Methow	MES2	Black Canyon	7.2: Sediment Conditions: Increased Sediment Quantity	65	[Not discussed in detail.]	No comment	No comment				65	65	0	65	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	65.1	65.1	70	75	45%	0.1%	Managed for timber 6 harvest and grazing. Roads and recreation.		
Methow	MES2	Black Canyon	9.2: Water Quantity: Decreased Water Quantity	70	[Not discussed in detail.]	No comment	No comment				70	70	0	70	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	70.2	70.2	75	75	35%	0.1%	6		
Methow	MES3	Early Winters Creek	1.1: Habitat Quantity: Anthropog enic Barriers		[Not discussed in detail.]	No comment	No comment				0	0	0	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.						2.2%	6		
Methow	MES3	Early Winters Creek	3.1: Food: Altered Primary Productivit Y	75	No action. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	85	85	16%	2.2%	Early Winters and Lost River Combined in 09 Expert Panel		
Methow	MES3	Early Winters Creek	4.1: Riparian Condition: Riparian Vegetation	90	No action. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	92	95	17%	2.2%	Place with the riparian condition problem is the campground.		
Methow	MES3	Early Winters Creek	6.1: Channel Structure and Form: Bed and Channel Form	90) No action. No % change.	No comment	No comment			0	90	90	1.1	91.1	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	90	90	95	95	17%	2.2%	From campground down has been incised.		
Methow	MES3	Early Winters Creek	6.2: Channel Structure and Form: Instream Structural Complexity	75	No action. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.			93	93		2.2%	6		
Methow	MES3	Early Winters Creek	7.2: Sediment Conditions: Increased Sediment Quantity	75	No action. No % change.	No comment	No comment			0	75	75	1.1	76.1	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	75	75	80	80	25%	2.2%	6		
Methow	MES3	Early Winters Creek	9.2: Water Quantity: Decreased Water Quantity	75	No action. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75.2	75.2	85	85	25%	2.2%	Early Winters and Lost River Combined in 09 Expert Panel; Early Winters Irrigation (16 cubic feet of water per second?) right across from the campground.		

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Methow	MES5A	Gold Creek	1.1: Habitat Quantity: Anthropog enic Barriers	95	No action. No % change.	No comment	No comment			0	95	95	0	95	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	95	95	100	100	10%	2.5%	Riparian mostly functioning (for being in a canyon) - biggest problems in flats and road footprint.		
Methow	MES5A	Gold Creek	4.1: Riparian Condition: Riparian Vegetation	75	No action. No % change.	No comment	No comment			0	75	75	o	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75.1	75.1	80	85	10%	2.5%	Not much floodplain naturally - not much could do.		
Methow	MES5A	Gold Creek	5.2: Peripheral and Transitiona I Habitats: Floodplain Condition	45	No action. No % change.	No comment	No comment			0	45	45	0	45	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	45	45	50	50	10%	2.5%	To go higher than 80% would have to pull major roads and get people off the creek.		
Methow	MES5A	Gold Creek	6.1: Channel Structure and Form: Bed and Channel Form	70	No action. No % D change.	No comment	No comment			0	70	70	0	70	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	70	70	75	80	35%	2.5%			
Methow	MES5A	Gold Creek	6.2: Channel Structure and Form: Instream Structural Complexity	45	No action. No % change.	No comment	No comment			0	45	45	0	45	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	45.1	45.1	60	75	30%	2.5%			
Methow	MES5A	Gold Creek	9.2: Water Quantity: Decreased Water Quantity	90) No action. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90.5	90.5	90.5	90.5	5%	2.5%			
Methow	MES5B	Libby Creek	1.1: Habitat Quantity: Anthropog enic Barriers	95	See MEC4B. Expert Panel did not know of any relevant projects in this Assessment Unit, but need to confirm this		No projects by YN in Libby.			0	95	95	0	95	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	95	95	100	100	5%	1.6%			
Methow	MES5B	Libby Creek	4.1: Riparian Condition: Riparian Vegetation	75	SEEWELAB. EXPERI Panel did not know of any relevant 5 projects in this Assessment Unit, but need to confirm this		No projects by YN in Libby.			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75.3	75.3	77	80	35%	1.6%	WDFW property (approximatly river mile 1.5?) opportunities for fencing and revegetation. Evaluated		
Methow	MES5B	Libby Creek	6.1. Channel Structure and Form:	60	Panel did not know O of any relevant projects in this		No projects by YN in Libby.			0	60	60	0	60	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	60.1	60.1	75	75	25%	1.6%	Mouth to approximalty river mile 4 focus of this EC		
Methow	MES5B	Libby Creek	6.2: Channel Structure and Form: Instream Structural Complexity	45	See MEC4B. Expert Panel did not know of any relevant 5 projects in this Assessment Unit, but need to confirm this with Yakama Nation.		No projects by YN in Libby.			0	45	45	0	45	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	45.1	45.1	60	75	25%	1.6%			
Methow	MES5B	Libby Creek	9.2: Water Quantity: Decreased Water Quantity	75	See MEC4B. Expert Panel did not know of any relevant projects in this Assessment Unit, but need to confirm this with Yakama Nation		No projects by YN in Libby.			0	75	75	o	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75.2	75.2	80	80	10%	1.6%	Diversions probably not migration barriers.	Beaver could affect streamflow more than other limiting factors in Libby Creek.	
Methow	MES6	Lower Chewuch	1.1: Habitat Quantity: Anthropog enic Barriers	85	No actions. No %	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	98	98	5%	16.1%	,		
Methow	MES6	Lower Chewuch	3.1: Food: Altered Primary Productivit V	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	85	85	5%	16.1%	,		
Methow	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	55	As for MEC5, need Yakama Nation input on project details and applicable functions. Expert Panel started a calc table with 7 known projects, but did not determine an overall % unlift Assumed 1	Check spreadsheet and confirm with Jared	We added some YN project work and adjusted stream mile treated for YN project work. New uplift should be 0.5%	s t	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0.5	55.5	55.5	0	55.5	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	58	58	65	75	15%	16.1%	Riparian and floodplain combined in 09 Expert Panel, used Lower Chewuch values.	Remaining effects from grazing, roads, recreation	

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Methow	MES6	Lower Chewuch	S.I: Peripheral and Transitiona I Habitats: Side Channel and Wetland	55	As tof WECS, need Yakama Nation input on project details and applicable functions. Expert Panel started a calc table with known projects, but did not determine an overall	(1)21)2000)	we need to better understand the 9.8 mile denominator. We understand the number was taken from Reclamations Tributary Assessmen database but we could not locate the	11.5 t	Yakama Nation: should be the same comment as for Chinook.	e 11.5	66.5	66.5	6.1	72.6	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	57	57	, 7	0 70) 25%	16.19	NOST SIDECHAINERS IN the lower have been cutoff, filled, and developed 10/4/12: I disagree with this comment: Some side channels may have been filled by deposition	More future opportunities that would provide majority of change	
Methow	MES6	Lower Chewuch	6.1. Channel Structure and Form: Bed and Channel	75	Yakama Nation input Yakama Nation input on project details 5 and applicable functions. Expert Panel started a calc		addressed 6.2. We based calculation on Chewuch RM 10 and 13-15.5 due to effect of apex structures or	2	Yakama Nation comment were corrected: see other version/Chinook comments.	s 7 2	77	77	5.6	82.6	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	77	77	9	0 9() 3%	16.19		20-mile would provide benefits (not cub or boulder- above barriers)- improvements apply to tributaries, mainstem in	
Methow	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	60	As for MECS, need Yakama Nation input on project details and applicable 0 functions. Expert Panel started a calc table with known projects, but did not determine an overall		We need to better understand the 22.4 mile denominator. We understand the number was taken from Reclamations Tributary Assessmen database but we could not locate the	18.1 t	Yakama Nation comment were corrected: see other version/Chinook comments	s 7 18.1	78.1	78.1	3.1	81.2	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	65	70) 8	0 80) 15%	16.19	;	5 treatment areas in about 8 miles	
Methow	MES6	Lower Chewuch	7.2: Sediment Conditions: Increased Sediment Quantity	50	As for MEC5, need Yakama Nation input on project details and applicable functions. Expert Panel started a calc table with known	:	No Projects by YN	0		0	50	50	0	50	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	50.3	50.3	5.	2 5!	5 20%	16.19	High bookend assumes some riparian improvement.	Beavers would improve sediments from roads.	
Methow	MES6	Lower Chewuch	8.1: Water Quality: Temperatu re	40	As for MECS, need Yakama Nation input on project details 0 and applicable functions. Expert Panel started a calc		No Projects by YN	0		0	40	40	0	40	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	42	44	6	D 6() 3%	. 16.19		Include Pete's Creek, 10- mile, 8-mile ranches (11.75-13+ 13-15.5)	
Methow	MES6	Lower Chewuch	9.2: Water Quantity: Decreased Water	80	As for MEC5, need Yakama Nation input on project details and applicable	ſ	No Projects by YN	0		0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	; 9	0 90	0 10%	16.19	Used 09 Expert Panel Lower Chewuch value	Estimate doesn't include the Fulton pipe project. Changes from fall to	
Methow	MES7	Lower Methow	4.1: Riparian Condition: Riparian Vegetation	80	Moved 2 projects to Twisp, as per O Chinook so no actions in this Assessment Unit.	No comment	No comment			0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80.5	81	. 8	2 8!	5 25%	15.49		10/4/12: Riparian Conditions in the Lower Methow have not been formally assessed so this is actually an unknown.	
Methow	MES7	Lower Methow	5.1: Peripheral and Transitiona I Habitats: Side	80	0 No actions. No % change.	No comment	No comment			0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80	80	8	1 8:	L 20%	15.49	Riparian and floodplain combined in 09 Expert Panel; Casey - I don't think there are any sidechannels that are cut off due to human	10/4/12: This has not been assessed so is actually an unknown - there appear to be a few off channel areas that may have been lost to	
Methow	MES7	Lower Methow	6.1: Channel Structure and Form:	80	0 No actions. No % change.	No comment	No comment			0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	81	81	. 8	1 8:	1 25%	5 15.49	5		
Methow	MES7	Lower Methow	6.2. and Channel Structure and Form: Instream	75	5 No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	76	76	6 8	0 80	0 25%	5 15.49	want to go here in the Lower Methow, but maybe so. It likely has less wood than it did	assessed and so is an unknown - large wood sources from uspream and riparian areas is likley	
Methow	MES7	Lower Methow	9.2: Water Quantity: Decreased Water	93	3 No actions. No % change.	No comment	No comment			0	93	93	0	93	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	93	93	9	3 9:	3 5%	15.4%		10/4/12: Needs further assessment. Low bookend is way too high. The Lower Methow is	
Methow	MES8	Lower Twisp	1.1: Habitat Quantity: Anthropog	60	Denominator: SH is longer than CHK 0 miles. SN has 18.6 for SH. EP: use 18.6 miles. No actions. No	r	change is based on including major tribs as SH habitat only that might make		Panel agreed to use 18.6 miles as denominator.	0	60	60	12.2	72.2	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	95	95	5 9!	5 9!	5 5%	7.89			
Methow	MES8	Lower Twisp	2.3: Injury and Mortality: Mechanical Injury		No actions. No % change.	No comment	No comment			0	0	0	0	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.						7.89		up dam, dewatereing and stranding of redds and individuals. Expert Panel to consider adding this	
Methow	MES8	Lower Twisp	3.1: Food: Altered Primary Productivit Y	75	5 No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	8	5 8!	5 8%	7.89			
Methow	MES8	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	60	Twisp River Riprap protection 2014 weighted as 0% for now, pending 0 Yakama Nation information. Denominator for steelhead: 18.6 mi. = 0.03% uplift.		We don't know what Twisp River Riparian Protection is. We added cattle exclusio fencing project on Little Bridge Creek ar Buttermilk Creek (Twisp River Fencing Project - Little Bridge Creek and Buttermilk	n d 3.74	Panel agreed to use 18.6 miles as denominator.	4.3	64.3	64.3	0.3	64.6	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	64	75	6	4 7!	5 10%	7.89	Used Lower Twisp values, riparian and floodplain combined in 09 Expert Panel.	Basis: 43 acres improved	

Populatio n	Code	Assessment Unit	2012 Standardiz ed Limiting Factor	2012 Low Bookend	Estimate Comments / Rationale	Yakama Nation Look Back Meeting Notes (4/27/2016)	Yakama Nation post- meeting comments	YN Suggeste Look Back % Change	Additional Look Back Estimate Comments/Rationale (6/21-6/23/2016)	Look Back % Change (6/23/16)	Updated 2018 Estimate (2012- 2015 Look Back Process)	2016 Low Bookend	Look Forward % Change	Updated 2018 Estimate (2016- 2018 Look Forward Period)	2016-2018 Look Forward Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Bookend	2012 Limiting Factor Weight	Assessment Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	2012 Assessment Unit Weight Comments
Methow	MES8	Lower Twisp	5.1: Peripheral and Transitiona I Habitats: Side Channel and	50	See MEC7 projects 0 and rationale. Uplift = 1.2%	No comment	No comment			1.7	51.7	51.7	8.5	60.2	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	60	60	60	60	15%	7.89	(below Buttermilk Creek)	Include MVID-W river mile 4.6 project & Elbow Coulee Side Channel and Elbow Coulee Right	
Methow	MES8	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel	50	See MEC7 projects 0 and rationale. Uplift = 0.4%		We don't see any affect on 6.1. Removed all projects from this calculation	0	Panel agreed.	0	50	50	5.8	55.8	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	51	51	60	60	15%	7.89		Bridge Creek beaver relocation Include MVID-W river mile 4.6 project	
Methow	MES8	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	5(See MEC7 projects 0 and rationale. Uplift = 0.9%		Adjusted stream miles affected and proration	1.6	Panel agreed.	1.6	51.6	51.6	7	58.6	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	55	55	60	60	10%	7.89	(below Buttermilk Creek)	Basis: 3 miles & 20 acres improved	
Methow	MES8	Lower Twisp	8.1: Water Quality: Temperatu re	25	See MEC7 projects 5 and rationale. Uplift = 0.5%		See comments for 9.2 We don't understand the 5% proration value. More discussion like needed.		Panel agreed.	0.1	25.1	25.1	0.4	25.5	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	30	30	40	40	7%	7.89		Major flow improvement (9.2), 5.1 actions	
Methow	MES8	Lower Twisp	9.2: Water Quantity: Decreased Water Quantity	40	see MEC / projects and rationale. Uplift = 9.3%. [Note: 0 Calculation spreadsheet used a denominator of 43		Question about the nature of the water		Panel agreed.	2.3	42.3	42.3	7.6	49.9	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable.	67	67	75	75	30%	7.89		3,400 acre-reet/yr (15 cubic feet of water per second) Poorman + Devaney also include screens	
Methow	MES9A	Middle Methow	1.1: Habitat Quantity: Anthropog enic Barriers	85	Use same denominator as Chinook (25.2 mi from Streamnet). See MEC8A projects and rationale. 1 project.	No comment	No comment			0	85	85	0.8	85.8	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	90	90	98	98	2%	14.49		1 mile TOTAL access from BOTH projects Remaining barriers on Bear Creek open to (currently) low intrinsic	
Methow	MES9A	Middle Methow	2.3: Injury and Mortality: Mechanical Injury	80	Use same denominator as Chinook (25.2 mi from Streamnet). See MEC8A projects and	No comment	No comment			1.5	81.5	81.5	13.5	95	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	95	95	95	95	8%	14.49		equipment maintenance of push-up dams & eliminate fish accessibility to intake at Barkley	
Methow	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	48	Use same denominator as Chinook (25.2 mi from Streamnet). See MEC8A projects and rationale. Uplift =		We changed some stream mile values for YN project, but no effective change in calculation output	0.7	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0.9	48.9	48.9	0.2	49.1	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	50	55	50	55	15%	14.49	Riparian and floodplain combined in 09 Expert Panel, 09 Expert Panel look back 45 increased to 48 in 2012 Expert Panel.	75 acres from projects listed in 2012	
Methow	MES9A	Middle Methow	5.1: Peripheral and Transitiona	55	Use same denominator as Chinook (20 mi, per Tributary		We don't understand the 20 mile denominator. We agree with the other	7.3	Rationale is same as for Chinook, with uplift calculated using steelhead-specific	8	63	63	4	67	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	65	68	70	70	25%	14.49	,	Include 3R, Barkley, Whitefish, WDFW Floodplain	
Methow	MES9A	Middle Methow	6.1: Channel Structure and Form: Bed and	50	Use same denominator as 0 Chinook (25.2 mi from Streamnet). See MFC8A projects and	Check spreadsheet and confirm with Jared	We removed Eagle Rocks LWD from the calculation	1.5	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	1.8	51.8	51.8	1.3	53.1	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	55	55	70	70	10%	14.49	Focus of much of M2 work.	All 4.1/5.1 actions EXCEPT Silver (Consider in 2015 look back for anything that happens there).	
Methow	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream	50	Use same denominator as 0 Chinook (25.2 mi from Streamnet). See MEC8A projects and		Removed 1890s, added 2 channels project. Adjusted mileage and proration for YN projects	5.3	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	4.2	54.2	54.2	1.3	55.5	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	60	60	70	70	25%	14.49	,	2012 Basis: 4.05 miles + 118 structures (includes 8 for Lewisia * 12 for SIlver Reach)	
Methow	MES9A	Middle Methow	8.1: Water Quality: Temperatu re	75	See MEC8A projects and rationale. Uplift =1.9%		suggests proration should be increased to 100% for that	3.5	Chinook, with uplift calculated using steelhead-specific	2.2	77.2	77.2	0.1	77.3	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	77	77	85	85	5%	14.49	,	EXCEPT Silver (Consider in 2015 look back for anything that happens	
Methow	MES9A	Middle Methow	9.2: Water Quantity: Decreased Water Quantity	75	5 No actions. No % change.		No comment			0	75	75	1.6	76.6	Equivalent Chinook AU is MEC8A. Distributions overlap, so same rationale and same uplift.	75.2	75.2	85	85	10%	14.49	This is look at the cummulative effect to this reach of water savings upstream.	Horol Basis- does not include MVID/M2 BArkley; beavers in upstream areas- no effect on flow downstream.	
Methow	MES9B	Upper-Middle Methow	1.1: Habitat Quantity: Anthropog enic Barriers	85	5 No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	85	85	5%	4.19	Foghorn		
Methow	MES9B	Upper-Middle Methow	3.1: Food: Altered Primary Productivit	75	⁵ No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	76	76	85	85	5%	4.19		Implement Hancock nutrient treatment plan	
Methow	MES9B	Upper-Middle Methow	4.1: Riparian Condition: Riparian	60	0 No actions. No % change.	No comment	No comment			0	60	60	0	60	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	60.1	60.2	62	65	10%	4.19		Includes Big Valley project	t

Popula	tio	Assessment	2012 Standardiz t ed Limiting Factor	2012 Low	Estimate Comments	Yakama Nation Look Back Meeting Notes (4/27/2016)	Yakama Nation post-	YN Suggeste Look	Additional Look Back Estimate Comments/Rationale	Look Back % Change	Updated 2018 Estimate (2012- 2015 Look Back Process)	2016 Low Bookend	Look Forward	Updated 2018 Estimate (2016- 2018 Look	2016-2018 Look Forward Estimate Comments / Pationale	2013_2018	2033	High 2018	High 2033	2012 Limiting	Assessment Unit	2012 Limiting Factor Weight and Bookend	2012 Estimates	2012 Assessment Unit Weight
Methov	v MES9B	Upper-Middle Methow	5.1: Peripheral and Transitiona	65	See MEC8B notes. Denominator from 5 Tributary Assessmen geodatabase is 15.1 milos Unlift = 2.2%	t	We don't understand the 15.1 mile denominator. We agree with the other	3.4	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as nooded.	3.4	68.4	68.4	0.7	69.1	Rationale is same as for CHK, with uplift calculated using steelhead-specific denominators as applicable. Equivalent Chinook AU is MEC8B.	80	80	80	80	15%	4.19	s comments	Pprogress from 80-100% are actions around hatchery & Winthrop	comments
Methov	v MES9B	Upper-Middl Methow	6.1: Channel Structure and Form: Bed and Channel Form	65	5 No actions. No % change.		See comment for 6.2		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0	65	65	8.3	73.3	Rationale is same as for CHK. Equivalent Chinook AU is MEC8B. [7-15-16: During OA process, noted that in Look Back process, the panel used the Streamnet Chinook mileage as the denominator. Changed uplift to reflect new denominator.]	67	70	75	75	23%	4.19	6	Includes Heath/Big Valley RIGHT	
Methov	v MES9B	Upper-Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	65	Fender Mill project. Denominator is 10.8 Streamnet miles. Expert Panel used same denominator as for Chinook.		We need to better understand whether this EC applies to side channels or not. If side channel complexity is considered in this EC, then this EC needs to be re-evaluated in all Assessment Units, not	4.6	Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0	65	65	8.3	73.3	Rationale is same as for CHK. Equivalent Chinook AU is MEC8B. [7-15-16: During QA process, noted that in Look Back process, the panel used the Streamnet Chinook mileage as the denominator. Changed uplift to reflect new denominator.]	67	70	75	75	22%	4.19	5	Includes Heath/Big Valley RIGHT	
Methov	v MES9B	Upper-Middle Methow	9.2: Water Quantity: Decreased Water Quantity	80	D No actions. No % change.	No comment	No comment		Rationale is same as for Chinook, with uplift calculated using steelhead-specific denominators as needed.	0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80	80	85	85	20%	4.19	6 Foghorn	No effect UNLESS beaver reintroduction occurs in Hancock	
Methov	v MES10	Upper Chewuch	4.1: Riparian Condition: Riparian Vegetation	90	D No actions. No % Change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	92	95	10%	7.99	Early recovery from burning		
Methov	v MES10	Upper Chewuch	6.1: Channel Structure and Form:	90	D No actions. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	93	95	5%	7.99	6		
Methov	v MES10	Upper Chewuch	6.2: Channel Structure and Form:	80	D No actions. No % change.	No comment	No comment			0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80	80	85	90	70%	7.99	6		
Methov	v MES10	Upper Chewuch	7.2: Sediment Conditions: Increased	90	D No actions. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	92	95	15%	7.9%	Sediment condition is mostly natural		
Methov	v MES11A	Upper Methow	1.1: Habitat Quantity: Anthropog	75	No nexus actions. No 5 change in percentage.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	90	90	5%	12.79	6		
Methov	v MES11A	Upper Methow	3.1: Food: Altered Primary Productivit	75	No nexus actions. No 5 change in percentage.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	85	85	5%	12.79	Water quality in 09 Expet Panel no values		
Methov	v MES11A	Upper Methow	4.1: Riparian Condition: Riparian	70	No nexus actions. No 0 change in percentage.	No comment	No comment			0	70	70	0	70	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	70.2	70.5	72	75	10%	12.79	From Weeman up to Mazama (associated with development); includes Goat Creek		
Methov	v MES11A	Upper Methow	5.1: Peripheral and Transitiona I Habitats: Side	60	No nexus actions. No 0 change in percentage.	No comment	No comment			0	60	60	0	60	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	65	65	75	75	10%	12.79	Some opportunity between Goat Creek and Lost River; includes Goat Creek		
Methov	v MES11A	Upper Methow	6.1: Channel Structure and Form: Bed and	75	No nexus actions. No 5 change in percentage.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	77	77	85	85	15%	12.79	Localized severe incisions, channel straightening. Most actions would occur from Lost River down to		
Methov	v MES11A	Upper Methow	6.2. Channel Structure and Form: Instream	75	No nexus actions. No 5 change in percentage.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	77	77	85	85	10%	12.79	Most actions would occur from Lost River down to Weeman Bridge; includes Goat Creek		
Methov	v MES11A	Upper Methow	7.2: Sediment Conditions: Increased Sediment Quantity	85	No nexus actions. No 5 change in percentage.	No comment	No comment			0	85	85	o	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	85	85	5%	12.79	Goat creek off of White Face Mountain. Not an issue in the main channel.	Minimal impact from beaver	
Methov	v MES11A	Upper Methow	9.1: Water Quantity: Increased Water Quantity		No nexus actions. No change in percentage.	No comment	No comment			0	0	0	0	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.						12.79	6		

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Methow	MES11A	Upper Methow	9.2: Water Quantity: Decreased Water Quantity	30	No nexus actions. No change in percentage.	No comment	No comment			0	30	30	0	30	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	30.5	30.5	40	9 40	40%	. 12.7%	Dry in most years from Early Winters down to Weeman. In dry years from just below Lost River. Not entirely anthropogenic - is a losing reach and would	Most beaver relocation in Goat Creek	
Methow	MES11B	Lost River	1.1: Habitat Quantity: Anthropog enic Barriers	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.			98	98		2.99			
Methow	MES11B	Lost River	3.1: Food: Altered Primary Productivit	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	85	85	20%	5 2.99	Used same values as Early Winters		
Methow	MES11B	Lost River	4.1: Riparian Condition: Riparian	85	No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	87	90	25%	2.99	Lost river combined with early winters in 09 Expert Panel		
Methow	MES11B	Lost River	9.2. Peripheral and Transitiona	85	No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	85	85	30%	. 2.99	Evaluated for watershed		
Methow	MES11B	Lost River	6:1: Channel Structure	85	No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	85	85	25%	2.9%	river mile 1.5(?); Evaluated from		
Methow	MES11B	Lost River	6.2: Channel Structure and Form:	60	No actions. No % change.	No comment	No comment			0	60	60	0	60	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.			90	90		2.99	,		
Methow	MES11B	Lost River	9.1: Water Quantity: Increased Water		No actions. No % change.	No comment	No comment			0	0	0	0	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.						2.99	,		
Methow	MES12	Upper Twisp	1.1: Habitat Quantity: Anthropog enic Barriers	93	No actions. No % change.	No comment	No comment			0.00%	93	93	0	93	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	93	93	94	96		6.89	,		
Methow	MES12	Upper Twisp	3.1: Food: Altered Primary Productivit Y	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	77	77	85	85	20%	6.89	,	Yakama Nation - implement nutrient enhancement assessment Uncertain of potential benefits- low initial	
Methow	MES12	Upper Twisp	4.1: Riparian Condition: Riparian Vegetation	85	No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	88	92	15%	6.89		Release upstream from disturbed area	
Methow	MES12	Upper Twisp	5.1: Peripheral and Transitiona	85	No actions. No % change.	No comment	No comment			0	85	85	0	85	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	85	85	88	92	15%	6.89			
Methow	MES12	Upper Twisp	6.1: Channel Structure and Form:	90	No actions. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	93	95	20%	6.89			
Methow	MES12	Upper Twisp	6.2: Channel Structure and Form: Instream Structural	92	No actions. No % change.		Added 2014 Scattold Camp Giant Spruce Protection - need to add in background data in subtab	0.6	Panel concurred. [7/6/2016: Noted in QA process that denominator had been incorrectly entered in calculation	0.5	92.5	92.5	0	92.5	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	93	93	95	95	20%	6.89			
Methow	MES12	Upper Twisp	7.2: Sediment Conditions: Increased Sediment	90	No actions. No % change.	No comment	No comment			0	90	90	0	90	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90.5	90.5	95	95	10%	6.89	,	Beaver release likely in tributaries (Buttermilk Creek) - tributaries are sediment source; small % of issue	
Methow	MES12	Upper Twisp	9.1: Water Quantity: Increased Water		No actions. No % change.	No comment	No comment			0	0	0	0	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.						6.89	,		
Methow	MES13	Wolf Creek	2.3: Injury and Mortality: Mechanical	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	90	90	90	90	10%	1.39	Need to evaluate status of screens in Wolf Creek	Fix Wolf Creek Irrigation Diversion screen (in wilderness)	
Methow	MES13	Wolf Creek	4.1: Riparian Condition: Riparian	80	No actions. No % change.	No comment	No comment			0	80	80	0	80	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	80	80	82	85	15%	1.39	Lower 2 miles; river mile 0-2.5	Release site likely upstream from private land (where direct fish benefits would accrue)	
Methow	MES13	Wolf Creek	Peripheral and Transitiona	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	75	80	80	10%	1.39	Lower 2 miles; river mile 0-2.5		

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Methow	MES13	Wolf Creek	6.2: Channel Structure and Form: Instream	75	No actions. No % change.	No comment	No comment			0	75	75	0	75	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	75	7	5 80	80	35%	1.3%	Focus on low 3-4 miles	Release upstream from impacted reach	
Methow	MES13	Wolf Creek	9.2: Water Quantity: Decreased Water Quantity	65	No actions. No % change.	No comment	No comment			0	65	65	0	65	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	70	7	0 65	70	30%	1.3%	Wolf Creek Irrigation Diversion; Biddle Ponds(?)	Trout Unlimited worked w/I.D. to lower target from 7.5 to 7 cubic feet of water per second in late season (Aug-Sep)- 0.5 cubic feet of water per second improvement	

** This includes comments/notes from the 2012 Expert Panel "look forward" workshop and the 2015/2016 "look back" workshop

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					Comments/Rationale captured during look back meeting held 2/24-2/25/2016	Comments/Rationale captured during look back meeting with the Yakama Nation held on 4/27/16	by the Yakama Nation between the 4/27/2016 meeting and the look forward meeting held 6/21-	Comments/Rational e captured during Look Forward meeting with the	Uplift percentage calculated by panel through discussions and meetings up to 6/23/2016.	score resulting from all discussions and calculations occurring up to	2016 Low Bookend used for Look Forward calculations.	for the Look Forward (2016- 2018) period during the 6/21- 6/23/2016	Updated function score after adding Look Forward uplift.	Comments/Rationale captured during Look Forward meeting (6/21-6/23/2016).									
Wenatchee	WES1	Chiwawa	1.1: Habitat Quantity: Anthropogenic Barriers	98	See equivalent steelhead Assessment Unit. Same projects. Same denominator. [Copied from Chinook per Expert Panel.] No actions. No change in %.	No comment	No comment		0	98	98	0	98	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	98	98	99	99	10%	18.5%			
Wenatchee	WES1	Chiwawa	3.1: Food: Altered Primary Productivity	50	See equivalent steelhead Assessment Unit. Same projects. Same denominator [Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	50	50	0	50	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	75	80	60%	18.5%	Not a lot of data. The gap between the low and high bookends reflects an assumed improvement(?)		
Wenatchee	WES1	Chiwawa	4.1: Riparian Condition: Riparian Vegetation	90	See equivalent steelhead Assessment Unit. Same projects. Same denominator [Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	90	90	0	90	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	92	95	15%	18.5%			
Wenatchee	WES1	Chiwawa	5.2: Peripheral and Transitional Habitats: Floodplain Condition	95	See equivalent steelhead Assessment Unit. Same projects. Same denominator [Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	95	95	0	95	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	97	97	15%	18.5%			
Wenatchee	WES1	Chiwawa	6.2: Channel Structure and Form: Instream Structural Complexity	93	See equivalent steelhead Assessment Unit. Same projects. Same denominator [Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	93	93	0	93	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	93	93	94	95	0%	18.5%			
Wenatchee	WES1	Chiwawa	7.2: Sediment Conditions: Increased Sediment Quantity	29	See equivalent steelhead Assessment Unit. Same projects. Same denominator [Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	29	29	0	29	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	29	29	29	29	0%	18.5%	REMOVE THIS LF		
Wenatchee	WES2	Chumstick	1.1: Habitat Quantity: Anthropogenic Barriers	80	See equivalent Chinook Assessment Unit. Same projects. Different denominator: Adjusted Streamnet steelhead miles upward based on known limit of anadromy = 11.6 miles. Opened 3.0 miles (from barrier that was fixed to next barrier, plus Salaby). Resulted in 19.4 % uplift	No comment	No comment		19.4	99.4	99.4	0	99.4	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	95	95	8%	5.9%	Mainstem Chumstick is close, but barriers on tributaries and Merry Canyon 95% high bookend considers smaller tribs (eagle cr, etc.) steelhead spawning > cchinook, but distribution similar for juvenile rearing	3 barriers provide 1.5 mi access, 4th barrier improves partial barrier	
Wenatchee	WES2	Chumstick	4.1: Riparian Condition: Riparian Vegetation	60	Same projects as for Chinook, but had steelhead in area. River mile 8.5 project 0.1 miles treated at bridge sites. 260, 280 left of bank. Prorated to 10% based on 2018 expected % of Properly Functioning Condition = 0.1% uplift	No comment	No comment		0.1	60.1	60.1	0	60.1	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	80	14%	5.9%			

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Wenatchee	WES2	Chumstick	and Transitional Habitats: Side Channel and Wetland Conditions	55	[Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	55	55	0	55	nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	55	55	60	60	5%	5.9%		
Wenatchee	WES2	Chumstick	6.2: Channel Structure and Form: Instream Structural Complexity	55	[Copied from Chinook, per Expert Panel] No actions. No change in %.	No comment	No comment		0	55	55	0	55	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	55	55	60	60	5%	5.9%	bookend values are a remnant from the 2009 Workshop values and really don't apply; LF weight = 0%	
Wenatchee	WES2	Chumstick	7.2: Sediment Conditions: Increased Sediment Quantity	60	For Chinook: "Projects 6 miles upstream of Chinook habitat. No measurable change in %."	Comment is confusing as written	Please explain your comment.	Panel agreed to delete.	0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	75	75	20%	5.9%		
Wenatchee	WES2	Chumstick	8.1: Water Quality: Temperature	75	[Lopied from Chinook, per Expert Panel] Expert Panel counted flow benefit as helping with limiting factor 8.1. Benefit depends on type of flow project (but don't have much detail on project discussed in limiting factor 9.2: was it a groundwater project or irrigation diversion project?). Based on rationale used in limiting factor 9.2, and assumed differences in water temp between stream and added flow. Could	No comment	No comment		0.1	75.1	75.1	0	75.1	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	77	85	20%	5.9%	Reflects growth of Populus species, but not reconnection of floodplain, etc.	
Wenatchee	WES2	Chumstick	9.2: Water Quantity: Decreased Water Quantity	50	[Copied from Chinook, per Expert Panel] Expert Panel discussed Trout Unlimited flow enhancement project in Chumstick (18 acre-ft.), which was mapped near Mouth of Eagle Creek. Downstream of there, bedrock constrained; upstream of confluence is alluvial. Equivalent to ~0.25 cubic feet of water per second over 2 months (0.1 over 90 days; 0.06 if spread over 5 months). Summer baseflow is ~3 cubic feet of water per second. Small benefit, but they are cumulative as these projects happen. There are 2 gages in Chumstick. Benefit depends on seasonality of added instream flow. Assumed that benefit is over 3 low flow months of the 5 month irrigation season. Assumed senior right, too. But flow increases habitat too. See calc table. Expert Panel: 2% unlift	No comment	No comment		2	52	52	0	52	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	90	90	28%	5.9%		
Wenatchee	WES3	lcicle	1.1: Habitat Quantity: Anthropogenic Barriers	70	Remove, as per Chinook	not part of BiOp	No comment		0	70	70	0	70	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	35%	14.2%	Look at relative AU weight for lcicle - evidence no historic passage of adult chinook above boulder field	

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Wenatchee	WES3	lcicle	2.3: Injury and Mortality: Mechanical Injury	50	Remove, as per Chinook	not part of BiOp	No comment		0	50	50	0	50	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	90	90	5%	14.2%	Reflects screening of 2 out of four diversions. Would still be some mechanical injury associated with irrigation.		
Wenatchee	WES3	lcicle	4.1: Riparian Condition: Riparian Vegetation	75	Remove, as per Chinook	not part of BiOp	No comment		0	75	75	0	75	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	77	80	10%	14.2%	Averages conditions across lcicle (Lower is much worse than Upper)		
Wenatchee	WES3	Icicle	6.2: Channel Structure and Form: Instream Structural Complexity	21	Remove, as per Chinook	not part of BiOp	No comment		0	21	21	0	21	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	21	21	21	21	15%	14.2%			
Wenatchee	WES3	lcicle	7.2: Sediment Conditions: Increased Sediment Quantity	70	Remove, as per Chinook	not part of BiOp	No comment		0	70	70	0	70	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	76	10%	14.2%	Conditions here improving naturally over time.		
Wenatchee	WES3	lcicle	9.2: Water Quantity: Decreased Water Quantity	55	Remove, as per Chinook	not part of BiOp	No comment		0	55	55	0	55	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	55	55	65	65	25%	14.2%			
Wenatchee	WES4	Little Wenatchee	3.1: Food: Altered Primary Productivity	55	No action. No change in %.	No comment	No comment		0	55	55	0	55	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	55	55	85	90	25%	3.5%			
Wenatchee	WES4	Little Wenatchee	4.1: Riparian Condition: Riparian Vegetation	85	No action. No change in %.	No comment	No comment		0	85	85	0	85	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	85	90	20%	3.5%	Action is to allow natural improvements		
Wenatchee	WES4	Little Wenatchee	5.2: Peripheral and Transitional Habitats: Floodplain Condition	90	No action. No change in %.	No comment	No comment		0	90	90	0	90	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	95	95	30%	3.5%	Berm at the gravel pits		
Wenatchee	WES4	Little Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	97	No action. No change in %.	No comment	No comment		0	97	97	0	97	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	97	97	98	99		3.5%			
Wenatchee	WES4	Little Wenatchee	7.2: Sediment Conditions: Increased Sediment Quantity	75	No action. No change in %.	No comment	No comment		0	75	75	0	75	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	85	90	25%	3.5%			
Wenatchee	WES5	Lower Wenatchee	1.1: Habitat Quantity: Anthropogenic Barriers	98	Different denominator than for Chinook. No actions. No change in % function.	No comment	No comment		0	98	98	0	98	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	98	98	99	99		12.6%			

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Wenatchee	WES5	Lower Wenatchee	4.1: Riparian Condition: Riparian Vegetation	45	No actions. No change in % function.	No comment	No comment		0	45	45	0	45	nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	45	45	45	50	10%	12.6%			
Wenatchee	WES5	Lower Wenatchee	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	65	[Copied from Chinook per Expert Panel] Pioneer Trout Unlimited project (AKA Lower Wenatchee Enhancement) removed a diversion dam from a side channel in 2014 near Monitor. Point of Diversion was moved to backwater section of Lower Wenatchee. No enhancement was done - it was primarily a flow enhancement project (enhancement components were now done). But fish could have come in from the bottom. Also spill benefit - rewatered part of channel. Now they no longer have to push up material to route flow every 4-5 years. Other project: Yakama Nation Sunnyslope (6 structures: logjam to protect house, that will provide instream structure when channel moves) [removed this project from limiting factor 5.1, but leave in 6.2]. Denominator: miles of Chinook side channel	Yakama Nation to determine scoring to discuss with larger group.	YN Sunnyslope Project should be listed in your calculation spreadsheet and used in your calculations. Your statement of "logjam to protect house" is incorrect. Log jam was placed to arrest lateral migration into side channel project.	Panel concurred, as for Chinook.	0.5	65.5	65.5	0	65.5	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	66	66	80	80	25%	12.6%		benefits estimates considers Lower Wenatchee instream flow project dam removal	
Wenatchee	WES5	Lower Wenatchee	6.1: Channel Structure and Form: Bed and Channel Form	60	[Copied from Chinook per Expert Panel] Sunnyslope project logs were buried in bank; not wetted. No instream benefit now. But potential future benefit if river moves. No % change.	No comment	No comment		0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	65	20%	12.6%			
Wenatchee	WES5	Lower Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	60	[Copied from Chinook per Expert Panel] Sunnyslope project logs were buried in bank; not wetted. No instream benefit now. But potential future benefit if river moves. No % change.	No comment	No comment		0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60.1	60.1	65	70	10%	12.6%			
Wenatchee	WES5	Lower Wenatchee	8.1: Water Quality: Temperature	65	[Copied from Chinook per Expert Panel] Temp in lower river are often lethal in summer, but temp control is the lake, so even if lower section was fully shaded, would not effect overall function. Flow projects from limiting factor 9.2: provides more volume (so possibly affecting daily range of temps), but return water is warm, so no measurable change? Calc table prorated as 1%, resulting in 0.1% uplift.	No comment	No comment		0.1	65.1	65.1	0	65.1	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	65	65	70	70	15%	12.6%			

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Wenatchee	WES5	Lower Wenatchee	9.2: Water Quantity: Decreased Water Quantity	50	[Copied from Chinook per Expert Panel] 38.7 cubic feet of water per second total previously diverted spill backs savings. 15 cubic feet of water per second consumptive use. Now down to 7 cubic feet of water per second. Had expected 10% benefit from Aug-Sept. 1962- 2015: lowest mean daily flows for September 733 cubic feet of water per second at monitor. Previous weighted usable area calcs did not account for side channels. Did not use this approach. 38.27 actual realized cubic feet of water per second savings/733 = 5.2%. But 733 mean daily flow number is higher than seen on dry years, so this is conservative (functional value is higher on dry years, e.g., last year (2015): flows got down to 277 cubic feet of water per second in early October = 13.8% unlift)	No comment	No comment		5.2	55.2	55.2	0	55.2	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	52	52	65	65	20%	12.6%		summer flow benefits greater for steelhead	
Wenatchee	WES6	Mission	1.1: Habitat Quantity: Anthropogenic Barriers	82	No actions. No change in % function.	No comment	No comment		0	82	82	0	82	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	82	82	85	85	10%	4.7%			
Wenatchee	WES6	Mission	4.1: Riparian Condition: Riparian Vegetation	60	No actions. No change in % function.	No comment	No comment		0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	70	10%	4.7%	Most projects should be delayed until flow and water quality are addressed; Japanese knotweek removal; Restoration opportunistically between Cashmere and the USFS boundary.		
Wenatchee	WES6	Mission	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	25	No actions. No change in % function.	No comment	No comment		0	25	25	0	25	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	25	25	25	25	15%	4.7%	Assess and reduce road impacts….		
Wenatchee	WES6	Mission	6.1: Channel Structure and Form: Bed and Channel Form	40	No actions. No change in % function.	No comment	No comment		0	40	40	0	40	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	45	45	10%	4.7%	Lower 6 miles + FS Road		
Wenatchee	WES6	Mission	6.2: Channel Structure and Form: Instream Structural Complexity	50	No actions. No change in % function.	No comment	No comment		0	50	50	0	50	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	55	55	15%	4.7%	Worth adding complexity at the price of riparian?.		

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Wenatchee	WES6	Mission	7.2: Sediment Conditions: Increased Sediment Quantity	40	No actions. No change in % function.	No comment	No comment		0	40	40	0	40	nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	45	50	10%	4.7%	Assess and reduce road impacts….		
Wenatchee	WES6	Mission	8.1: Water Quality: Temperature	35	No actions. No change in % function.	No comment	No comment		0	35	35	0	35	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	35	35	45	45	10%	4.7%	Mostly a product of flow Esp. the lower 4 miles		
Wenatchee	WES6	Mission	9.2: Water Quantity: Decreased Water Quantity	30	No actions. No change in % function.	No comment	No comment		0	30	30	0	30	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	30	30	60	60	20%	4.7%			
Wenatchee	WES7	Nason	1.1: Habitat Quantity: Anthropogenic Barriers	93	See equivalent steelhead Assessment Unit. Same projects and proration's. Except for Coulter Creek, which steelhead could be credited for full 1.6 mile distance of project. Different denominator: do not use Streamnet, as it goes above the dam. Use Intrinsic Potential: 20.8 miles. Total miles opened = 2.1 mi. If weighted at 100%, this would yield a 14.9% uplift. But since it has a 0% limiting factor weight, no % change assigned.	No comment	No comment		0	93	93	0	93	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	93	93	98	98		8.2%			
Wenatchee	WES7	Nason	3.1: Food: Altered Primary Productivity	60	Same as Chinook	No comment	No comment		0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	80	85	10%	8.2%			
Wenatchee	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	50	Yakama Nation First Bend 2013? Same as Chinook. 3/11/16: As per panel, improvement weights (prorating factors) were retroactively assigned based on 1% plant growth toward Properly Functioning Condition per year. Revised uplift: 0.03%	No comment	No comment		0.03	50.03	50.03	0.03	50.06	Same projects as for Chinook. Different denominator, resulting in 0.03% expected uplift.	51	52	55	60	10%	8.2%	Includes recruitment of LWM		

Population	Code	Assessmen t Unit	2012 Standardized Limiting Factor	2012 Low Bookend	Estimate Comments / Rationale	Yakama Nation Look Back Meeting Notes (4/27/2016)	Yakama Nation post- meeting comments	Additional Look Back Estimate Comments/Rational e (6/21-6/23/2016)	Look Back % Change (6/23/16)	Updated 2018 Estimate (2012- 2015 Look Back Process)	2016 Low Bookend	Look Forward % Change	Updated 2018 Estimate (2016- 2018 Look Forward Period)	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Book end	High 2033 Booke nd	2012 limiting factor Weight	Assessm ent Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	201 2 Ass ess me nt
Wenatchee	WES7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	60	[Same as for equivalent Chinook Assessment Unit per Expert Panel] Calculation table has 4 projects, including Yakama Nation first Bend 2013, Nason Creek river mile 4.6 (redid high and low flow channels through old parking lot, flew in logs and enhanced 207 oxbow, side channel created in marshy area, removed old bridge abutment - Salmon Recovery Funding Board funding, but recorded in CB Fish too), Lower White Pine Reconnect, Upper White Pine Siets 3-4. Don't count Roaring Creek. Adjusted lengths for account for site channel/alcove portion affected by projects. Use acres as calculation metric for wetlands rather than length? But lengths is bast used for	UWP was wetted year round in 2015 drought year), it should be updated to 100% proration.	We don't feel that UWP 3-4 is a seasonal channel; it has water year round, therefore the 50% improvement may need to be reanalyzed.	Panel concurred, as for Chinook. [Recalculated using same prorations as shown to panel for Chinook.)	13	73	73	1.6	74.6	Same projects as for Chinook. Different denominator, resulting in 1.6% expected uplift. Add reference to CMZ Study to Reach Assessment?.	80	80	80	80	25%	8.2%	Increase LWD complexes; reconnect side channel habitat; 1.1, 1.2, and 1.3 scored together	Coulter Ck, Lower White Pine, NI, & Upper White Pine assumed to achieve the 80% high bookend	
Wenatchee	WES7	Nason	6.1: Channel Structure and Form: Bed and Channel Form	60	Same projects as for equivalent Chinook Assessment Unit, but different denominator (20.8mi). Calc table yields 0.5% uplift.	No comment	No comment	[Adjusted uplift as per Chinook calculations - KG 6/28/16]	1.3	61.3	61.3	2.2	63.5	Same projects as for Chinook. Different denominator, resulting in 2.2% uplift.	63	63	65	65	20%	8.2%			
Wenatchee	WES7	Nason	6.2: Channel Structure and Form: Instream Structural Complexity	50	Same projects as for equivalent Chinook Assessment Unit, but different denominator (20.8mi). Calc table yields 2.5% uplift.	No comment	No comment	[No change in uplift as per Chinook calculations - KG 6/28/16]	2.5	52.5	52.5	3.8	56.3	Same projects as for Chinook. Different denominator, resulting in 3.8% uplift.	54	58	55	60	20%	8.2%			
Wenatchee	WES7	Nason	7.2: Sediment Conditions: Increased Sediment Quantity	65	No actions.	No comment	No comment		0	65	65	0	65	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	65	65	70	75	15%	8.2%	May be short- term increases in sediment from opening up side channels. Increased sediment in Lower Nason		
Wenatchee	WES7	Nason	8.1: Water Quality: Temperature	80	No actions.	No comment	No comment		0	80	80	0	80	No planned actions within 2016- 2018 time period; however, panel noted that high temperatures have been measured in Lower Nason. Weight should not be zero, so should be changed at next Look Forward after 2018.	80	80	80	80		8.2%			
Wenatchee	WES8	Peshastin	1.1: Habitat Quantity: Anthropogenic Barriers	70	Streamnet steelhead mapping = 23.6 miles, adjusted by Expert Panel per tributary. Remove Mill Creek. No falls on Engles Creek. Bull trout are seen up there. But steelhead only seen in lower	Yakama Nation excavated pool at base of dam, will review scoring.	YN agrees	Panel concurred, as for Chinook.	0.1	70.1	70.1	0	70.1	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	85	85	5%	7.7%			
Wenatchee	WES8	Peshastin	4.1: Riparian Condition: Riparian Vegetation	60	Road Decommissioning: 0.1 mile and 10% prorate. Rounds out to 0% change.	No comment	No comment		0	60	60	0	60	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	70	10%	7.7%			

Population	Code	Assessmen t Unit	2012 Standardized Limiting Factor	2012 Low Bookend	Estimate Comments / Rationale	Yakama Nation Look Back Meeting Notes (4/27/2016)	Yakama Nation post- meeting comments	Additional Look Back Estimate Comments/Rationa e (6/21-6/23/2016)	Look Back % Change	Updated 2018 Estimate (2012- 2015 Look Back Process)	2016 Low Bookend	Look Forward % Change	Updated 2018 Estimate (2016- 2018 Look Forward Period)	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Book end	High 2033 Booke nd	2012 limiting factor Weight	Assessm ent Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	2 Ass ess me nt
Wenatchee	WES8	Peshastin	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	25	[Copied from equivalent Chinook Assessment Unit per Expert Panel] One project (RM 0.8) in calc table, prorated to 50% based on seasonal wetted period. Denominator: 1.8% of habitat area (1.8% of 8.4 mi = 0.15 mile) estimate of total side channels from Lower Peshastin Reach Assessment, but didu't include potential	No comment	No comment		1.2	26.2	26.2	0	26.2	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.	26	26	30	30	20%	7.7%		estimate includes Peshastin RM 0.8 Project benefits	1
Wenatchee	WES8	Peshastin	6.1: Channel Structure and Form: Bed and Channel Form	35	[Copied from equivalent Chinook Assessment Unit per Expert Panel] No actions. No change in %.	No comment	No comment		0	35	35	0	35	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	35	35	50	50	15%	7.7% a	Bank hardening and incision all along the orchards		
Wenatchee	WES8	Peshastin	6.2: Channel Structure and Form: Instream Structural Complexity	55	[Adapted from equivalent Chinook Assessment Unit per Expert Panel. Same action, but different denominator: 20.6 mi] Prorated project to 50% based on side channel function. Results in 0.4% uplift.	No comment	No comment		0.4	55.4	55.4	0	55.4	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	56	56	75	75	15%	7.7%			
Wenatchee	WES8	Peshastin	8.1: Water Quality: Temperature	98	[Copied from equivalent Chinook Assessment Unit per Expert Panel] Limiting factor has 0% weighting. No actions identified in database. Expert Panel: No change in percentage.	No comment	No comment		0	98	98	0	98	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	98	98	99	99		7.7%			
Wenatchee	WES8	Peshastin	9.2: Water Quantity: Decreased Water Quantity	20	[Copied from equivalent Chinook Assessment Unit per Expert Panel] No actions. No change in %.	No comment	No comment		0	20	20	0	20	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	20	20	80	80	35%	7.7%			
Wenatchee	WES9A	Middle Wenatchee	1.1: Habitat Quantity: Anthropogenic Barriers	95	No action. No change in %.	No comment	No comment		0	95	95	0	95	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	95	95	50%	4.4%			
Wenatchee	WES9A	Middle Wenatchee	6.1: Channel Structure and Form: Bed and Channel Form	85	No action. No change in %.	No comment	No comment		0	85	85	0	85	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	85	85	50%	4.4%			
Wenatchee	WES9B	Upper Wenatchee	1.1: Habitat Quantity: Anthropogenic Barriers	95	Denominator: Chinook miles, plus tributaries (e.g. Beaver Creek, Chiwakum Creek), adds 2 miles= 28.8 miles. Same projects as for Chinook. [from Chinook Assessment Unit: "limiting factor is weighted as 0%. No change. Beaver Creek diversion project: removed structure, but it was not a barrier - was a diversion within an artificial side channel. Fish had access from upstream and downstream. "]	No comment	No comment		0	95	95	0	95	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	98	98		13.2%			

Population	Code	Assessmen t Unit	2012 Standardized Limiting Factor	2012 Low Bookend	Estimate Comments / Rationale	Yakama Nation Look Back Meeting Notes (4/27/2016)	Yakama Nation post- meeting comments	Additional Look Back Estimate Comments/Rational e (6/21-6/23/2016)	Look Back % Change (6/23/16)	Updated 2018 Estimate (2012- 2015 Look Back Process)	2016 Low Bookend	Look Forward % Change	Updated 2018 Estimate (2016- 2018 Look Forward Period)	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Book end	High 2033 Booke nd	2012 limiting factor Weight	Assessm ent Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	2 Ass ess me nt
Wenatchee	WES9B	Upper Wenatchee	4.1: Riparian Condition: Riparian Vegetation	80	[Copied from equivalent Chinook Assessment Unit per Expert Panel] No measurable functional change in period to 2018. 3/11/16: As per panel, improvement weights (prorating factors) were retroactively assigned based on 1% plant growth toward Properly Functioning Conditions per year. Revised uplift: 0.01%	No comment	No comment		0.01	80.01	80.01	0	80.01	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80.5	81	82	85	33%	13.2%			
Wenatchee	WES9B	Upper Wenatchee	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	70	Beaver Creek Well Conversion: 2014, 0.1 miles treated; 100% prorate = 0.3% uplift using 28.8 mi. denominator.	No comment	No comment		0.3	70.3	70.3	5.6	75.9	See equivalent Chinook assessment unit for uplift rationale. Same projects and same denominator.	85	85	90	90	34%	13.2%		Based on Reach Assessment projects would address everything in this reach except private lands	
Wenatchee	WES9B	Upper Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	60	[Copied action from equivalent Chinook Assessment Unit, but with different steelhead denominator 28.8 mi per Expert Panel] Calc table yields = 0.6 % uplift.	No comment	No comment		0.6	60.6	60.6	0	60.6	No planned actions within 2016- 2018 time period; however, Yakama Nation thought that low bookend should be lower, based on wood load in river according to reach assessment. Whole panel agreed.	70	70	80	85	33%	13.2%		Estimate based on projects identified under LF 5.1 Side Channels that should have some effect on instream complexity; social constraints for long term	
Wenatchee	WES10	White	3.1: Food: Altered Primary Productivity	70	No actions. No change in %.	No comment	No comment		0	70	70	0	70	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	20%	7.2%			
Wenatchee	WES10	White	4.1: Riparian Condition: Riparian Vegetation	85	No actions. No change in %.	No comment	No comment		0	85	85	0	85	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	90	95	25%	7.2%			
Wenatchee	WES10	White	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	90	No actions. No change in %.	No comment	No comment		0	90	90	0	90	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	95	95	25%	7.2%			
Wenatchee	WES10	White	6.2: Channel Structure and Form: Instream Structural Complexity	85	White River large woody debris project: treated 1.7 miles. Denominator: 19.5 mi. Results in 8.7% uplift	No comment	No comment		8.7	93.7	93.7	0	93.7	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	87	87	90	95	30%	7.2%			

																						201
								Additional Look		Updated 2018			Updated 2018				High H	igh 20:	2	2012 Limiting		Ass
			2012			Yakama Nation Look		Back Estimate		Estimate (2012-			Estimate (2016-				2018 2	033 limit	ng Assess	m Factor Weight		ess
		Assessmen	Standardized	2012 Low	Estimate Comments /	Back Meeting Notes	Yakama Nation post-	Comments/Rational	Look Back % Change	2015 Look Back	2016 Low	Look Forward %	2018 Look	2016-2018 Look Forward	2013-		Book Bo	oke fact	or ent Un	it and Bookend	2012 Estimates	me
Population	Code	t Unit	Limiting Factor	Bookend	Rationale	(4/27/2016)	meeting comments	e (6/21-6/23/2016)	(6/23/16)	Process)	Bookend	Change	Forward Period)	Estimate Comments / Rationale	2018	2033	end	nd Wei	ht Weigh	t Comments	Comments	nt

Populatior	Code	Assessme t Unit	2012 n Standardized Limiting Factor	2012 Low Bookend	Updated 2018 Estimate (2012- 2015 Look Back workshop) 6/21/2016	Look Back % Change 6/21/2016	Estimate Comments / Rationale 6/21/2016	Assess ment Unit Weigh (Look Forwa d Meetin g 2016	t r 2016-2018 Assessment Unit Weighting) Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Fact Weighting Comments , Rationale	Revised 2016 Bookend tor (Look 5 Forward / Meeting 2016)	2016-2018 Bookend Comments / Rationale	2016 Low Bookend	Updated 2018 Estimate (2016- 2018 Look Forward Period)	Look Forward %	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Bookend	High 2033 Booken d	2012 limiting factor Weight	Assessmen t Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates 2012 A Comments Weig	ussessment Unit
					Updated function score resulting from Look Back uplift	calculated by panel on	Look Back Comments/Rationale captured 6/22/2016							used for Look Forward	function score after adding	the Look Forward (2016-2018) period										
Okanogan	ORS1	Loup Loup Creek	4.1: Riparian Condition: Riparian Vegetation	50	50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	5	Note that Ecosystem Diagnosis and Treatment (EDT) reaches may change					50	50	0	Lomments/indicationaic captured during Look Forward meeting (6/21-6/23/2016. No actions with Action Agency news applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	60	75	13%	2.6%	High: Old values=LB-50%, 2018=75% & 2033=80% which represents a 25% to 30% change??? Riparian benefits will be small initially then	USA-on 12) Need to (remov	ly wts (jms.6-7- o fix 6A-B-C re Confluence to
Okanogan	ORS1	Loup Loup Creek	6.2: Channel Structure and	70	70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1	Shon					70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	80	80	80	80	12%	2.6%	%: Wood recruitment not likely to occur in the next 50 years due to	USA-on 12)	ly wts (jms.6-7-
Okanogan	ORS1	Loup Loup Creek	7.2: Sediment Conditions: Increased Sediment	80	80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						80	80	0	per centage: No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	20%	2.6%	Low: Based on OBMEP data and EDT values of 14% fines in spawning gravels???	USA-on 12) Need to	ly wts (jms.6-7-
Okanogan	ORS1	Loup Loup Creek	9.2: Water Quantity: Decreased Water	50 r	50	0	Previous flow projects already credited in past Look Back.							50	70	20	New flow projects. Low flows and overwintering flows are most limiting to populations. Projects will focus water in mainstem Loup Loup rather than spreading it among tributaries and inefficient water delivery. EDT shows 16%	70	70	70	70	55%	2.6%	High: Old values=LB-10%, 2018 & 2033=70% which represents a 60% change??? 10 to 50 for current	USA-on 12) Need to	ly wts (jms.6-7-
Okanogan	ORS9A	NEW JOHNSON CREEK AU ADDED BY EP ON 6/22/2016	Quantity Anthropogenic Barriers		0			4.05	Panel added assessment unit on 6/22/2016 and adjusted assessment unit weights to accommodate new assessment unit and considering most recent Intrisic Potential manciner 4%	50.0%		2	0 EDT = 2%, but 20% is minumum in Taurus.	20	45	25	Survival benefit. Based on bookends from drevuous banks. a US. Informate in thow 2 impediments will be addressed within 2018 period: Edwards 2C Ualvert and Gabion Removal to open 3.7 miles. Duck Lake Diversion to open 6.2 miles. Denominator set 3.9 steelbad miles from DETO. Other partial barriers/Impediments exist. Prorated to account for impediment between Edwards and Gabion. These will be 3 fixes out of 15 existing barriers. Panel assigned 25% expected uplift.							Lactions during the 10-12 period with	iremov	<u>Confluence to</u>
Okanogan	ORS9A	NEW JOHNSON CREEK AU ADDED BY EP ON 6/22/2016	6.2: Channel Structure and Form: Instream Structural Complexity		0			4.05	(Figure, 3-K). (§ Panel added assessment unit on 6/22/2016 and adjusted assessment unit weights to accommodate new assessment unit and considering most recent Intrisic Potential mapping: 4%.	20.0%		6	7 From EDT	67	67	0	No actions with Action Agency nexus applicable to this Limiting Factor were expected within the 2018 period in this Assessment Unit. No change in function percentage.									
Okanogan	ORS9A	NEW JOHNSON CREEK AU ADDED BY EP ON 6/22/2016	7.2: Sediment Conditions: Increased Sediment Quantity		o			4.0	6 Panel added assessment unit on 6/22/2016 and adjusted assessment unit weights to accommodate new assessment unit and considering most recent Intrisic Potential mapoine: 4%.	20.0%		6	7 From EDT	67	67	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.									
Okanogan	ORS9A	NEW JOHNSON CREEK AU ADDED BY EP ON 6/22/2016	9.2: Water Quantity: Decreased Water Quantity	r	0			4.05	Panel added assessment unit on 6/22/2016 and adjusted assessment unit weights to accommodate new assessment unit and considering most recent intrisic Potential mapping: 4%.	10.0%		3	9 Modified from EDT based on panel's assessment of remaining improvement needed. Inefficient eartherm canal. Multiple withdrawals during low flow season. Approximately 50% of low flow is currently withdrawn. Low bookend: 39%, bigh bookend: 50%, based on landowner cooperation potential within 2018.	39	50	11	11% anticipated uplift. From panelist worksheet: "Average winter stream flows are around 1 CFS so adding 1-2 CFS would vastly improve overwinter conditions. During 25% of the year would improve survival benefits by up to 50%. Existing EDT analysis indicates flow conditions are functioning at 79%."									
Okanogan	ORS2A	Wells Pool (inundated Confluence to Chilliwis	2.1: Injury and Mortality: Predation	57	57	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						57	57	0	No actions with Action Agency news applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	57	57	90	90	15%	0.5%	High: Old values=LB-30%, 2018&2033=50% which represents a 20% change??? ; Low: Bird predation from Grant PUD studies is	USA-on 12) Need to (remove	y wts (jms.6-7- o fix 6A-B-C ve Confluence to
Okanogan	ORS2A	Wells Pool (inundated Confluence	2.3: Injury and Mortality: Mechanical Injur	80 V	98	18	4.3% uplift calculated by panel based on percentage of total spread between bookends (80% and 98%) (see spreadsheet sent by panel member). But there are no screens left to fix in this assessment unit, so panel assened % change un to the high							98	98	0	Screen projects in database are already in Look Back. No future actions.	87.5	87.5	98	98	3%	0.5%	High: If all pump screens meet NOAA criteria. Number based on original Expert Panel table. : Low	EACH SCREEN IS USA-on 1/130 12) (TREATED/OUT- Need to	ly wts (jms.6-7- o fix 6A-B-C
Okanogan	ORS2A	Wells Pool (inundated	3.2: Food: Food- Competition	95	95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	i						95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage	95	95	95	95	1%	0.5%	Low: This impact would be limited to actively rearing summers	USA-on 12)	ly wts (jms.6-7-
Okanogan	ORS2A	Wells Pool (inundated	4.1: Riparian I- Condition: Binarian	70	70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage			85	90		0.5%	STREETERS AT TIME OF PREASE	USA-on 12)	ly wts (jms.6-7-
Okanogan	ORS2A	Wells Pool (inundated Confluence	6.2: Channel I- Structure and Form: Instream	60	60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.			80	85		0.5%		USA-on 12) Need to	ly wts (jms.6-7-
Okanogan	ORS2A	Wells Pool (inundated Confluence	8.1: Water Quality: Temperature	35	35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						35	35	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	35	35	35	35	4%	0.5%	Low: Makes these habitats largely uninhabitatable from July to October in most years. (ie habitable 75% of year)	USA-on 12) Need to	ly wts (jms.6-7- o fix 6A-B-C
Okanogan	ORS2A	Wells Pool (inundated Confluence to Chilliwis	9.3: Water I- Quantity: Altered Flow Timing t	25	25	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						25	25	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	25	25	25	25	77%	0.5%	Low: Habitat ranges from roughly 100% to 50% altered from the historic as you move upstream estimate of 75% alteration and 25%	USA-on 12) Need to (remov	by wts (jms.6-7- b) fix 6A-B-C ve Confluence to
Okanogan	ORS2B	Okanogan River 01 (Chilliwist to Salmon	2.1: Injury and Mortality: Predation	60	60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	5						60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	65	5%	0.5%	Low: Most predation in this reach would be limited to mostly emergent summer steelhead fry by smallmouth bass??? Potential 5%	USA-on 12) Need to (remov	y wts (jms.6-7-) fix 6A-B-C re Confluence to
Okanogan	ORS2B	Okanogan River 01 (Chilliwist	2.3: Injury and Mortality: Mechanical Injur	80 V	98	18	Because 100% of screens are scheduled to be fixed by October 2016, the panel chose to assign the high bookend to every limiting factor 2.3 in the basin. Uplift = 18%.	2						98	98	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	87.5	87.5	98	98	3%	0.5%	High: If all pump screens meet NOAA criteria. Number based on original Expert Panel table. ; Low:	USA-on 12) Need to	vy wts (jms.6-7- o fix 6A-B-C

Population Okanogan	Code ORS2B	Assessmer t Unit Okanogan River 01	2012 Standardized Limiting Factor 3.2: Food: Food- Competition	Updated 2018 Estimate (2012- 2015 Look Back workshop) 6/21/2016 55 85	Look Back % Change 6/21/2016 0	Estimate Comments / Rationale 6/21/2016 No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	Assess ment Unit Weight (Look Forwar d ZMeetin g 2016)	2016-2018 Assessment Unit Weighting Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Fact Weighting Comments , Rationale	Revised 2016 Bookend or (Look Forward / Meeting 2016)	2016-2018 Bookend Comments / Rationale	2016 L	Low Bookend Fr	pdated 2018 timate (2016- 2018 Look rward Period)	Look Forward % Change 0	2015-2018 Look Forward Estimate Comments / Rationale No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	2013- 2018 85	2033 Hig 85	h 2018 Okend 85	High 2033 Booken d 85	2012 imiting Assa factor t Neight W 1%	essmen Unit 2017 eight 0.5% Low: i relate	12 Limiting Factor Weight and Bookend Comments Based upon EDT outputs ed to actively rearing NOR's	2012 Estimates Comments	2012 Assessment Unit Weight Comments USA-only wts (jms.6-7- 12)
Okanogan	ORS2B	(Chilliwist to Salmon) Okanogan	4.1: Riparian	50 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period					_		60	6		0	percentage.	60	60	62	65	1%	0.5%			Need to fix 6A-B-C (remove Confluence to Canyon) USA-only wts (jms.6-7-
		River 01 (Chilliwist to Salmon)	Condition: Riparian Vegetation			in this assessment unit. No change in function percentage.											expected within the 2018 period in this assessment unit. No change in function percentage.									12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	S.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	50 55.5	5.5	See spreadsheet sent by panel member, which was reviewed and edited by entire panel. Metric: miles treated. Denominator: two side channel projects (0.85 mile in 2013 and 0.28 mile in 2014) reconnected two-thirds (51 nsw1) of the only remaining disconnected side channel in the assessment unit, so panel assigned 10% to achieve two-thirds of deta to high bookend. Don't see high steehead use in this area (project mostly oriented to Chinook yearings): this is already reflected in assessment unit welleh. Steehead miles in this assessment unit. Sa miles (from name), not Streammeth							55.5	5	.5 (D	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	65	65	7%	0.5% Low: (impac calibra Form. oppor that ti may b	(85% based upon linear length incted) - Lower bookends based rated agains Bed and Channel . Upper bookends based on ortunity for large project. Think the Conservancy Island project be worth 10%. May be other		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	6.1: Channel Structure and Form: Bed and Channel Form	50 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	5	0	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	50	50	10%	0.5% Low: (impac WG ; comp riprap	(90% based upon linear length icted) - 50% as calibrated by ; %: Covers habitat plexity, overstabilization from p, and channel incision.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	OR52B	Okanogan River 01 (Chilliwist to Salmon)	6.2: Channel Structure and Form: Instream Structural Complexity	70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	7	0	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	2%	0.5% Low: I conse althou collec upstre Althou ambu	Not a single log jam of any equence exists within this reach ugh several large woody debris ction sites do exist. Loss of ream wood sources. ; %: ugh wood will increase ush opportunities for predators		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	7.2: Sediment Conditions: Increased Sediment Quantity	80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	8	0	D	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	37%	0.5% Low: I EDT v gravel occur rapidi	Based on OBMEP data and values of 14% fines in spawning els???; %: What spawning is rring in this reach is being Ily reduced by fine sediments		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	OR52B	Okanogan River 01 (Chilliwist to Salmon)	8.1: Water Quality: Temperature	35 35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							35	3		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	36	36	40	40	29%	0.5% Low: uninh: Octob summ HIGH	Makes these habitats largely habitatable from July to ber in most years. ; %: High mer temperatures H BOOKEND FORM 35 TO 40%	Conservancy Island temp benefit- similar to Peterson 10/5/12: New information	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	9.2: Water Quantity: Decreased Water Quantity	95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	9		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	95	95	5%	0.5%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS3A	Okanogan River 02	2.1: Injury and Mortality:	50 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	6		D	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	60	60	65	65	4%	0.5% Low: I would	Most predation in this reach d be limited to mostly		USA-only wts (jms.6-7- 12)
Okanogan	ORS3A	Okanogan River 02 (Salmon	2.3: Injury and Mortality: Mechanical Injury	30 98	18	Because 100% of screens are scheduled to be fixed by October 2016, the panel chose to assign the high bookend to every limiting factor 2.3 in the basin. Uplift = 18%.							98	9		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	87.5	87.5	98	98	1%	0.5% High: NOAA origin	: If all pump screens meet A criteria. Number based on nal Expert Panel table. ; Low:		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan Okanogan	ORS3A ORS3A	Okanogan River 02 Okanogan	3.2: Food: Food- Competition 4.1: Riparian	80 80 50 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period							80 60	8		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function No actions with Action Agency nexus applicable to this limiting factor were	80	80 60	80 62	80 65	1%	0.5% Low: I relate 0.5% Low: (Based upon EDT outputs ed to actively rearing NOR's (35% based upon % alteration		USA-only wts (jms.6-7- 12) USA-only wts (jms.6-7-
Okanogan	OR53A	River 02 Okanogan	Condition:	50 60	0	in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period.							60	6		0	expected within the 2018 period in this assessment unit. No change in function No actions with Action Apency nexus applicable to this limiting factor were	60	60	75	75	20%	of aer	rial images along length of the		12) USA-only wts (ims.6-7-
Okanogan	ORS3A	River 02 Okanogan	and Transitional 5.2: Peripheral	50 60	0	in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period							60	6		0	expected within the 2018 period in this assessment unit. No change in function No actions with Action Agency nexus applicable to this limiting factor were	60	60	75	75	10%	0.5% Low: I	icted : %: Railroads, highwavs. Based upon linear length		12) USA-only wts (jms.6-7-
Okanogan	ORS3A	River 02 Okanogan	and Transitional 6.1: Channel	50 60	0	In this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment with No change in function percentage.							60	6		0	expected within the 2018 period in this assessment unit. No change in function No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment with No change in function.	60	60	75	75	10%	0.5% Low: I	Based upon linear length		12) USA-only wts (jms.6-7-
Okanogan	ORS3A	Okanogan River 02	6.2: Channel Structure and	70 70	0	In our assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.					-		70	7		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	70	70	75	75	1%	0.5% Low: o conse	only 1 log jam of any equence exists within this reach		USA-only wts (jms.6-7- 12)
Okanogan	ORS3A	Okanogan Biyer 02	7.2: Sediment	90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage							90	9		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	90	90	90	90	20%	0.5% Low: I	Based on OBMEP data and		USA-only wts (jms.6-7-
Okanogan	ORS3A	Okanogan River 02	8.1: Water Quality:	30 30	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage							30	3		0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	30	30	35	35	30%	0.5% Low: I	Makes these habitats largely		USA-only wts (jms.6-7-
Okanogan	ORS3A	(Salmon Okanogan	Temperature 9.2: Water	95 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period							95	9!		0	nercentage. No actions with Action Agency nexus applicable to this limiting factor were	95	95	95	95	2%	Octob 0.5% Low: I	ber in most years. : %: Provide Kistler & Arterburn 2006-		Need to fix 6A-B-C USA-only wts (jms.6-7-
Okanogan	ORS3B	River 02 Okanogan River 03	Ouantity: 2.1: Injury and Mortality:	60	0	in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.					1		60	6		0	expected within the 2018 period in this assessment unit. No chance in function. No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	60	60	65	65	5%	0.5%	IFP water quality and quanitity		12) USA-only wts (jms.6-7- 12)
Okanogan	ORS3B	(Omak to Riverside) Okanogan	Predation 2.3: Injury and	30 98	18	Because 100% of screens are scheduled to be fixed by October 2016, the panel chose					-		98	9		D	percentage. No actions with Action Agency nexus applicable to this limiting factor were	87.5	87.5	98	98	3%	0.5% High:	If all pump screens meet		Need to fix 6A-B-C (remove Confluence to USA-only wts (jms.6-7-
Okanogan	ORS3B	(Omak to Okanogan	Mortality: Mechanical Injury 3.2: Food: Food-	35 85	0	to assign the high bookend to every limiting factor 2.3 in the basin. Uplint = 18%. No actions applicable to this limiting factor were performed within 2012-2015 period							85	8		0	expected within the 2018 period in this assessment unit. No change in function percentage. No actions with Action Agency nexus applicable to this limiting factor were	85	85	85	85	10%	0.5% Low: 1	A criteria. Number based on nal Expert Panel table. May be a bigger issue in the		12) Need to fix 6A-B-C USA-only wts (jms.6-7-
0	000000	River 03 (Omak to	Competition		0	in this assessment unit. No change in function percentage.							50				expected within the 2018 period in this assessment unit. No change in function percentage.		50	52		40/	future Josep	e because of location of Chief oh Hatcherv acclimation ponds		12) Need to fix 6A-B-C
Okanogan	UK35B	River 03	Condition:		0	in this assessment unit. No change in function percentage.							50	5		0	expected within the 2018 period in this assessment unit. No change in function	50	50	52	55	176	0.3%			12)
Okanogan Okanogan	ORS3B ORS3B	Okanogan Okanogan	5.1: Peripheral 6.1: Channel	60 60 50 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period No actions applicable to this limiting factor were performed within 2012-2015 period					_		60	6		0	No actions with Action Agency nexus applicable to this limiting factor were No actions with Action Agency nexus applicable to this limiting factor were	60	60	62 65	62	7% 10%	0.5% Low: I	Based upon linear length	ACTION	USA-only wts (jms.6-7- USA-only wts (jms.6-7-
		River 03 (Omak to Riverside)	Structure and Form: Bed and Channel Form			in this assessment unit. No change in function percentage.											expected within the 2018 period in this assessment unit. No change in function percentage.						impac comp riprap HIGH	icted ; %: Covers habitat plexity, overstabilization from p, and channel incision.	DESIGNED FOR FALL CHINOOK- SOME BENEFIT TO STEELHEAD	12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS3B	Okanogan River 03 (Omak to	6.2: Channel Structure and Form: Instream	70 70	Ó	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	7	C	D	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	2%	0.5% Low: o conse althou	only 2 log jam of any equence exists within this reach ough several large woody debris		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS3B	Okanogan River 03 (Omak to	7.2: Sediment Conditions: Increased	70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	7	0	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	70	70	28%	0.5% Low: I EDT v gravel	Based on OBMEP data and values of 24% fines in spawning els.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS3B	Okanogan River 02	8.1: Water Quality:	35 35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function necroptage							35	3	0	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	35	35	35	35	29%	0.5%		10/5/12: some small benefit	USA-only wts (jms.6-7- 12)
Okanozan	ORS2R	(Omak to Riverside)	Temperature 9.2: Water	95 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period.							95			0	No actions with Action Agency nexus annicable to this limiting factor more	05	95	95	95	5%	0.5%		(1%) should have been given	Need to fix 6A-B-C (remove Confluence to USA-only wts (ims 6-7-
		River 03 (Omak to Riverside)	Quantity: Decreased Water Quantity			in this assessment unit. No change in function percentage.								5			expected within the 2018 period in this assessment unit. No change in function percentage.									12) Need to fix 6A-B-C (remove Confluence to Canyon)

		Assessm	2012 nen Standardize	:d 2012 Low	Updated 2018 Estimate (2012- 2015 Look Back workshop)	Look Back % Change		Assess ment Unit Weight (Look Forwar d Meetin	2016-2018 Assessment Unit Weighting	Revised Limiting factor Weight (Look Forward	Limiting Factor Weighting Comments /	Revised 2016 Bookend (Look Forward Meeting	2016-2018 Bookend Comments /		Updated 2018 Estimate (2016- 2018 Look	Look Forward %		2013-		High 2018 B	High 20 2033 limit poken fact	112 Iting Ass	essmen 2012 Limiting Factor Weight and 2012 Estimates	2012 Assessment Unit
Population Okanogan	Code ORS3C	t Unit	t Limiting Fact	tor Bookend	6/21/2016 0.60	6/21/2016	Estimate Comments / Rationale 6/21/2016	g 2016)	Comments / Rationale	Meeting 2016)	Rationale	2016)	Rationale	2016 Low Bookend	Forward Period)	Change	2016-2018 Look Forward Estimate Comments / Rationale	2018	2033	Bookend	d Wei	ight V	Veight Bookend Comments Comments	Weight Comments
		River 04	Mortality:				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.						2018&2033=50% which represents	12) Need to fix 6A-B-C
Okanogan	ORS3C	to Janis Okanogi	an 2.3: Iniury and	1 8	0 98	18	Because 100% of screens are scheduled to be fixed by October 2016. the panel chose							98	98	0	No actions with Action Agency nexus applicable to this limiting factor were	84	84	98	98	12%	0.5% High: If all pump screens meet	(remove Confluence to USA-only wts (ims.6-7-
		River 04	Mortality:	iurv			to assign the high bookend to every limiting factor 2.3 in the basin. Uplift = 18%.										expected within the 2018 period in this assessment unit. No change in function						NOAA criteria. Number based on original Expert Papel table	12) Need to fix 64-B-C
Okanogan	ORS3C	Okanoga	an 3.2: Food: Foo	id- 8	5 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period							85	85	0	No actions with Action Agency nexus applicable to this limiting factor were	85	85	85	85	1%	0.5%	USA-only wts (jms.6-7-
		River 04	Competition			-	in this assessment unit. No change in function percentage.									-	expected within the 2018 period in this assessment unit. No change in function							12) Need to fiv 64 P.C
Okanogan	ORS3C	Okanoga River 04	an 4.1: Riparian Condition:	5	5 55	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							55	55	D	Benefit from project will not be measurable within 2018 period, but will yield 2.3% by 2033.	55	55	60	65	5%	0.5%	USA-only wts (jms.6-7- 12)
Okanogan	ORS3C	Okanoga River 04	an 5.1: Peripheral and Transition	I 5 al	5 55	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							55	55	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	56	56	75	75	20%	0.5% High: No direct relationship to old EP tables ; %: What about Wilson's? PETERSON	USA-only wts (jms.6-7- 12)
Okanogan	ORS3C	(Riversin Okanogi	an 5.2: Peripheral	I 5	5 56.2	1.2	See spreadsheet send by panel member, which was reviewed and edited by entire							56.2	56.2	0	No actions with Action Agency nexus applicable to this limiting factor were	55	55	75	75	5%	0.5%	Need to fix 6A-B-C USA-only wts (jms.6-7-
		River 04 (Riversic	de Habitats:	al			panel. Also see calc table, with properly functioning condition proration (project performing better for Chinook than for steelhead). No Action Agency nexus for Janis										expected within the 2018 period in this assessment unit. No change in function percentage.							12) Need to fix 6A-B-C
		to Janis Bridge)	Floodplain Condition				project. Peterson Side Channel project reactivated 0.3 mile of historical channel scar - it is not working as well as hoped as a cold water refuge, but has seasonal subyearling																	(remove Confluence to Canyon)
Okanogan	ORS3C	Okanog	an 6.1: Channel	5	0 50	0	Use when inundated. Seeing oon native contractivity using the channel. This is No actions applicable to this limiting factor were performed within 2012-2015 period							50	50	0	No Action Agency nexus on Cascade Columbia Fisheries Enhancement Group	50	50	50	50	5%	0.5% %: Railroad confines migration to a	USA-only wts (jms.6-7-
		(River 04 (Riversic to Janis	de Form: Bed and Channel Form	i			in this assessment unit. No change in function percentage.										project in database.						degree, but aready connied	Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS3C	Okanoga River 04	an 6.2: Channel Structure and	7	5 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	75	75	80	80	1%	0.5% Low: No 2 log jam of any consequence exists within this reach	USA-only wts (jms.6-7- 12)
	0.000	(Riversic	de Form: Instream	n													percentage.					100/	although several large woody debris	Need to fix 6A-B-C
Okanogan	OK53C	River 04	Conditions:	8	5 85	U	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							85	85	U	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	85	85	85	85	10%	0.5% Low: Based on OBMEP data and EDT values of 11% fines in spawning	USA-only wts (jms.6-7- 12)
		(Riversic to Janis	de Increased Sediment														percentage.						gravels??? ; % Should be addressed upstream in source reaches.	Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS3C	Okanoga River 04	an 8.1: Water	3	5 35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							35	35	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	36	36	40	40	30%	0.5% CHANGED HIGH BOOKENDS FROM Small part of 35 TO 40 total reach	USA-only wts (jms.6-7- 12)
		(Riversic	de Temperature														percentage.						length.	Need to fix 6A-B-C
		Bridge)																					provide insight	Canyon)
Okanogan	ORS3C	Okanoga River 04	an 9.2: Water Quantity:	9	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	95	95	95	95	4%	0.5%	USA-only wts (jms.6-7- 12)
		(Riversic to Janis	de Decreased Wa Quantity	iter													percentage.							Need to fix 6A-B-C (remove Confluence to
		Bridge)			0.00									60								100/		Canyon)
Okanogan	OK23D	River 05	Mortality:	6	0.60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	U	expected within the 2018 period in this assessment unit. No change in function	60	60	65	65	10%	0.5% High: Old ValueS=LB-30%, 2018&2033=50% which represents	12)
Okanogan	ORS3D	(Janis to Okanog	an 2.3: Injury and	1 9	2 98	6	Because 100% of screens are scheduled to be fixed by October 2016. the panel chose							98	98	0	percentage. Credit assigned in Look Back.	96	96	98	98	8%	0.5% High: If all pump screens meet	USA-only wts (ims.6-7-
		River 05 (Janis to	Mortality: Mechanical Ini	iurv			to assign the high bookend to every limiting factor 2.3 in the basin. Uplift = 6%.																NOAA criteria. Number based on original Expert Panel table.	12) Need to fix 6A-B-C
		Siwash																						(remove Confluence to
Okanogan	ORS3D	Okanoga River 05	an 3.2: Food: Foo Competition	id- 7	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	70	70	70	70	3%	0.5% Low: Bonaparte Creek Acclimation site	USA-only wts (jms.6-7- 12)
		(Janis to Siwash)														percentage.							Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS3D	Okanoga River 05	an 4.1: Riparian Condition:	4	5 45	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							45	45	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	45	45	47	50	7%	0.5%	USA-only wts (jms.6-7- 12)
		(Janis to Siwash	 Riparian Vegetation 														percentage.							Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS3D	Okanoga River 05	an 6.1: Channel	8	0 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this accessment unit. No change in function percentage							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this accessment unit. No change in function	80	80	85	85	13%	0.5% %: Bank instability and riparian	USA-only wts (jms.6-7-
		(Janis to	Form: Bed and	i			in this assessment unit. No change in function percentage.										percentage.						degradation	Need to fix 6A-B-C
Okanogan	ORS3D	Okanoga	an 6.2: Channel	6	5 65	0	No actions applicable to this limiting factor were performed within 2012-2015 period							65	65	0	No actions with Action Agency nexus applicable to this limiting factor were	65	65	85	85	1%	0.5% Low: No log jams of any	USA-only wts (jms.6-7-
		(Janis to	Form: Instream	n			in this assessment unit, no change in function percentage.										percentage.						although several large woody debris	Need to fix 6A-B-C
Okanogan	ORS3D	Okanoga River 05	an 7.2: Sediment Conditions:	8	5 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							85	85	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	85	85	85	85	17%	0.5% Low: Based on OBMEP data and EDT values of 11% fines in spawning	USA-only wts (jms.6-7- 12)
		(Janis to Siwash	Increased Sediment														percentage.						gravels???	Need to fix 6A-B-C (remove Confluence to
Okanogan	OPS2D	Creek)	Quantity	2	5.25	0	No actions applicable to this limiting factor ware performed within 2012-2015 period							25	25	0	No actions with Action Agency name applicable to this limiting factor were	25	25	25	25	26%	0.5% %: Note on difficulties when	Canyon)
Okallogali	01050	River 05	5 Quality:			U U	in this assessment unit. No change in function percentage.							55		5	expected within the 2018 period in this assessment unit. No change in function				33	50%	considering multiple species: Warm	12) Need to fix 6A-R-C
		Siwash	remperature														per centuge.						ocean-type salmonids because of	(remove Confluence to
		CIEEKJ																					limiting factor for stream-types.	CallyOlly
Okanogan	ORS3D	Okanoga River 05	an 9.2: Water	9	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this accessment unit. No change in function percentage							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this accessment unit. No change in function	95	95	95	95	5%	0.5%	USA-only wts (jms.6-7-
	1	(Janis to	Decreased Wa	iter			and the state of t										percentage.							Need to fix 6A-B-C
		Creek)	Quantity																				10.01	Canyon)
OKallogali	UK34A	Omak	Quantity:		5 55	0	in this assessment unit. No change in function percentage.							35	33	0	expected within the 2018 period in this assessment unit. No change in function			50	50		12.0% 10/3/12. comment	12)
		(Mouth	to Barriers	-													percentage.						mission falls is	(remove Confluence to
	1	Falls)																					Direction of the part of the p	canyonj
01000	0000	1.00	225 15											00	00							2001	are no barriers in lower Omak	UCA ashiri " CT
Okanogan	UK54A	Omak	5.2: FOOD: FOO Competition	u- 8		0	in this assessment unit. No change in function percentage.							80	80		expected within the 2018 period in this assessment unit. No change in function	80	80	08	80	30%	30,000 summer steelhead annually;	12)
		(Mouth	to														percentage.						for not only high quantiles to be	(remove Confluence to
		Falls)																					STOCKED DUL AISO MUIITIPIE SPECIES	canyon)
Okanogan	ORS4A	Lower Omak	4.1: Riparian Condition:	9	0 20	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	U	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	90	90	90	90	5%	12.0% Low: Mostly degraded on private 10/5/12: low land in holdings %: Missing large hookend may	USA-only wts (jms.6-7- 12)
Okanogan	OPC44	Omak	Structure and	5	5 05 5	0.5	In this assessment unit. No change in function percentage.							95.5	05.5	0	expected within the 2018 period in this assessment unit. No change in function No actions with Action Anono variant and the table in the set of	50	50	50	20	3%	12.0%	12)
Okanogan	UR54A	Omak Crool:	Structure and	9		0.5	and bed changes (200 ft). Denominator: 5.66 miles to falls (from 2015 EDT report). Panel provided to 15% of property functions and the second to the second to 15% of property.							33.3	53.5		expected within the 2018 period in this assessment unit. No change in function percentage	95	95	95	SC	676	12.070	12)
		(Mouth	to Structural				uplift.										her centage.							(remove Confluence to

Population	Code	Assessn t Uni	2012 nen Standardized t Limiting Facto	2012 Low r Bookend	Updated 2018 Estimate (2012- 2015 Look Back workshop) 6/21/2016	Look Back % Change 6/21/2016	Estimate Comments / Rationale 6/21/2016	Assess ment Unit (Look Forwar d Meetin g 2016)	2016-2018 Assessment Unit Weighting Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Factor Weighting Comments / Rationale	Revised 2016 Bookend (Look Forward Meeting 2016)	2016-2018 Bookend Comments / Rationale	2016 Low Bookend	Updated 2018 Estimate (2016- 2018 Look Forward Period)	Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Bookend	High 2 2033 lin Booken fa d W	012 iting Assessm ctor t Unit eight Weigh	n 2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	2012 Assessment Unit Weight Comments
Okanogan	UK54A	Omak Creek (Mouth Mission Falls)	7.2: Sediment Conditions: Increased to Sediment Quantity	/	5 /5	U	No actors applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							/5	/5	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	/5	/5	85	85	25% 12.	KLOW: Based on OBMEP data and EDT values of 11% fines in spawnin gravels???	3	USA-only wts (jms.b-/- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4A	Lower Omak Creek (Mouth Mission Falls)	8.1: Water Quality: Temperature to	90	0 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	12% 12.	96		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4A	Lower Omak Creek (Mouth Mission Falls)	9.2: Water Quantity: Decreased Wat to Quantity	er	0.80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	15% 12.	10% Low: Habitat in lower Omak Creek considered to be in excellent condition.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	OR54B	Upper Omak Creek (Upstrea from Mission Falls)	1.1: Habitat Quantity: Anthropogenic Barriers	20	0 38.2	18.2	Note: Omak Creek Weirs project should be in OR54A, limiting factor 6.2 (did not affec passage). PIT tag arrays above and below Mission Falls boulder rapids: average (over 3 years) 10% passage through falls after project (more work to do before all can pass?), so credit for 10% of 17 miles of habitat opened? Some years, no fish pass if flow velocities are to high or low (bets between 5.4-06 c.f. even see juveniles moving up when flow is right). Also depends on timing of migration. This is the only mainstem barder within celebaid distribution (17 mile denominator) if fororated at 20% to	ct 22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					38.2	38.2	0	Delete project in database.	40	40	60	60	71% 26.	% Low: Currently, no access above Mission Falls ; %: Removed approximately 3,000 cubic yds. of material in 2011; anticipate an additional 3,000 cubic yds. in 2012 access to estimated 17 miles of spawning and rearing habitat.	Several implemented projects have not resulted in passage yet. Full benefit depends on extent of success of nroiect Group	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from Mission Falls)	3.2: Food: Food Competition	- 90	90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	1% 26.	% Low: Based upon past but no futur- hatchery stocking in this area.	•	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from Mission Falls)	4.1: Riparian Condition: Riparian am Vegetation	70	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	80	1% 26.	% High: Old values=L8-95%, 2018& 2033=96% which represents a 1% change??? Are there other oppertunities???? ; %: Plant vegetation along reactivated floodplain in Disatuel area.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from Mission Falls)	6.1: Channel Structure and Form: Bed and Channel Form	99	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	96	96	5% 26.	% High: Old values=LB-95%, 2018& 2033=96% which represents a 1% change??? Are there other oppertunities???? : %: activate floodplain in Disautel Reach.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from Mission Falls)	6.2: Channel Structure and Form: Instream am Structural Complexity	80	D 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	85	85	1% 26.	96		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea	7.1: Sediment Conditions: Decreased am Sediment Quantity	25	5 25	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson					25	25	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.			60	60	0% 26.	1% High: Old values=LB-30%, 2018=35 & 2033=60% which represents a 5% to 30% change??? Expected long- term benefits from past projects???? Past projects credited	6	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	OR54B	Upper Omak Creek (Upstrea from Mission Falls)	7.2: Sediment Conditions: Increased am Sediment Quantity	25	5 25.3	0.3	Three projects, but EDT report shows degradation in this limiting factor recently, so uplift from the project is negated by watershed conditions. Calc table has projects (listed as two rows) with prorations based on treatment intensity and percentage of sediment source addressed a teach location; yields 0.5% uplift. [Revised uplift based on new calculation using denominator from Look Forward – 0.3%.]	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					25.3	26.7	14	Omak Creek Road Decommissioning 2016: 5 miles. See panel's spreadsheet. No measurable benefit because of high road density? 141 square miles. 45 miles of road per square mile = .0007% of roads in area. But not al roads have equal effect on stream. 26.1 historical potential stream miles in assessment unit from EDT report. Expert Panel anticipates 5 miles of the 352 miles of road will be decommissioned by 2018 = 1.4%. But panel feit that this was an underestimate o the effect of this project, as it doesn't take into account road position with respect to riparian area. For next Look Back, use % of riparian roads.	25 f	27	60	60	20% 26.	% High: Old values=LB-30%, 2018-35 & 2033=60% which represents a 53 to 30% change??? Expected long- term benefits from past projects???? Past projects credited with 2% gain in 7-9 period with longer term gain of 14%. How muc benefit for actions in 10 to 12?? and 13-15???; Low: Based on old values??? What would V-star superest???: & remnya 18°	% 1%- road s decommissionin g; springs/fencing: 1%; culverts: pre-emptive protect from d further degradation; more benefits to these actions	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from	8.1: Water Quality: Temperature am	75	5 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson					75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.			90	95	0% 26.	%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS4B	Upper Omak Creek (Upstrea from Mission	9.2: Water Quantity: Decreased Wat am Quantity	8(21	0.80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1 22.4%	Panel adjusted this assessment unit weight to accommodate the new assessment unit encompassing Johnson Creek (6/22/2016).					80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	90	90	1% 26.	% %: Only so much water to go around.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORSSA	Lower Salmon Creek (C to Mout	1.1: Habitat Quantity: DID Anthropogenic Barriers	60	0.60	0	One barrier project, but limiting factor is weighted as 0%. Eved stranding and pasage problem at low flows (project counded in limiting factor 5.2 instead of 1.1). Now have concentrated flow, which allows passage for a longer portion of the season.							60	100	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	100	100	90	90	7.	% Nich No old volves to consider -		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS5A	Salmon Creek (C to Mout	Competition h)	- 100	60	0	No actions applicable to this limiting factor were performed within 2012-2015 period							60	60	0	No exclose with rection regency nexus applicable to this infitting raction Were expected within the 2018 period in this assessment unit. No change in function percentage.	100	100	100	95	7.20 7.2	Low: Based upon existing plans for continued stocking at 50,000/year		Need to fix 6A-B-C (remove Confluence to Canyon) USA-only wts (ims.6-7-
Okanogan	ORS5A	Salmon Creek (C to Mout Lower	Condition: Riparian Vegetation 6.2: Channel	25	5 29.1	4.1	In this assessment unit. No change in function percentage. Salmon Creek Instream Structures 2012: 0.2 miles treated. Panel assigned 50%							29.1	29.1	0	expected within the 2018 period in this assessment unit. No change in function percentage. No actions with Action Agency nexus applicable to this limiting factor were	25	25	70	70	3% 7.	% High: These values are no longer		12) Need to fix 6A-B-C (remove Confluence to Canyon) USA-only wts (jms.6-7-
Okanogan	ORS5A	Salmon Creek (C to Mout Lower Salmon Creek (C to Mout	Structure and DID Form: Instream h) Structural 8.1: Water Quality: DID Temperature		0	0	proration because project was not Tocused on rearing habitat (mostly low flow passage and standing), but provides a significant survival benefit in the project area. Salmon Creek Floodolain Development aroiect: 0.2 mile. 75% of properly functioning No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	2						0	0	0	expected within the 2018 period in this assessment unit. No change in function percentage. No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.					7.	relatible to the old Expert Panel tables as percentages were for the entire stream.		12) Need to fix 6A-B-C (remove Confluence to USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to

		Assessn	2012 nen Standardize	:d 2012 Lov	Updated 2018 Estimate (2012 v 2015 Look Back workshop)	Look Back % Change		Assess ment Unit Weight (Look Forwar d Meetin	2016-2018 Assessment Unit Weighting	Revised Limiting factor Weight (Look Forward	Limiting Facto Weighting Comments /	Revised 2016 Bookend or (Look Forward Meeting	2016-2018 Bookend Comments /		Updated 2018 Estimate (2016- 2018 Look	Look Forward %		2013-	ŀ	igh 2018 B	High 2033 I Booken	2012 limiting As factor	sessmen t Unit	2012 Limiting Factor Weight and	2012 Estimates	2012 Assessment Unit
Population Okanogan	ORS5A	t Uni Lower	t Limiting Fact 9.2: Water	tor Bookend	6/21/2016 39 39	6/21/2016 0	Estimate Comments / Rationale 6/21/2016 Benefits from US ORS5B flow projects. No uplift from Okanogan Irrigation District	g 2016)	Comments / Rationale	Meeting 2016)	Rationale	2016)	Rationale	2016 Low Booken 39	57.8	Change 18.8	2016-2018 Look Forward Estimate Comments / Rationale Past leases already accounted for through 2018. New project: Okanogan	2018	2033 I 39	65	d V 65	Neight V 90%	Veight 7.5%	Bookend Comments High: These values are no longer	Comments 10/5/12: Some	Weight Comments USA-only wts (jms.6-7-
		Salmon Creek (C to Mout	Quantity: DID Decreased Wa (h) Quantity	iter			Salmon Creek Water Lease (1,200 acre-feet) because benefit through 2018 was applied in previous periods. McCormick should be in OR558, limiting factor 6.1.										Irrigation District 50-year lease 1,800 acre-ft. Looking at bookends and uplift from past lease projects (1,200 acre-ft re suited in 22% uplift) and potential for more improvement. Goal is 3,600 acre-ft to get perennial flow with less temperature concern in summer. Two more projects still to come (1 within 2018 period). Remaining gap estimated to be filled is 1,800 acre-ft, which will get to 75% of the 3,600 acre-feet. 1,800/2,400 = 0.75 * remaining gap (25%) = 18.75% uplift.	n						relatible to the old Expert Panel ables as percentages were for the entire stream. Improvements in the 2010-2012 period would be 17%; con: 22% is based upon existing greements (#days per year w/water from water lease)and is an ncrease from 1-5% resulting from vorflows at Concoully Dam prior to this agreement. ;% Increase ease amount increase stroare	benefit could be gained before 2018 but there is not enough information to make a change now.	12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS5B	Upper Salmon Creek (O to Concon	1.1: Habitat Quantity: DID Anthropogeni Barriers	c .	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.			90	90	0%	20.3%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS5B	Upper Salmon Creek (O to	2.1: Injury and Mortality: DID Predation	1	0 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	6%	20.3%	ow: Predation is closely tied to hatchery program resisuals plus eastern book trout and a few smallmouth bass.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS5B	Upper Salmon Creek (C to	3.2: Food: Foo Competition	id-	2 72	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							72	72	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	72	72	72	72	7%	20.3%	High: No old values to consider ; Low: Based upon existing plans to continue annaul releases of 50,000 summer steelhead. ; %:		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	OR55B	Upper Salmon Creek (O to	4.1: Riparian Condition: DID Riparian Vegetation		0 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No measurable benefit within 2018 period. 0.03 stream miles treated.	80	80	80	80	10%	20.3%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS5B	Upper Salmon Creek (C to Concon Dam)	6.1: Channel Structure and DID Form: Bed and Channel Form	3	5 65.2	0.2	McCormick project should be in 08558, limiting factor 6.1. Springs had been disconnected and diverted to a pond, and project reconnected to Salmon Creek. This created two small spring channels to main channel of Salmon Creek. 150 ft long. Denominator: 13.26 miles, per 2015 EDT report. Panel prorated at 100% of properly functioning condition, resulting in 0.2% uplift.							65.2	65.2	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	66	66	75	75	15%	20.3%	High: Old values=L8-65%, 2018=75% & 2033=80% which represents a 10% to 15% change??? Based on existing numbers, No work during the 10-12 period how much is likely to occur in the 13-15 period??? ; %: "ice nocific to willing handware.	10/5/12: benefits from McCormick and could be a little higher but can be adjusted	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS5B	Upper Salmon Creek (C to	6.2: Channel Structure and DID Form: Instream Structural	n	0 91.4	1.4	Messinger Sediment Abatement 2014: 750 ft, Knutson Bioengineering 2014: 200 ft. Both were prorated at 100% of properly functioning condition achieved, resulting in 1.4% uplift.							91.4	91.4	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	2%	20.3%	Low: Stream structure is in pretty good shape.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan Okanogan	ORS5B ORS5B	Upper Upper	9.2: Water	-	0 81.4 33 33	0	Messinger Sediment Abatement 2014: 750 ft; Knutson Bioengineering 2014: 200 ft. No change from Okanogan Irrigation District Salmon Creek Water Lease (1,200 acre-							33	82.1 53.3	20.3	New project: 0.72% upint from panel's table. "Sediment conditions in 2013 were Okanogan Irrigation District 1,800 acre-ft project. Uplift calculated as with Lower	33	33	85 60	60	35%	20.3%	High: No old values to consider ; High: Assumes agreements can be		USA-only wts (jms.6-7- USA-only wts (jms.6-7-
Okanogan	OPSEA	Salmon Creek (C to	Quantity: DID Decreased Wa Quantity	iter	20 20	0	feet) because benefit through 2018 was applied in previous periods.							20	20	0	Salmon, but different limiting season. Panel expected 20.25% uplift.			50	50		8.0%	secured to provide perenial flows in Lower Salmon Creek ; Low: Winter flows are 1/3rd of historic		12) Need to fix 6A-B-C (remove Confluence to
Okanagan	00564	Similkar n (Conflue	nee Mortality: Predation		00.00	0	in this assessment unit. No change in function percentage.							00	00		expected within the 2018 period in this assessment unit. No change in function percentage.			00	05		8.09/			12) Need to fix 6A-B-C (remove Confluence to
Okanogan	UIGUA	Similkar n (Conflue	Pathogens			0	in this assessment unit. No change in function percentage.							50	50		evected within the 2018 period in this assessment unit. No change in function percentage.			50			0.076			12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS6A	Lower Similkar n (Conflue	4.1: Riparian nee Condition: Riparian Vegetation		0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	42	45	25%	8.0%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	URS6A	Similkar n (Conflue	6.1: Channel nee Structure and Form: Bed and enc Channel Form	1		0	No actions applicable to this limiting ractor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexts applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	/5	25%	8.0%			12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORSON	Similkar n (Conflue e To Cro	enc Structure and Form: Instream Structural Structural	n	70 70	0	No accors apprease to this imming ractor were performed while 2012/2013 period in this assessment unit. No change in function percentage.							70	70	2.2	No actions while action agency inexas applicable to unsimilarity factor were expected which the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	25%	8.0%	consequence exists within this reach although several large woody debris collection sites do exist.		12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	UR56A	Similkar n (Conflue	nee Conditions: Increased Sediment			0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	/2.3	2.3	Curtis project is in upstream assessment unit, but at bottom of assessment unit, and mostly benefits ORSGA: 0.19 mile to be treated out of 4.12 miles, resulting in 2.31% uplift.	70	70	75	/5	25%	8.0%	High: Old Values=LB-65%, 2018=75% & 2033=80% which represents a 10% to 15% change??? Less sure of 2033 values (will these actions		12) Need to fix 6A-B-C (remove Confluence to
Okanogan	UKSBA	Similkar n (Conflue	enc 8.1: Water Quality: Temperature		/ 4/	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							47	47	0	No actions with Action Agency nexts applicable to this infitting factor were expected within the 2018 period in this assessment unit. No change in function percentage.			65	/5		8.0%			12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS6B	Middle Similkar n (Cross Middle	2.1: Injury and nee Mortality: Predation		5 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							45	45	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	45	85	45	18%	6.0%	ow: A lot of focused harvest on summer steelhead occurs in this reach ; %: poaching, and ow: Hatchery activities have		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
0		Similkar n (Cross Channe	nee Mortality: Pathogens				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.							focused effort and spawner returns n this area.; %: Location of Similkameen Acclimation site.		12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS6B	Similkar n (Cross Middle	4.1: Riparian	10-	60 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	62	65	4%	6.0%	ow: Acclimatation pond nere.		12) Need to fix 6A-B-C USA-only wts (jms.6-7-
Okanogan	OBSER	Similkar n (Cross Channel	to Vegetation		40 40	0	in this assessment unit. No change in function percentage.							40	40	0	expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	50	50	00/	6.04	K. Historic channels are abastiful		12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS6B	Similkar n (Cross Channel Middle	nee and Transitior Habitats: Side to Channel and 6.2: Channel	al	75 75	0	in this assessment unit. No change in function percentage.							75	75	0	expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	75	80	0%	6.0%	ensione channels are prenentil.		12) Need to fix 6A-B-C (remove Confluence to USA-only wts (ims.6-7-
Okanogan	ORS6B	Similkar n (Cross Channel Middle	to Structure and Form: Instream 7.1: Sediment	n .	70 70	0	in this assessment unit. No change in function percentage.							70	70	0	expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	13%	6.0%	%: Gravel recruitment and retention		12) Need to fix 6A-B-C (remove Confluence to USA-only wts (ims.6-7-
Okanogan	ORS6B	Similkar n (Cross Channel Middle	nee Conditions: Decreased to Sediment 7.2: Sediment		55 65	0	in this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period							65	65	0	expected within the 2018 period in this assessment unit. No change in function percentage. No actions with Action Agency nexus applicable to this limiting factor were			75	80	0%	6.0%	ssues continue thorugh middle reaches.		12) Need to fix 6A-B-C USA-only wts (jms.6-7-
		Similkar n (Cross	nee Conditions: Increased				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.									12) Need to fix 6A-B-C

		2012	Updated 2018 Estimate	(2012- Look Back %		Assess ment Unit Weight (Look Forwar d	2016-2018 Assessment	Revised Limiting factor Weight	Limiting Factor Weighting	Revised 2016 Bookend (Look Forward	2016-2018 Bookend		Updated 2018 Estimate (2016-						High 2033	2012 limiting	Assessmen		
Population	Code	Assessmen Standardized 201 t Unit Limiting Factor Bo	2015 Look Back works kend 6/21/2016	hop) Change 6/21/2016	Estimate Comments / Rationale 6/21/2016	Meetin g 2016)	Unit Weighting Comments / Rationale	(Look Forward Meeting 2016)	Comments / Rationale	Meeting 2016)	Comments / Rationale	2016 Low Bookend	2018 Look Forward Period)	Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2013- 2018	2033	High 2018 Bookend	Booken d	factor Weight	t Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates 2012 Assessment Unit Comments Weight Comments
Okanogan	OK20B	Similkamee Quality:	45 45	U	in this assessment unit. No change in function percentage.							45	45	0	No actions with Action Agency nexts applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage	45	45	50	50	30%	6.0%		12) Need to fix 6A B C
Okanogan	ORS6B	Middle 8.3: Water Similkamee Quality: Gas	80 <mark>80</mark>	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	80	80	80	80	3%	6.0%	Low: Only an issue during high discharge	USA-only wts (jms.6-7- 12)
Okanogan	ORS6C	n (Cross Saturation Upper 2.1: Injury and	80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						80	80	0	No actions with Action Agency nexus applicable to this limiting factor were	80	80	80	80	15%	0.5%	Low: Only an issue during high	Need to fix 6A-R-C USA-only wts (jms.6-7-
		Similkamee Mortality: n (Canyon Predation			In this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.							discharge ; %: poaching, and harassment.	12) Need to fix 6A-B-C
Okanogan	ORS6C	Upper 2.2: Injury and Similkamee Mortality:	75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	75	75	75	75	9%	0.5%		USA-only wts (jms.6-7- 12)
Okanogan	ORS6C	n (Canyon Pathogens Upper 3.2: Food: Food-	77 77	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						77	77	0	percentage. No actions with Action Agency nexus applicable to this limiting factor were	77	77	77	77	8%	0.5%		Need to fix 6A-B-C USA-only wts (jms.6-7-
		Similkamee Competition n (Canyon			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.								12) Need to fix 6A-B-C
Okanogan	ORS6C	to Enloe Upper 4.1: Riparian	80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						80	80	0	No actions with Action Agency nexus applicable to this limiting factor were			82	84	0%	0.5%		(remove Confluence to USA-only wts (jms.6-7-
		Similkamee Condition: n (Canyon Riparian			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.								12) Need to fix 6A-B-C
Okanogan	ORS6C	Upper 6.2: Channel Similkamee Structure and	75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function			75	80	0%	0.5%		USA-only wts (jms.6-7- 12)
		n (Canyon Form: Instream												-	percentage.								Need to fix 6A-B-C
Okanogan	ORS6C	Upper 7.1: Sediment Similkamee Conditions:	40 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	40	40	40	40	26%	0.5%	%: Gravel recruitment is a problem in the upper portions (canyon	USA-only wts (jms.6-7- 12)
Okanogan	ORS6C	Upper 7.2: Sediment	65 65	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						65	65	0	No actions with Action Agency nexus applicable to this limiting factor were			75	80	0%	0.5%	section in particular).	USA-only wts (jms.6-7-
		Similkamee Conditions: n (Canyon Increased			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.								12) Need to fix 6A-B-C
Okanogan	ORS6C	Upper 8.1: Water Similkamee Quality:	83 83	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						83	83	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	83	83	83	83	30%	0.5%		USA-only wts (jms.6-7- 12)
		n (Canyon Temperature to Enloe													percentage.								Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS6C	Upper 8.3: Water Similkamee Quality: Gas	75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	75	75	75	75	12%	0.5%	Low: Only an issue during high discharge.	USA-only wts (jms.6-7- 12)
		n (Canyon Saturation to Enloe													percentage.								Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7A	Chiliwist 1.1: Habitat Creek Quantity:	60 <mark>60</mark>	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	60	60	60	60	5%	0.5%	Low: Mostly due to naturally occuring conditions (including flow,	USA-only wts (jms.6-7- 12)
Okanogan	ORS7A	Anthropogenic Chiliwist 4.1: Riparian	25 25	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						25	25	0	percentage. No actions with Action Agency nexus applicable to this limiting factor were	25	25	30	35	5%	0.5%	gradient, culvert) ; %: Steep gradient	Need to fix 6A-B-C USA-only wts (jms.6-7-
		Creek Condition: Riparian			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.								12) Need to fix 6A-B-C
Okanogan	ORS7A	Vegetation Chiliwist 6.2: Channel	55 55	0	No actions applicable to this limiting factor were performed within 2012-2015 period	_						55	55	0	No actions with Action Agency nexus applicable to this limiting factor were	55	55	60	90		0.5%		(remove Confluence to USA-only wts (ims.6-7-
		Creek Structure and Form: Instream			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.								12) Need to fix 6A-B-C
Okanogan	ORS7A	Chiliwist 7.2: Sediment Creek Conditions:	40 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	40	40	45	45	15%	0.5%	Low: Based on OBMEP data and EDT values of 18% fines in snawning	USA-only wts (jms.6-7-
Okanagan	00574	Increased	00 00	0	No actions applicable to this limiting factor wave performed within 2012 2015 period							00	00	0	percentage.		00	02	05		0.5%	gravels??? ; %: Consider reducing	Need to fix 6A-B-C
Okanogan	UK3/A	Creek Quality: Temperature	50 50	U	in this assessment unit. No change in function percentage.							50	50	0	expected within the 2018 period in this assessment unit. No change in function percentage	50	50	52	55		0.3%		12) Need to fix 64-B-C
Okanogan	ORS7A	Chiliwist 9.2: Water	70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						70	70	0	No action with Action Agency nexus applicable to this limiting factor were	70	70	80	80	75%	0.5%	Low: Unknown how many or	USA-only wts (jms.6-7-
0.	00070	Decreased Water	10 10		In uns assessment unit, no change in runction percentage.							10	10	0	expected within the 2010 period in this assessment unit. No change in function percentage.	40	10				1.10	; %: Consider options to minimze	Need to fix 6A-B-C
Okanogan	UK37B	Creek Quantity:	40 40	U	in this assessment unit. No change in function percentage.							40	40	0	expected within the 2018 period in this assessment unit. No change in function percentage	40	40	50	50		1.17		12) Need to fix 64-B-C
Okanogan	ORS7B	Wanacut 4.1: Riparian	50 <mark>50</mark>	0	No actions applicable to this limiting factor were performed within 2012-2015 period	1						50	50	0	No actions with Action Agency nexus applicable to this limiting factor were	50	50	52	55	5%	1.1%	High: Should this be 1.1 and related	USA-only wts (jms.6-7-
		Creek Condition: Riparian			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.							to flow???; Low: Little or no riparian vegetation exists along this	12) Need to fix 6A-B-C
Okanogan	ORS7B	Wanacut 6.1: Channel Creek Structure and	60 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	60	60	60	60	3%	1.1%	High: How much of the lower 0.5 mile will be treated? ; Low: Lower	USA-only wts (jms.6-7- 12)
Okanogan	OR57B	Channel Form Wapacut 6.2: Channel	50 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period	_						50	50	0	percentage.	50	50	60	60	2%	1 1%	little complexity upper half mile is High: How much of the lower 0.5	(remove Confluence to
Okunogun	01070	Creek Structure and Form: Instream	50 50	Ŭ	in this assessment unit. No change in function percentage.							50	50	5	expected within the 2018 period in this assessment unit. No change in function opercentage.	50	50		00	2,0	1.17	mile will be treated? ; Low: Lower half mile is wide and shallow with	12) Need to fix 6A-B-C
Okanogan	ORS7B	Wanacut 7.2: Sediment Creek Conditions:	80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	80	80	85	85	25%	1.1%	Low: Based on OBMEP data and EDT values of 14% fines in spawning	USA-only wts (jms.6-7- 12)
Okanogan	ORS7B	Wanacut 8.1: Water	80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period							80	80	0	nercentage. No actions with Action Agency nexus applicable to this limiting factor were executed within the 2019 period in this accommod with No change in function.	80	80	85	85	15%	1.1%	pravels??? : %: Prevent access by %: Input of groundwater will reduce	USA-only wts (jms.6-7-
01	0.00770	Temperature			In this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.					500/		water temperature	Need to fix 6A-B-C
Okanogan	UK57B	Creek Quantity:	25 25	U	in this assessment unit. No change in function percentage.							25	25	0	expected within the 2018 period in this assessment unit. No change in function percentage	25	25	50	50	50%	1.1%	2033=80% which represents a 30%	12) Need to fix 6A-R-C
		Quantity													per centrage.							flows to the entire lower portion of	(remove Confluence to
Okanogan	ORS7C	Tunk Creek 1.1: Habitat Quantity:	40 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	40	40	90	90		0.8%		USA-only wts (jms.6-7- 12)
		Anthropogenic Barriers													percentage.								Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7C	Tunk Creek 4.1: Riparian Condition:	85 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							85	85	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	85	85	85	85	15%	0.8%		USA-only wts (jms.6-7- 12)
Okanogan	ORS7C	Riparian Vegetation Tunk Creek 6.1: Channel	85 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period							85	85	0	percentage. No actions with Action Agency nexus applicable to this limiting factor were	28	85	85	85	2%	0.8%		Need to fix 6A-B-C (remove Confluence to USA-only wts (ims 6-7-
		Structure and Form: Bed and			in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.						2.57		12) Need to fix 6A-B-C
Okanogan	ORS7C	Tunk Creek 6.2: Channel	90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment with No shapes is far the	90	90	90	90	3%	0.8%		USA-only wts (jms.6-7-
		Form: Instream Structural			in and essessment onte no endinge in forceon percentage.										percentage.								Need to fix 6A-B-C
Okanogan	ORS7C	Tunk Creek 7.2: Sediment Conditions:	75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.	1						75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	75	77	80	80	25%	0.8%	High: Small initial impact but might have considerable longer term	T est of 2%; ST USA-only wts (jms.6-7- estimate tbd 12)
		Increased Sediment													percentage.							impact if project covers a large enough area??? ; Low: Based on	Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7C	Tunk Creek 8.1: Water Quality:	95 <mark>95</mark>	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	95	95	95	95	5%	0.8%	High: Not likely to impact temperature. ; %: relocate turbine	USA-only wts (jms.6-7- 12)
		Temperature													percentage.							well away from stream channel, predicted to result in increased flow	Need to fix 6A-B-C (remove Confluence to

Population Okanogan	Code ORS7C	Assessme t Unit Tunk Cree	2012 n Standardized Limiting Factor k 9.2: Water	2012 Low Bookend	Updated 2018 Estimate (2012- 2015 Look Back workshop) 6/21/2016	Look Back % Change 6/21/2016 0	Estimate Comments / Rationale 6/21/2016 No actions applicable to this limiting factor were performed within 2012-2015 period	Assess ment Unit (Look Forwar d 2 Meetin U g 2016) (2016-2018 Assessment Unit Weighting Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Factor Weighting Comments / Rationale	Revised 2016 Bookend (Look Forward Meeting 2016)	2016-2018 Bookend Comments / Rationale	2016 Low Bookend	Updated 2018 Estimate (2016- 2018 Look Forward Period) 60	Look Forward % Change 0	2016-2018 Look Forward Estimate Comments / Rationale No actions with Action Agency nexus applicable to this limiting factor were	2013- 2018 85	2033 85	High 2018 I Bookend 95	High 20 2033 limi ooken fac d Wei 95	2 ing Assess or tU tht Wei 50%	men it 2012 Limiting Factor iht Bookend Com 0.5% High: how much will the	Veight and 2012 Estima ents Comment incease	tes 2012 Assessment Unit s Weight Comments USA-only wts (jms.6-7-
			Quantity: Decreased Water Quantity				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function percentage.						flows? ; Low: Many the in upper watershed, or lower 1-mile becomes	ats to flows assionally termittent -	12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7D	Aeneas Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2	0 100	80	Breach of Fish Passage Obstruction opened 0.74 mile of habitat up to culvert at top of assessment unit (project is at mouth), but other barriers exist, resulting in 80% uplift up to the high bookend. Better fit to limiting factor 1.2. Note that culvert at top of assessment unit will be dealt with next. There is also a natural barrier farther up.	F						100	100	0	Remove projects from database.	90	90	100	100	71%	0.5% High: Will this address barriers???? Will it per Only accessible habital contained withion the River floodplain. ; %: P	ttreated y ttreated y s currently kanogan vide access pile and	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS7D	Aeneas Creek	4.1: Riparian Condition: Binarian	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	Remove projects from database.	40	40	42	45	15%	0.5% High: How much of the section will be treated	ower ?? Small benefit	USA-only wts (jms.6-7- 12) Need to fix 64-8-C
Okanogan	ORS7D	Aeneas Creek	6.1: Channel Structure and Form: Bed and	7	70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	Remove projects from database.	75	75	80	80	2%	0.5% High: Secondary benefi improving access ; %: 5 benefit of improving a	of condary ess	USA-only wts (jms.6-7- 12) Need to fix 64-8-C
Okanogan	ORS7D	Aeneas Creek	6.2: Channel Structure and Form: Instream	5	50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	50	0	Remove projects from database.	50	50	70	70	3%	0.5% High: How much of the section will be treated	ower ?? Will it	USA-only wts (jms.6-7- 12) Need to fix 64-8-C
Okanogan	ORS7D	Aeneas Creek	8.1: Water Quality:	9	90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	Remove projects from database.	90	90	92	95		0.5%		USA-only wts (jms.6-7- 12)
Okanogan	ORS7D	Aeneas	8.5: Water	9	90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage							90	90	0	Remove projects from database.	90	90	90	90	9%	0.5% High: Don't know the r	ignitude of	(remove Confluence to USA-only wts (jms.6-7- 12)
Okanogan	ORS7D	Aeneas Creek	9.2: Water Quantity:	5	0 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	50	0	Remove projects from database.	50	50	80	80	-	Water chemistry reduc	s	Need to fix 6A-B-C USA-only wts (jms.6-7- 12)
Okanogan	ORS7E	Bonaparte Creek	Decreased Water Quantity e 1.1: Habitat Quantity: Anthropogenic	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	90	90		2.2%		Need to fix 6A-B-C (remove Confluence to USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7E	Bonaparte Creek	Barriers 4.1: Riparian Condition:	6	5 65	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							65	65	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	65	65	70	75	15%	2.2% Low: Under story missi mile however, most ar	g in lower 1- is of major	(remove Confluence to USA-only wts (jms.6-7- 12)
Okanogan	ORS7E	Bonaparte Creek	Riparian 6.1: Channel Structure and Form: Bed and Channel Form	7	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	percentage. No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	70	70	2%	disturbance associated 2.2% High: how much area v could you treat???? ; L areas of major disturb associated with ranchi	vith puld or w: Most ice t in upper	Need to fix 6A-B-C USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7E	Bonaparte Creek	e 6.2: Channel Structure and Form: Instream	8	0 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	3%	2.2%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7E	Bonaparte Creek	 7.2: Sediment Conditions: Increased Sediment 	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	50	50	35%	2.2% High: how much area v could you treat???? ; L OBMEP data and EDT fines in snawning grave	ould or w: Based on lues of 14% 277 : %: site	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7E	Bonaparte Creek	e 8.1: Water Quality: Temperature	9	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	95	95	5%	2.2%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7E	Bonaparti Creek	 9.2: Water Quantity: Decreased Water 	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	75	75	40%	2.2% High: How much water get??? ; Low: Many the in upper watershed, or	an you ats to flows assionally	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7F	Siwash Creek	1.1: Habitat Quantity: Anthropogenic	2	0 20	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							20	20	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	20	20	70	70	20%	 High: What infrastructive removed??? The water covered under flow. ; It additional additional terms in the second s	e will be s already w:	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7F	Siwash Creek	4.1: Riparian Condition: Riparian	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	90	94		1.7%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7F	Siwash Creek	6.2: Channel Structure and Form: Instream	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	70	70	2%	1.7% Low: Minimal structura currently exists. ; %: C complexity would be n	complexity innel e after	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7F	Siwash Creek	7.2: Sediment Conditions: Increased Sediment	5	0 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	50	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	60	60	3%	1.7% Low: Based on OBMEP EDT values of 11% fine gravels???; %: Mostly dewatering and lack for	ata and in spawning result of	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7F	Siwash Creek	8.1: Water Quality: Temperature	9	90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	92	95		1.7%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7F	Siwash Creek	9.2: Water Quantity: Decreased Water Quantity	2	20	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							20	20	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	20	20	70	70	75%	1.7% High: How much og th flows can you possibly Perenial flows possible most this stream has d	historic 10/5/12: som estore? Are possibility by ??? ; Low: At 2018 but charge 2 nothing	ue USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7G	Lower Antoine Creek (Mouth to Rock	1.1: Habitat Quantity: Anthropogenic Barriers	4	90	50	EDT report: 1.25 miles as denominator; culvert showed a 12% survival effect. 1 other passage project in cak table. Total opened up by the two projects: 1.25 miles to next remaining barrier. Panel protract at 50% per life stage and degree of former blockage, resulting in 50% uplift.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	90	90		1.2%	%: Study to concrete	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canvon)
Okanogan	ORS7G	Lower Antoine Creek (Mouth to	4.1: Riparian Condition: Riparian Vegetation	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	63	65	15%	1.2% High: Riparian area rec agricultural land use.	ced due to	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7G	Lower Antoine Creek (Mouth to	6.1: Channel Structure and Form: Bed and Channel Form	8	80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	2%	1.2% High: Channel can not Dyked, relocated, strai reinforced	igrate. ; %: itened, and	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7G	Lower Antoine Creek (Mouth to	6.2: Channel Structure and Form: Instream Structural	7	70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	3%	1.2%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7G	Lower Antoine Creek	7.2: Sediment Conditions: Increased	8	5 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							85	85	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	85	85	25%	1.2% Low: Based on OBMEP EDT values of 11% fine gravels???	ata and in spawning	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7G	Lower Antoine Creek (Mouth to	8.1: Water Quality: Temperature	9	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	95	95	5%	1.2%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7G	Lower Antoine Creek	9.2: Water Quantity: Decreased Water	3	3 33	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							33	33	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	33	33	95	95	50%	1.2% High: How much of an you get??? ; Low: Curr make this habitat inact	crease can ntly flows ssible to	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C

Population	Code	Assess t Un	2012 men Standardized Limiting Facto	l 2012 Lov r Booken	Updated 2018 Estimate (2012- v 2015 Look Back workshop) d 6/21/2016 20 61 5	Look Back % Change 6/21/2016	Estimate Comments / Rationale 6/21/2016	Assess ment Unit Weight (Look Forwar d Meetin g 2016)	2016-2018 Assessment Unit Weighting Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Fac Weightin Comment: Rationale	Revised 2016 Bookend ctor (Look Ig Forward s / Meeting e 2016)	2016-2018 Bookend Comments / Rationale	2016 Low Booken	Updated 2018 Estimate (2016- 2018 Look Forward Period	Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2013-2018	2033 E	igh 2018 Sookend	High 2033 Booken d	2012 limiting factor Weight 71%	Assessmen t Unit Weight	2012 Limiting Factor Weight and Bookend Comments	2012 Estimates Comments	: 2012 Assessment Unit Weight Comments USA-poly wark (ims 6-7-4
Okanogan	00574	Antoine Creek (Rocks	e Quantity: Anthropogenic to Barriers		70 70	0	Opened up by the three projects 4.35 miles to next remaining barrier. Panel project opened up by the three project 4.35 miles to next remaining barrier. Panel protect per life stage and degree of former blockage, resulting in 41.5% uplift.							70	70		No because with her 2018 period in this assessment unit. No change in function percentage.	70	70	70	75	19/	0.5%	passage if no fish make it to the barrier? What about other barriers further upstream??? ; Low:		12) Need to fix 6A-B-C (remove Confluence to Carpuon)
Okanogan	UK37H	Antoine Creek	e Condition: Riparian		10 10	0	in this assessment unit. No change in function percentage.							70	70		expected within the 2018 period in this assessment unit. No change in function percentage.		, ,,	12	/3	170	0.5%	disturbance associated with farming and ranching in upper watershed.		12) Need to fix 6A-B-C
Okanogan	ORS7H	Upper Antoine Creek	e Structure and Form: Bed and		80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	85	85	2%	0.5%	Low: Some sections of stream have been all but abliterated by past land use activities. Remaining habitat is in		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7H	Upper Antoine Creek	e Structure and Form: Instream		70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	1%	0.5%	excellent condition		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7H	Upper Antoine Creek (Rocks Fanche Dam)	e Conditions: Increased to Sediment er Quantity		75 85.1	10.1	Riparian Exclusion Fencing: 0.75 miles on both sides of stream. Proration: 75% of sedimentation fixed in project area (there are still erosion issues from cows upslope from the 75,44 righaria buffer, jesuiting in 5.4% upslift. Added Corral Relocation 2014, which treated 1 mile of creek and was prorated at 50%, resulting in 10.1% uplift.							85.1	85.1	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	85	85	5%	0.5%	Low: Based on OBMEP data and EDT values of 11% fines in spawning gravels???		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS7H	Upper Antoine Creek	8.1: Water Quality: Temperature		90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	92	95		0.5%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7H	Upper Antoine Creek (Rocks Fanche	9.2: Water e Quantity: Decreased Wat to Quantity	er	40 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	95	95	20%	0.5%	High: How much of an increase can you get???; Low: Currently flows make this habitat inaccessible to summer steelhead in most years.; %: possibility of portion of stored		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS7I	Wild He Spring Creek	orse 1.1: Habitat Quantity: Anthropogenic Barriers		60 78.5	18.5	Denominator from EDT report: 1.08 miles. Wild Horse Springs passage project opened 0.15 mile. Culvert removal opened 0.35 mile. Both were protect at 40%, as they were impediments rather than total blockages. This yelded 18.5% uplift. Panel stated that this was close to the EDT prediction for the barriers.	3						78.5	78.5	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	62	62	80	80	3%	0.6%	High: Added roughly 20%?? to the existing habitat in 2011/2 leaving the potential for another 20% benefit by replacing the Highway 97 culvert???? (timeline???) ; Low: Highway 97 culvert is marginally passable by adults during high water		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS7I	Wild Ho Spring Creek	orse 4.1: Riparian Condition: Riparian		65 65	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							65	65	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	65	65	66	70	2%	0.6%	High: How much of Accord's property can you change, small initial change could increase over time if change particle and trace		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7I	Wild Ho Spring Creek	orse 6.2: Channel Structure and Form: Instream		80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	85	85	5%	0.6%	High: How much of stream will be impacted by this action? ; Low: Deep pools are lacking. ; %: possible		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7I	Wild Ho Spring Creek	orse 7.2: Sediment Conditions: Increased		70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	10%	0.6%	High: How much of accords property can you change, small initial change could increase over		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7I	Wild Ho Spring Creek	Quality: Temperature		90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	92	95	0%	0.6%	Time if change nersicity / 1 nw		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7I	Wild Ho Spring Creek	orse 9.2: Water Quantity: Decreased Wat	er	50 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	50	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	60	60	80%	0.6%	High: Can you make this stream perenial???? ; Low: In most years this stream becomes intermittant by		(remove Confluence to USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	Quantity 4.1: Riparian Condition: Riparian		40 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.					_		40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	0 40	40	40	25%	2.1%	late summer. ; %: Reviewing water Low: Intermittant sections have very limited riparian habitat.		(remove Confluence to USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	et 5.2: Peripheral and Transitiona Habitats:	I	20 20	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							20	20	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	20	20	50	50	5%	2.1%	Low: Channel can not migrate along lower 1 mile. ; %: Dyked, relocated, straightened, and reinforced		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	et 6.1: Channel Structure and Form: Bed and Channel Form		80 80	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	80	80	80	80	3%	2.1%	Low: Lower 1 mile and isolated areas above falls where riparian habitat has been lost.		(remove Confluence to USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS7J	Tonask Creek	et 6.2: Channel Structure and Form: Instream		75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	80	80	2%	2.1%	Low: limited channel complexity in lower 1 mile.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	et 7.2: Sediment Conditions: Increased		75 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	80	80	15%	2.1%	Low: Based on OBMEP data and EDT values of 18% fines in spawning gravels???		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	et 8.1: Water Quality: Temperature		90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	90	90	90	90	5%	2.1%			USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7J	Tonask Creek	et 9.2: Water Quantity: Decreased Water	er	25 25	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							25	25	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	25	5 25	35	35	45%	2.1%	High: Will this make stream perenial from mouth to falls? ; Low: 1/2 of stream is intermittant for most of	PROJECT BEING WORKED ON NOW BUT MAY	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7K	Nine M Creek	Oriantity lile 1.1: Habitat Quantity: Anthropogenic Barriers		67 92	25	EDT report: 1.1 miles used as denominator. Culvert removal opened 2 miles. There are no other barrier structures, but there is a dewatered reach that is a seasonal barrier. This is a losing reach, but may be exacerbated by withdrawals. 25% uplift brings status up to 92%, which reflects the dewatered area as a barrier.							92	92	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	67	67	100	100	20%	2.1%	the year and the remaining hahitat High: Removal of the diversion would make all habitat accessible from the mouth to the falls???? Barrier completely removed during 13-15 period?; Low: Diversion	RF RFAILY FOR 10/5/12: should move to 85-90% once the TU project is implemented,	Iremove Confluence to USA-only wts (jms.6-7- . 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS7K	Nine M Creek	lile 4.1: Riparian Condition: Riparian		60 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	62	65	62	65	8%	2.1%	Low: Large section of riparian habitat missing on Eder property.	10/5/12: TU project will improve this as	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS7K	Nine M Creek	lile 5.2: Peripheral and Transitiona Habitats:	1	70 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	75	80	80	8%	2.1%	Low: Channel can not migrate along lower 1 mile.; %: Dyked, relocated, straightened, and reinforced.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan Okanogan	ORS7K	Nine M Creek Nine M	ille 6.2: Channel		60 60	0	In this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period							60	60	0	curvert graver clean-out: regraning of the lower portion of the creek to abate gravel aggradation." No benefit assigned, as it only maintains existing benefit. No actions with Action Agency nexus applicable to this limiting factor were	60	60 0 60	65	65	8%	2.1%	cover??? Small initial gain with		USA-only wts (jms.6-7- 12) USA-only wts (jms.6-7-
Okanogan	ORS7K	Creek Nine M Creek	Structure and Formulacteone Total Total Formulacteone Total		70 70	0	In this assessment unit. No change in function percentage. No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	expected within the 2018 period in this assessment unit. No change in function No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	70	70	75	75	10%	2.1%	habitat missing on Eder property. High: How much area will this cover??? Small initial gain with		12) USA-only wts (jms.6-7- 12)
Okanogan	ORS7K	Nine M Creek	lincreased 8.1: Water Quality:		90 90	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							90	90	0	percentage. No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	90	90	92	95	\rightarrow	2.1%	increased benefits provided the		Need to fix 6A-B-C USA-only wts (jms.6-7- 12)
Okanogan Okanogan	ORS7K ORS8A	Nine M Creek Okanog	lile 9.2: Water Quantity: gan 2.1: Injury and		50 92 60 60	42 0	See limiting factor 1.1 discussion and rationale. Uplift to 92% = 42% uplift. No actions applicable to this limiting factor were performed within 2012-2015 period							92 60	92 60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function No actions with Action Agency nexus applicable to this limiting factor were	80	0 80 0 65	100 65	100	40%	2.1%	High: How much of an increase can you get??? All the water by	10/5/12: 2018 AND 2033	USA-only wts (jms.6-7- 12) USA-only wts (jms.6-7-
		River 0	6 Mortality:				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function									12)

Populatio	in Cod	Assessmer e t Unit	2012 Standardized Limiting Factor	2012 Low Bookend	Updated 2018 Estimate (2012- 2015 Look Back workshop) 6/21/2016	Look Back % Change 6/21/2016	Estimate Comments / Rationale 6/21/2016	Assess ment Unit Weight (Look Forwar d Meetin g 2016)	2016-2018 Assessment Unit Weighting Comments / Rationale	Revised Limiting factor Weight (Look Forward Meeting 2016)	Limiting Factor Weighting Comments / Rationale	Revised 2016 Bookend (Look Forward Meeting 2016)	2016-2018 Bookend Comments / Rationale	2016 Low Booken	Updated 2018 Estimate (2016 2018 Look Forward Period	Look Forward % Change	2016-2018 Look Forward Estimate Comments / Rationale	2013-2018	2033	High 2018 Bookend	High 2033 Booken d	2012 limiting As factor Weight	sessmen 1 Unit Veipht Bookend Comments	d 2012 Estimate Comments	es 2012 Assessment Unit Weight Comments
Okanogan	ORS84	Okanogan	2.3: Injury and	8	98	18	7 screen projects bring the status up to 98%, resulting in 18% uplift.							98	98	0	Credit assigned previously.	85	85	100	100	4%	0.5% High: If all pump screens meet		USA-only wts (jms.6-7-
Okanogan	ORS8/	A Okanogan River 06 (Siwash to	3.2: Food: Food- Competition	7	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	0 70	70	70	2%	0.5% Low: Tonasket Acclimation pond		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS84	A Okanogan River 06 (Siwash to	4.1: Riparian Condition: Riparian	2	5 25	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							25	25	0	No measurable benefit within 2018 period. 0.75 stream miles treated. 2.25 miles expected long-term. Lesamiz project.	25	25	30	40	13%	0.5%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS84	A Okanogan River 06 (Siwash to	5.1: Peripheral and Transitional Habitats: Side	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	65	65	6%	0.5% High: Old values=LB-90%, 2018&2033=95% which represen a 5% change???	s	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS84	Okanogan River 06	5.2: Peripheral and Transitional	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	40	40	50	50	10%	0.5% High: Old values=LB-90%, 2018&2033=95% which represen	s	USA-only wts (jms.6-7- 12)
Okanogan	ORS84	A Okanogan River 06 (Siwash to	6.1: Channel Structure and Form: Bed and	4	0 40	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							40	40	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	40	40	50	50	12%	0.5% High: Old values=LB-65%, 2018=7 & 2033=80% which represents a 10% to 15% change??? ; %: Funct	5% on	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS84	Okanogan River 06	6.2: Channel Structure and	7	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	70	70	75	5 75	3%	0.5% High: Old values=LB-70%, 2018=7 & 2033=80% which represents a	5% %	USA-only wts (jms.6-7- 12)
Okanogan	ORS8/	 Okanogan River 06 (Siwash to Confluence with Similkamee a) 	7.2: Sediment Conditions: Increased Sediment Quantity	5	5 55	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							55	57.7	2.7	Lesamiz Bank stabilization/bioengineering/livestock exclusion fencing: "Accordin to EDT analysis sediment impacts to survival are 12% in this DU. This project would treat 1 mile on one bank out of 16.48 miles in this reach or 3% of the DU. Full length of stream in assessment unit needs treatment. 1.5 total miles treated. Denominator: 16.48 miles from EDT report. Provated to 30% to account for intensity and extent of treatment within project length (one bank), yielding 2.7% writin	g 55	55	60	0 60	30%	0.5% High: Values from old Expert Pan tables-these seem high to me especially the 2033 values.; Low: (80% based on OBMEP data and EDT values of 14% fines in spawn gravels???)	l	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to Canyon)
Okanogan	ORS84	A Okanogan River 06 (Siwash to Confluence	8.1: Water Quality: Temperature	3	5 35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							35	35	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	35	35	35	35	15%	0.5%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS84	A Okanogan River 06	9.2: Water Quantity:	9	5 95	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							95	95	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function	95	95	96	96		0.5%		USA-only wts (jms.6-7- 12)
Okanogan	ORS8E	Okanogan River 07 (Confluenc	2.1: Injury and Mortality: Predation	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	70	70	6%	0.5%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS88	Okanogan River 07 (Confluenc	3.2: Food: Food- Competition	7	5 75	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							75	75	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	75	5 75	75	5 75	5%	0.5% Low: Summer steelhead scatter plants into this area.		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS8	 Okanogan River 07 (Confluence e with 	4.1: Riparian Condition: Riparian Vegetation	5	0 50	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							50	50	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	50	50	52	2 55	8%	0.5%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C (remove Confluence to
Okanogan	ORS8E	 Okanogan River 07 (Confluence) 	5.2: Peripheral and Transitional Habitats:	6	0 60	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							60	60	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	60	60	70	70	15%	0.5% High: Old values=LB-70%, 2018 & 2033=80% which represents a 10 change??? ; % Confinement from	6	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS8E	 Okanogan River 07 (Confluence) 	6.1: Channel Structure and Form: Bed and	8	5 85	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							85	85	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	85	85	85	85	12%	0.5%		USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS8	Okanogan River 07 (Confluenc	6.2: Channel Structure and Form: Instream	7	0 70	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							70	70	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	70	70	75	75	6%	0.5% High: Old values=LB-70%, 2018 & 2033=75% which represents a 10 change??? 70 to 80 for cross	6	USA-only wts (jms.6-7- 12) Need to fix 6A-B-C
Okanogan	ORS8	Okanogan River 07 (Confluence Okanogan	7.2: Sediment Conditions: Increased 8.1: Water	8	5 35	0	No actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							80	80	0	No actions with Action Agency nexus applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function nerrontage No actions with Action Agency nexus applicable to this limiting factor were	80	80	80	80	8%	0.5% Low: Based on OBMEP data and EDT values of 14% fines in spawn gravalc???	ng	USA-only wts (jms.6-7- 12) Need to fiv 64-R-C USA-only wts (jms.6-7-
Charlogall	01300	River 07	Quality:				in this assessment unit. No change in function percentage.										expected within the 2018 period in this assessment unit. No change in function			40		4070	& 2033=70% which represents a		12)
Ukanogan	UKS8E	River 07 (Confluenc e with	9.2: Water Quantity: Decreased Wate Quantity	r	282	0	no actions applicable to this limiting factor were performed within 2012-2015 period in this assessment unit. No change in function percentage.							ςε	25	U	NO actions with Action Agency nexts applicable to this limiting factor were expected within the 2018 period in this assessment unit. No change in function percentage.	95	95	96	96	U%	0.5%		12) Need to fix 6A-B-C (remove Confluence to