NOTES:

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

Individual sheets contain habitat actions data for individual populations for Chinook.

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	4.1: Riparian Condition: Riparian Vegetation	Stormy A B C	47. Plant Vegetation	1406. # of riparian miles treated	0.36 miles	Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	4.1: Riparian Condition: Riparian Vegetation	Gray D E F - Enlow Gray Reach protection/acquisition (13.3 acres)	47. Plant Vegetation	1406. # of riparian miles treated	0.15 miles	Per 2012 LF, 2015 LB moved this to LF. No actions had been implemented as of 2015. Gray reach (2A) habitat restoration: RM 16.1-17.9, add .5 m. of LWM/ELS instream, bridge abutment removal reconnecting 20 acres floodplain, reconnect 10 acres CMZ, .5 miles of LWM edge habitat, .9 m. riparian restoration Habitat Actions based on impacts noted in map atlas. Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	Stormy A B C	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	1.85 miles	Miles counted are miles added; Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	Gray E F	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.84 miles	Per 2012 LF, 2015 LB moved this to LF. No actions had been implemented as of 2015. Gray reach (2A) habitat restoration: RM 16.1-17.9, add .5 m. of LWM/ELS instream, bridge abutment removal reconnecting 20 acres floodplain, reconnect 10 acres CMZ, .5 miles of LWM edge habitat, .9 m. riparian restoration Habitat Actions based on impacts noted in map atlas; Miles counted are miles added; Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.1: Channel Structure and Form: Bed and Channel Form	Stormy A B C	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	2.1 miles	Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	Stormy A B C	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	69	Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	Gray E F	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	28	Middle Entiat based on 60% plans. 36 structures
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.1: Channel Structure and Form: Bed and Channel Form	Gray D E F	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.84 miles	Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC1	Lower Entiat	2.3: Injury and Mortality: Mechanical Injury	2016-17 Roaring Creek screen	69. Install Fish Screen	1746. Flow rate at the replaced screen diversion allowed by the water right in cubic-feet per second (cfs)	0.22 cfs / 1.3 miles	1 screen, 1 diversion
Upper Columbia Spring Chinook	Entiat River	ERC1	Lower Entiat	9.2: Water Quantity: Decreased Water Quantity	2016-17 Roaring Creek screen	84. Remove/Install Diversion	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1.3 miles / 1.0cfs	
Upper Columbia Spring Chinook	Entiat River	ERC2	Mad River	6.2: Channel Structure and Form: Instream Structural Complexity	2018: Mad River LWD Meadow Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 miles	
Upper Columbia Spring Chinook	Entiat River	ERC3B	Upper Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2018: Upper and Lower Angle Point Log structures	29. Increase Aquatic and/or Floodplain Complexity			Wont happen by 2018 0.5 miles
Upper Columbia Spring Chinook	Entiat River	ERC3B	Upper Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2017: Upper Stillwaters Signal Peak Sidechannel			0.3 miles	
Upper Columbia Spring Chinook	Entiat River	ERC3B	Upper Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2017: Upper Burns Riprap Enhancement			0.5 miles	
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	Stormy A B C	180. Enhance Floodplain/Remove, Modify, Breach Dike	1565. # of miles of dike removed or modified in the freshwater area	0.19 miles	Middle Entiat based on 60% plans
Upper Columbia Spring Chinook	Entiat River	ERC3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2017: Entiat 3D LWM Revisited			0.25	

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Spring Chinook	Methow River	MEC6A	Lower Methow	9.2: Water Quantity: Decreased Water Quantity	Barkley MVID	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	TBD cfs	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	9.2: Water Quantity: Decreased Water Quantity	MVID West	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	11 cfs	permanent
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	9.2: Water Quantity: Decreased Water Quantity	TU MVID - east pipe	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	TBD cfs	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	Twisp River Floodplain	30. Realign, Connect, and/or Create Channel	1473. # of acres of wetland affected by treatment	0.75	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2016: Twisp River Floodplain Phase I	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.65 miles	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	2.3: Injury and Mortality: Mechanical Injury	Barkley Irrigation (2016)			1 screen	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	Barkley Bear Habitat Enhancement (2016)	47. Plant Vegetation	1406. # of riparian miles treated	0.75 miles	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	Barkley Bear Habitat Enhancement (2016)	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.75 miles	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	Barkley Bear Habitat Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.75 miles	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2016 Silver side channel revival project	30. Realign, Connect, and/or Create Channel	1477. # of stream miles before treatment	0.38 miles	
Upper Columbia Spring Chinook	Methow River	MEC2	Early Winters Creek	6.2: Channel Structure and Form: Instream Structural Complexity	2017: Early Winters 20 Below Large Wood			0.1 miles	will create large wood cover and scour pools along bank on river left
Upper Columbia Spring Chinook	Methow River	MEC5	Lower Chewuch	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	Chewuch River Mile 15.5-17	30. Realign, Connect, and/or Create Channel		0.5 miles	
Upper Columbia Spring Chinook	Methow River	MEC5	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	Chewuch River Mile 15.5-17;	30. Realign, Connect, and/or Create Channel		1.5 miles	
Upper Columbia Spring Chinook	Methow River	MEC5	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	Chewuch River Mile 15.5-17; Chewuch River Mile 17-20	29. Increase Aquatic and/or Floodplain Complexity		4.5 miles	Combined project treatment miles
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2016: Newby Narrows Project Side Channel Project	30. Realign, Connect, and/or Create Channel		0.2 miles	1200 foot long side channel
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	2016: Twisp Ponds Left Bank Side Channel	47. Plant Vegetation		0.26	large vegetation enhancement component
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	2017: Twisp River Horseshoe Side Channel	47. Plant Vegetation		0.1 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2016: Twisp Ponds Left Bank Side Channel	30. Realign, Connect, and/or Create Channel		0.26 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2017: Twisp River Horseshoe Side Channel	30. Realign, Connect, and/or Create Channel		0.1 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	2016: Newby Narrows Project	29. Increase Aquatic and/or Floodplain Complexity		0.8 miles	mainstem and side channel complexity
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	2017: Lower Twisp Large Wood	29. Increase Aquatic and/or Floodplain Complexity		1 mile	Not currently in the budget. Project design completed 2016
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	2016: Twisp Ponds Left Bank Side Channel			0.26 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	2017: Twisp River Horseshoe Side Channel			0.2 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2016: Newby Narrows Project	29. Increase Aquatic and/or Floodplain Complexity		0.8 miles	mainstem and side channel complexity
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2017: Lower Twisp Large Wood	29. Increase Aquatic and/or Floodplain Complexity		1 mile	Not currently in the budget. Project design completed 2016
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2016: Twisp Ponds Left Bank Side Channel	29. Increase Aquatic and/or Floodplain Complexity		0.26 miles	all complexity is in side channels
Upper Columbia Spring Chinook	Methow River	MEC8B	Upper-Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2017: Big Valley South	29. Increase Aquatic and/or Floodplain Complexity		0.2miles	3 backwater enhancements
Upper Columbia Spring Chinook	Methow River	MEC8B	Upper-Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	2016: Big Valley South			0.9 miles	Cable Tram Removal, Apex Jams and Bank Burried LWS
Upper Columbia Spring Chinook	Methow River	MEC8B	Upper-Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2016: Big Valley South			0.9 miles	Cable Tram Removal, Apex Jams and Bank Burried LWS
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	1.1: Habitat Quantity: Anthropogenic Barriers	Barkley Bear	184. Install Fish Passage Structure	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.19 miles	
Upper Columbia Spring Chinook	Methow River	MEC2	Early Winters Creek	6.1: Channel Structure and Form: Bed and Channel Form	2017: Early Winters 20 Below Large Wood			0.1 miles	will create large wood cover and scour pools along bank on river left
Upper Columbia Spring Chinook	Methow River	MEC2	Early Winters Creek	7.2: Sediment Conditions: Increased Sediment Quantity	Early Winters 20 below Large Wood (2017)			0.1	will create large wood cover and scour pools along bank on river left
Upper Columbia Spring Chinook	Methow River	MEC5	Lower Chewuch	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	Chewuch River Mile 17-20	30. Realign, Connect, and/or Create Channel		0.2 miles	
Upper Columbia Spring Chinook	Methow River	MEC5	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	Chewuch River Mile 17-20	30. Realign, Connect, and/or Create Channel		3	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	Twisp River floodplain			0.75	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	Twisp River floodplain	30. Realign, Connect, and/or Create Channel		0.4	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	8.1: Water Quality: Temperature	MVID West			11 cfs	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	1.1: Habitat Quantity: Anthropogenic Barriers	MVID West push up dam			9.1 miles	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	9.2: Water Quantity: Decreased Water Quantity	Barkley Irrigation (2016)			7 cfs	19 cfs going in stream for 2.5 miles. 7 cfs will be protected in stream in perpetuity over 8 miles
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	Devaney Riparian Exclusion	40. Install Fence		1 mile	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	Silver Side Channel 2016			0.38	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	Lawson Fencing Project (2016)			0.25	
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	Barkley Bear Habitat Enhancement (2016)			0.85 miles	
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	8.1: Water Quality: Temperature	Aspen Meadows	164. Acquire Water Instream		2 cfs	permanent
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	8.1: Water Quality: Temperature	Poorman Creek	164. Acquire Water Instream		1.5 cfs	permanent
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	9.2: Water Quantity: Decreased Water Quantity	Poorman Creek	164. Acquire Water Instream		1.5 cfs	permanent
Upper Columbia Spring Chinook	Methow River	MEC7	Lower Twisp	9.2: Water Quantity: Decreased Water Quantity	Aspen Meadows	164. Acquire Water Instream		2 cfs	permanent
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	8.1: Water Quality: Temperature	Barkley Irrigation (2016, TU)	164. Acquire Water Instream		7 cfs	permanent

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Spring Chinook	Methow River	MEC8A	Middle Methow	8.1: Water Quality: Temperature	Barkley Irrigation (2016, TU)	164. Acquire Water Instream		19	permanent

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2016: LWP Groups 2&3			0.15 miles	
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	6.2: Channel Structure and Form: Instream Structural Complexity	2016: LWP Groups 2&3			0.25 miles	
Upper Columbia Spring Chinook	Wenatchee River	WEC9B	Upper Wenatchee	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2016: Meacham Flats			0.2 miles	
Upper Columbia Spring Chinook	Wenatchee River	WEC9B	Upper Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	2016: Meacham Flats				0.2 miles; side channels only so considered in 5.1
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	4.1: Riparian Condition: Riparian Vegetation	UWP	47. Plant Vegetation	1406. # of riparian miles treated	0.59 miles	UWP based on 90% plans
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	UWP	180. Enhance Floodplain/Remove, Modify, Breach Dike	1565. # of miles of dike removed or modified in the freshwater area	0.019 miles	UWP based on 90% plans
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	6.1: Channel Structure and Form: Bed and Channel Form	UWP	180. Enhance Floodplain/Remove, Modify, Breach Dike	1565. # of miles of dike removed or modified in the freshwater area	0.45 miles	UWP based on 90% plans
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	6.1: Channel Structure and Form: Bed and Channel Form	UWP	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.25 miles	UWP based on 90% plans
Upper Columbia Spring Chinook	Wenatchee River	WEC7	Nason	6.2: Channel Structure and Form: Instream Structural Complexity	UWP	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.53 miles	UWP based on 90% plans