

This workbook contains habitat actions data downloaded directly from the Taurus database. Actions include those documented during the **Look Back** process covering the **2012-2015** work window.

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

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Tyee 3A: Levee removal, riparian plantings, livestock exclusion fencing, ELS/LWM installed, cons. easement	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	9 structures	Per 2012 LF: estimated 34 structures
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Harrison Adaptive Maintenance	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	5 structures (700 feet)	Per 2012 LF: This only includes biological benefits in addition to those from the original project
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2012 Dillwater Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.29 miles	Per 2012 LF: .5 miles improved complexity, 4 ELJs installed from Yurt to Dill Ck bridge
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Dillwater Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	5 structures	Per 2012 LF: .5 miles improved complexity, 4 ELJs installed from Yurt to Dill Ck bridge
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	4.1: Riparian Condition: Riparian Vegetation	2012 Tyee 3A: Levee removal, riparian plantings, livestock exclusion fencing, ELS/LWM installed, cons. easement	47. Plant Vegetation	1403. # of riparian acres treated	0.25 miles	Per 2012 LF: 0.25 miles, +0.5 mi fenced +75 acres protected
Upper Columbia Steelhead	Entiat River	ERS2	Mad River	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Tillicum Cr. Culvert Replacement Project #2 2012-86	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.5 mile	Per 2012 EP: Replace two undersized culverts (two 38" diameter concrete pipes) with a crossing that allows for fish passage of juveniles and adults at low and high flows for an additional 0.5 miles; provides for the transportation of substrate and woody debris; will accommodate a 100 yr. flood event. The preferred replacement structure is a bridge. 0.5 miles of habitat made accessible as well as allowed for the transportation of substrate and woody debris. UPDATED: roject completed underbudget and in 2013. 1.0 miles of habitat made accessible, two small undersized culverts were replaced with one large bottomless arch culvert easily capable of transporting substrate and woody debris.
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	2012 Tyee 3A: Levee removal, riparian plantings, livestock exclusion fencing, ELS/LWM installed, cons. easement	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.25 mi	+75 acres enhanced floodplain
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2012 Entiat 3-D Habitat Enhancement Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	0.25 miles	Per 2012 LF: Updated metric-EP LB2015 1 mile improved stream complexity, 7 instream structures installed, 7 pools created. The 3-D project will re-establish habitat diversity and complexity in this mile of reach that is otherwise devoid of any substantial pieces of lwm or associated scour pools. In addition the site lends itself accordingly with enhancing the relic bacwater alcoves that populate this stretch of the river. The 3-D project will seek to replace lwm that would naturally occur in this stretch of the Entiat, but has been extirpated over the years by multiple forest fires and man-made logging activities. The proposed project will provide habitat for staging, spawning, and rearing juvenile salmonids during both summer and winter low flow conditions. : Enhance three backwater channels/ alcoves by both deeping and providing cover habitat with large woody material (lwm) that will additionally provide roughness to the channels. A total of seven lwm structures will be created
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2012 Tyee 3A: Levee removal, riparian plantings, livestock exclusion fencing, ELS/LWM installed, cons. easement	180. Enhance Floodplain/Remove, Modify, Breach Dike	1565. # of miles of dike removed or modified in the freshwater area	0.25 miles	metric for Work Element 5 is incorrect. Planned Metric Value is for # acres protected +75 acres riparian enhanced. 2015 LB EP updated metric from 0.7 miles to 0.25 miles. - MAH2.25.16
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Entiat 3-D Habitat Enhancement Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	7 LWM structures	Per 2012 LF: 1 mile improved stream complexity, 7 instream structures installed, 7 pools created., The 3-D project will re-establish habitat diversity and complexity in this mile of reach that is otherwise devoid of any substantial pieces of lwm or associated scour pools. In addition the site lends itself accordingly with enhancing the relic bacwater alcoves that populate this stretch of the river. The 3-D project will seek to replace lwm that would naturally occur in this stretch of the Entiat, but has been extirpated over the years by multiple forest fires and man-made logging activities. The proposed project will provide habitat for staging, spawning, and rearing juvenile salmonids during both summer and winter low flow conditions. : Enhance three backwater channels/ alcoves by both deeping and providing cover habitat with large woody material (lwm) that will additionally provide roughness to the channels. A total of seven lwm structures
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Harrison Adaptive Maintenance	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.25 mile	
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 ENFH Habitat Channel Phase 2	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.1 mile	Per Entiat River Subbasin report: Provide resting and holding areas, summer and winter rearing habitat, augment side channel complexity to provide high flow refugia, connect existing off-channel habitat, and install instream complexity for juvenile and adult salmonids. Project treatments include; split flow channel inlet excavation to connect at lower flows near RM 6.8, one boulder cluster at RM 6.8 to direct flow into the split channel, one ELJ at the head of the split channel island, 15 habitat logs with boulders along channel margin, connection of off-channel alcove at RM 6.73, and install pedestrian footbridge over reconnected alcove.
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Foreman Sidechannel (CCNRD)	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.08 miles	RM 1.9-2.3, river left (400 feet)
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Keystone to Kiosk	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.25 miles side channel (0.1 miles mainstem)	Per Entiat River Subbasin report: Project treatments include; side channel connection at RM 0.8, 7 boulder clusters at RM 1.1, 2 boulder clusters at RM 2.2, 23 habitat logs with boulders at RM 1.6 side channel, side channel excavation to connect at lower flows at RM 1.6, and 3 habitat log structures along main stem channel margin.
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2014 ENFH Habitat Channel Phase 2	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	3 structures	Per Entiat River Subbasin report: Provide resting and holding areas, summer and winter rearing habitat, augment side channel complexity to provide high flow refugia, connect existing off-channel habitat, and install instream complexity for juvenile and adult salmonids. Project treatments include; split flow channel inlet excavation to connect at lower flows near RM 6.8, one boulder cluster at RM 6.8 to direct flow into the split channel, one ELJ at the head of the split channel island, 15 habitat logs with boulders along channel margin, connection of off-channel alcove at RM 6.73, and install pedestrian footbridge over reconnected alcove.
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Keystone to Kiosk	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	13 structures	
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Entiat RM 2.6-3.5 Habitat Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	65 structures (0.9 mile)	The treatments were designed to address the ecological concerns from the biological strategy, such as lack of in-stream complexity and diversity as well as adding hydraulic variability for the Lower Entiat. This was accomplished through the creation of margin wood structures (22) and boulder clusters (43).
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	4.1: Riparian Condition: Riparian Vegetation	2014 Harrison Adaptive Maintenance	47. Plant Vegetation	1406. # of riparian miles treated	0.2 miles	Improve off-channel habitat connection to 1300±€™ of side channel. Add 5 LWD structures along 700 feet of main stem shoreline to increase habitat complexity. Increase riparian cover along 1000±€™ of shoreline.
Upper Columbia Steelhead	Entiat River	ERS2	Mad River	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Indian Creek Fish passage - Tillicum creek	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.5 mile	
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2014 Entiat RM 2.6-3.5 Habitat Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	65 structures (0.9 miles)	Added to LF6.1 based on revised action list 2/9/16mh
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	2014 Harrison Adaptive Maintenance	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.04 miles	added to Steelhead from Chinook LF 5.2 during 2.25.16 Lookback. EWL
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2014 ENFH Habitat Channel Phase 2	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	0.1 mile	added to steelhead from Chinook 6.1 as per 2.25.16 Lookback Panel. EWL
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2014 Keystone to Kiosk	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	0.25 mile	13 structures. Added to steelhead from Chinook 6.1 as per 2.25.16 panel. EWL

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Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	6.1: Channel Structure and Form: Bed and Channel Form	2014 Harrison Adaptive Maintenance	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.13 mile	added to steelhead from Chinook 6.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	4.1: Riparian Condition: Riparian Vegetation	2012: Dillwater Project	47. Plant Vegetation	1406. # of riparian miles treated	0.2 mile	added to steelhead from Chinook 4.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	2012 Dillwater project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.2 mile	added to steelhead from Chinook 5.2 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Entiat River	ERS3A	Middle Entiat	5.2: Peripheral and Transitional Habitats: Floodplain Condition	2012 Entiat 3-D Habitat Enhancement Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.25 mile	added to steelhead from Chinook 5.2 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Entiat River	ERS1	Lower Entiat	4.1: Riparian Condition: Riparian Vegetation	YN Entiat 2.6-3.5	47. Plant Vegetation		0.15 stream miles treated	added as per YN during Lookback QA

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Fort/Thurlow Phase II	164. Acquire Water Instream	1438. # of miles of primary stream reach improvement		0 Per EP LB 2015: Maintenance on existing structure. Did not have uplift for LF. - MAH2.25.16
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	9.2: Water Quantity: Decreased Water Quantity	2013-2015 Upper Beaver Creek 1,2,3 Late Season in-stream flow	164. Acquire Water Instream	1438. # of miles of primary stream reach improvement	2.08 cfs	10cfs target, 3.47cfs per reports, but 2.08 cfs actual estimate. Added during 2015 LB EP. - MAH2.25.2016
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2014 Eagle Rocks Cottonwood Restoration	47. Plant Vegetation	1406. # of riparian miles treated	0.3 miles	Per 2012 LF: Eagle Rocks Side Channel Restoration: 5 riparian acres & 5 wetland acres treated, 0.5 riparian miles treatedWe will add perennial flow into 0.7 miles of a large remnant side channel of the Methow River where channel simplification has isolated the channel from the river at most river stages, allowing it to fill in over time with fine sediments conveyed during historic high water events. We will use a groundwater gallery to passively convey Methow River hyporehic flow into the head of an enhanced sidechannel in the existing filled in channel alignment. The geomorphic potential of this sub-reach has been dramatically compromised by historic and current development constraining the historic channel migration zone. Our project creates 0.7 miles of new alcove side channel habitat in an area currently lost to natural riverine processes using existing groundwater resources that provide high quality temperature conditions for juvenile salmonids during both summer and winter low
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Upper Beaver Creek - Beaty diversion dam removal	84. Remove/Install Diversion	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	2.8 miles	Per 2015 LB EP: Replaced the Beaty diversion dam, a partial barrier.
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2015 Beaver Creek - Stokes Ranch	184. Install Fish Passage Structure	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	3.6 miles	Per 2012 LF: Stokes Ranch Culvert Replacement: Remove double barrel culvert that is impairing fish passage and trapping mobile wood and replace with bridge or natural bottom arch. Culvert impairs upstream juvenile fish migration and traps mobile wood; wood is then removed and is not available for downstream habitat complxity in lower beaver Creek.
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	2.3: Injury and Mortality: Mechanical Injury	2013 Upper Beaver Creek - Upgrade fish screen	84. Remove/Install Diversion	1480. # of screens addressed	1 screen	
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	4.1: Riparian Condition: Riparian Vegetation	2013 MSRF Upper Beaver Creek Habitat Improvement Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.5 miles	Updated metric 2/9/16mh
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	6.1: Channel Structure and Form: Bed and Channel Form	2013 Upper Beaver Creek Habitat Improvement Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.4 miles	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	WDFW Chewuch Campground	47. Plant Vegetation	1403. # of riparian acres treated	0.1 miles	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	WDFW Chewuch Campground	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	3 structures (0.1 mile)	Updated 2/9/16mh per updates received.people exclusion- campground improvements-livestock control
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	2015 Chewuch River right	47. Plant Vegetation	1406. # of riparian miles treated	0.5 miles	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Pete Creek Complexity : Reconnect off channel habitat, increase stream bank complexity, plant and protect riparian vegetation at RM 3.3 on the Chewuch River.	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 miles	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	9.2: Water Quantity: Decreased Water Quantity	2014 Chewuch Canal Conveyance Efficiency Project	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	10-15 cfs	
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 Elbow Floodplain right habitat reconnection: Reconnect alcove and off channel habitat on the right bank of the Twisp River at Rivermile 6.5	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.3 miles	Per 2012 LF: Work on River Left adds to prior Elbow Coulee project completed in 2008
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2015 Poorman Creek Wetland Habitat	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.5 miles, 21.9 acres	Per 2012 LF : We will reestablish a surface connection between an old channel scar currently holding wetlands impounded by beaver ponds and Poorman Creek Road to the Twisp River via placing large culverts under Poorman Creek Road and enhancing the side channel flows with a groundwater gallery. We will add large wood habitat elements into the reconnected channel, improve and create stream margin wetland habitats, and revegetate disturbed areas with native woody ripa
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2015 Twisp River Floodplain Lower Acquisition	5. Land Purchase and/or Conservation Easement	1380. # of riparian acres protected	5 acres	
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Poorman Creek Road FEP LWD	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	2 structures (<1.0 acre)	
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Twisp RM 3 FEP LWD	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	3 structures (0.2 miles)	Per 2012 LF: Twisp RM 3 Side Channel Restoration: We will enhance a high flow channel of the Twisp River to convey groundwater and irrigation ditch tail out water at low flow stages. We will enhance the channel with large woody material, enhance a large boulder riprap bank with large woody material, and replant native woody vegetation in an old horse pasture within the flooplain.
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	9.2: Water Quantity: Decreased Water Quantity	2013 Twisp River Point of Diversion Change/ Instream flow enhancement (#02-LTW-2011-1)	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	1.0 cfs	Updated during 2015 LB EP. Diversion was removed, increasing up to 4.5 cfs but actual likely closer to 4.0cfs (landowner may still withdrawal .5cfs). -MAH2.25.2016
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	1.1: Habitat Quantity: Anthropogenic Barriers	2012 Barkley Temporary Pump Station	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range		0 Per 2012 LF: M2 Barkley: Barkley - Eliminate the need for push up irrigation diversion dam in the Methow River; reduce fish entrainment, stranding and mortatlity in the intake canal. Reduce inchannel wood removal at irrigation intake. Reduce riparian and wetland disturbance caused by ditch maintenance. Could include an alternative water source for the Barkley canal and or piping the ditch. Barkley intake canal also creates a barrier to upstream fish passage into Bear Creek and this project would eliminate that barrier. Juvenile fish entrained includes spring Chinook, steelhead, bull trout,cutthroat and Pacific lamprey. Per 2015 LB EP: Per 2015 LB EP: Not a significant fish passage barrier, so given a metric of zero. EWL. No uplift.Action was not an actual passage barrier. So no uplift from this action. -MAH2.25.2016
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	2.3: Injury and Mortality: Mechanical Injury	2012 Barkley Temporary Pump Station	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.12 miles	Per 2012 LF: M2 Barkley: Barkley - Eliminate the need for push up irrigation diversion dam in the Methow River; reduce fish entrainment, stranding and mortatlity in the intake canal. Reduce inchannel wood removal at irrigation intake. Reduce riparian and wetland disturbance caused by ditch maintenance. Could include an alternative water source for the Barkley canal and or piping the ditch. Barkley intake canal also creates a barrier to upstream fish passage into Bear Creek and this project would eliminate that barrier. Juvenile fish entrained includes spring Chinook, steelhead, bull trout,cutthroat and Pacific lamprey. M2 Barkley: Barkley - Eliminate the need for push up irrigation diversion dam in the Methow River; reduce fish entrainment, stranding and mortatlity in the intake canal. Reduce inchannel wood removal at irrigation intake. Reduce riparian and wetland disturbance caused by ditch maintenance. / 2015 LB EP: Changed metric. The temporary pump station is about 10% improve.
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2013 M2 WDFW Obanion	47. Plant Vegetation	1406. # of riparian miles treated	0.7 miles	Per 2012 LF: M2 Obanion: 12 acres Habitat complexity, floodplain rehabilitation, off channel reconnection project on WDFW lands at RM 46.75. PLANNED 2009 as remove, modify, breach dike
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2015 Methow Riparian Planting	47. Plant Vegetation	1406. # of riparian miles treated	0.68 miles	

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2014 1890s Side Channel Project	181. Create, Restore, and/or Enhance Wetland	1403. # of riparian acres treated	1 mile	Per 2012 LF: 1890s Side Channel Project: 6 riparian acres & 0.8 riparian miles planted/treated, 6 wetland acres treatedWe will add perennial flow into 0.8 miles of a large disconnected side channel of the Methow River where roads and development have isolated the channel from the river at moderate river stages, allowing it to fill in over time with fine sediments conveyed during high water events. We will use a groundwater gallery to passively convey Methow River hyporehic flow into the head of an enhanced sidechannel in the existing filled in channel alignment. We will deepen the eThe geomorphic potential of this sub-reach has been dramatically compromised by historic and current development constraining the historic channel migration zone. Our project creates 0.8 miles of new alcove side channel habitat in an area currently lost to natural riverine processes using existing groundwater resources that provide high quality temperature conditions for juvenile salmonids during both sum
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2014 Two Channels Side Channel Restoration / LW Enhancement	47. Plant Vegetation	1406. # of riparian miles treated	0.1 miles	Per 2012 LF: 2 Channels Side Channel Restoration: 5 riparian acres & 0.2 wetland acres treated, 0.2 riparian miles treated.The lower half of a 0.7 mile long high flow conveyance side channel will be restored to maintain a perennial flow and surface connection with the main channel of the Methow River. We will use a groundwater gallery to passively convey Methow River hyporehic flow into the head of the enhanced portion of the sidechannel. We will deepen the existing channel and improve the substrate conditions by removing fine sediments. We will create pool/riffle and backwate The geomorphic potential of this sub-reach has been dramatically compromised by historic and current development constraining the historic channel migration zone. Our project creates 0.4 miles of new alcove side channel habitat in an area currently lost to natural riverine processes using existing groundwater.
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 M2 WDFW Obanion	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 miles	Per 2012 LF: M2 Obanion: Habitat complexity, floodplain rehabilitation, off channel reconnection project on WDFW lands at RM 46.75. " + Realign, Connect, and/or Create Channel- 8.5 acres + Enhance Floodplain/Remove, Modify, Breach Dike" PLANNED IN 2009, formerly remove, modify breach dike
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 1890s Side Channel Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.8 miles	Per 2012 LF: 890s Side Channel Project: 0.8 miles channel reconnect, 10 instream structures installed, 5 pools created, 6 riparian acres & 6 wetland acres treated/restoredWe will add perennial flow into 0.8 miles of a large disconnected side channel of the Methow River where roads and development have isolated the channel from the river at moderate river stages, allowing it to fill in over time with fine sediments conveyed during high water events. We will use a groundwater gallery to passively convey Methow River hyporehic flow into the head of an enhanced sidechannel in the existing filled in channel alignment. We will deepen the e The geomorphic potential of this sub-reach has been dramatically compromised by historic and current development constraining the historic channel migration zone. Our project creates 0.8 miles of new alcove side channel habitat in an area currently lost to natural riverine processes using existing groundwater resources that provide high quality temperat
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2012 M2 Whitefish	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	M2 Whitefish: 50 structuresHabitat complexity, floodplain rehabilitation, off channel reconnection project on private lands at RM 48.8.
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2013 M2 WDFW Obanion	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 miles	M2 Obanion: 23 structuresHabitat complexity, floodplain rehabilitation, off channel reconnection project on WDFW lands at RM 46.75. " + Realign, Connect, and/or Create Channel- 8.5 acres + Enhance Floodplain/Remove, Modify, Breach Dike" PLANNED IN 2009, formerly remove, modify breach dike
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2012 M2 RM46	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	
Upper Columbia Steelhead	Methow River	MES9B	Upper-Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2015 Fender Mill Side Channel Restoration	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.5 miles (3 acres)	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	7.2: Sediment Conditions: Increased Sediment Quantity	2015 Cub Creek Road Decommission (Lower Cheuch River WA)	33. Decommission Road/Relocate Road	1394. # of miles of road improved or decommissioned in a riparian area	2 miles	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	9.2: Water Quantity: Decreased Water Quantity	2015 Methow-Chewuch Groundwater Evaluation	164. Acquire Water Instream	1438. # of miles of primary stream reach improvement	0.9 miles	Confirm LF and metric
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	9.2: Water Quantity: Decreased Water Quantity	2015 Chewuch River Instream Flow Project (TU)	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	0.5 cfs	Updated 2/9/16mh
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2014 M2 3R Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.38 miles	
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 M2 3 R	180. Enhance Floodplain/Remove, Modify, Breach Dike	1403. # of riparian acres treated	.2 side channel miles	
Upper Columbia Steelhead	Methow River	MES9B	Upper-Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	2015 Fender Mill Side Channel Restoration	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.5 miles (3 acres)	
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	2014 Twisp River Riparian protection	40. Install Fence	1401. # of miles of fence installed in a riparian area	0.5-1 miles (>20 acres)	
Upper Columbia Steelhead	Methow River	MES5B	Libby Creek	4.1: Riparian Condition: Riparian Vegetation	*Check location* 2014 Libby Creek Riparian Planting & Fencing	47. Plant Vegetation	1403. # of riparian acres treated	1-5 acres	
Upper Columbia Steelhead	Methow River	MES5B	Libby Creek	4.1: Riparian Condition: Riparian Vegetation	*Check both Project LOCATION (AU?) and Metric!* 2014 Libby Creek (Or Lower Twisp?) exclusion fence	40. Install Fence	1401. # of miles of fence installed in a riparian area	1 mile	
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	9.2: Water Quantity: Decreased Water Quantity	2015 Chewuch River No.3 permanent flow enhancement	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	9.5 cfs	Updated metric 2/9/16mh
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	4.1: Riparian Condition: Riparian Vegetation	2013 YN Old Schoolhouse FEP	47. Plant Vegetation	1515. # of acres of upland non-wetland habitat treated	1.0 mile	Added action 2/9/16mh - 8 acres
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	6.1: Channel Structure and Form: Bed and Channel Form	2013 YN Old Schoolhouse Habitat Improvement Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	6.2: Channel Structure and Form: Instream Structural Complexity	2013 Old Schoolhouse FEP	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.9miles - 12 structures	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	2012 Twisp Ponds Left Bank Riparian Plantings	47. Plant Vegetation	1403. # of riparian acres treated	1.5 acres	Added per revised data 2/9/16mh
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	6.1: Channel Structure and Form: Bed and Channel Form	2012 Twisp Ponds Left Bank Large Wood Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Twisp Ponds Left Bank Large Wood Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	3 structures	Added project 2/9/2016mh
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	4.1: Riparian Condition: Riparian Vegetation	Twisp River Cattle Exclusion Fence Project	40. Install Fence	1488. # of river miles treated	6.7 miles	Added project 2/9/16mh
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Eagle Rocks Large Wood Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.1 miles	Action added 2/9/16mh
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	8.1: Water Quality: Temperature	2014 1890s Side Channel Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.8 miles	Added to LF8.1 per revisions 2/9/16mh
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Two Channels Side Channel Restoration / LW Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	Added per UCHRP data revisions 2/9/16mh
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.2: Channel Structure and Form: Instream Structural Complexity	2013 Sugar Dike Large Wood Enhancement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.5 miles	Action added per UCHRP revised data 2/9/16mh

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Chewuch 8 Mile Ranch Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	8 structures	Added per UCHRP revisions 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	2012 Chewuch 8 Mile Ranch Project	47. Plant Vegetation	1403. # of riparian acres treated	7.70 acres	Added action per UCHRP revised action list 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	2012 Chewuch 8 Mile Ranch Project	40. Install Fence	1402. # of miles of fence installed in an upland area	0.75 miles	Action added 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Chewuch RM 10 Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	7 structures	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2012 Chewuch RM 10 Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.2 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	2012 Chewuch RM 10 Project	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	1 structure	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	2013 Chewuch R. RM 11.75-13 river-left Fish Enhancement Project	47. Plant Vegetation	1403. # of riparian acres treated	0.1 acres	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 Chewuch R. RM 11.75-13 river-left Fish Enhancement Project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.1 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	2013 Chewuch R. RM 11.75-13 river-left Fish Enhancement Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.6 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2013 Chewuch R. RM 11.75-13 river-left Fish Enhancement Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.6 miles	Added Action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2015 Chewuch River Right	30. Realign, Connect, and/or Create Channel	1473. # of acres of wetland affected by treatment	0.5 acres	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	2015 Chewuch River Right	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.5 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2015 Chewuch River Right	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.2 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	8.1: Water Quality: Temperature	2015 Chewuch River Right	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.5 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.1: Channel Structure and Form: Bed and Channel Form	2015 Chewuch RM13-15.5	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	2.5 miles	Added action 2/9/2016
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	6.2: Channel Structure and Form: Instream Structural Complexity	2015 Chewuch RM13-15.5	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	2.5 miles	Added action 2/9/16mh
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	6.2: Channel Structure and Form: Instream Structural Complexity	2013 MSRF Upper Beaver Creek	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.4 miles	
Upper Columbia Steelhead	Methow River	MES1	Beaver Creek	8.1: Water Quality: Temperature	2013-2015 Upper Beaver Creek 1,2,3 Late Season in-stream flow	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	2.08 cfs	Added during EP LB 2015. -MAH2.25.16
Upper Columbia Steelhead	Methow River	MES8	Lower Twisp	8.1: Water Quality: Temperature	2013 Twisp River Point of Diversion Change/ Instream flow enhancement (#02-LTW-2011-1)	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	4.0 cfs	Notes: Up to 4.5cfs, but actual benefit from diversion removal is likely 4.0cfs. -MAH2.25.2016
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	2012 M2 RM46	180. Enhance Floodplain/Remove, Modify, Breach Dike	1403. # of riparian acres treated	0.05 miles	
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2012 Whitefish Island	30. Realign, Connect, and/or Create Channel	1473. # of acres of wetland affected by treatment	0.3 mile	added to steelhead from Chinook 5.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	2014 M2 3R Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 mile	added to steelhead from Chinook 6.1 as per EP lookback 2.25.16 EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	2013 M2 WDFW Obanion			0.3 mile	added to steelhead from Chinook 6.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	2012 M2 RM 46	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.4 mile	added to steelhead from Chinook 6.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	6.1: Channel Structure and Form: Bed and Channel Form	012 Whitefish Island			0.2 mile	added to steelhead from Chinook 6.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	8.1: Water Quality: Temperature	2014 M2 3R	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.06 mile	added to steelhead from Chinook 8.1 as per EP lookback 2.26.16. EWL
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	8.1: Water Quality: Temperature	2012 Whitefish Island	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.3 mile	added to steelhead from Chinook 8.1 as per EP lookback 2.25.16. EWL
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	Pete Creek (2013)	47. Plant Vegetation		0.17 stream miles	added as per Expert Panel, June 2016
Upper Columbia Steelhead	Methow River	MES6	Lower Chewuch	4.1: Riparian Condition: Riparian Vegetation	Chewuch RM 10 (2012)	47. Plant Vegetation		0.1 stream miles	added as per Expert Panel June 2016
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	Whitefish Island (2012)	47. Plant Vegetation		0.71 stream miles	added during June 2016 Expert Panel meeting
Upper Columbia Steelhead	Methow River	MES9A	Middle Methow	4.1: Riparian Condition: Riparian Vegetation	M2 3R (2014)	47. Plant Vegetation			0.2 added during June 2016 expert panel meeting
Upper Columbia Steelhead	Methow River	MES9B	Upper-Middle Methow	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	Fender Mill Side Channel Restoration (2015) - Stansbury flow improvement			0.2 side channel miles	added during June 2016 expert panel meeting
Upper Columbia Steelhead	Methow River	MES12	Upper Twisp	6.2: Channel Structure and Form: Instream Structural Complexity	Scaffold Camp Giant Spruce Protection (2014)	29. Increase Aquatic and/or Floodplain Complexity		0.1 stream miles	added during June 2016 expert panel meeting

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	6.2: Channel Structure and Form: Instream Structural Complexity	2015 YN Upper White Pine Reach Restoration, Sites 3-4	47. Plant Vegetation	1406. # of riparian miles treated	0.7 miles	
Upper Columbia Steelhead	Wenatchee River	WES10	White	6.2: Channel Structure and Form: Instream Structural Complexity	While River LWD Atonement Project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.7 miles	BPA funding support of design team
Upper Columbia Steelhead	Wenatchee River	WES5	Lower Wenatchee	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 Lower Wenatchee IF Enhancement: replace a 15 CFS surface diversion with a pump back system, improve side channel habitat	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.65 miles	Per 2012 LF: 0.45 mi, Project identified in 2009, still in progress.
Upper Columbia Steelhead	Wenatchee River	WES2	Chumstick	1.1: Habitat Quantity: Anthropogenic Barriers	Upper Chumstick Barriers - Removal of 4 barrier culverts in 2012; Ott, Baumann, Cann, and Saliby (2013), providing 1.8 miles of passage on Chumstick Creek	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1.8 miles	Per 2012 LF: Saliby only a partial barrier but improves passage for 4 miles
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	6.1: Channel Structure and Form: Bed and Channel Form	2013 YN First Bend project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.13 miles	
Upper Columbia Steelhead	Wenatchee River	WES5	Lower Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	2012 Sunnyslope EUJ	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.15 miles	Per 2012 LF: We will construct 6 large woody material structures in the flood plain adjacent to the Wenatchee river. As the river continues to erode the stream bank, the wood will come in contact with the river producing instream habitat complexity. The site will be revegetated with native riparian species for future ecological benefit.Approximately 45 logs, greater than 18 inches DBH, will be used in each of the six large woody material structures. Once exposed by the Wenatchee river, the structures could scour holes upto eight feet deep and will provide cover habitat. In addition the native riparian restoration will provide future ecological benefit.
Upper Columbia Steelhead	Wenatchee River	WES5	Lower Wenatchee	9.2: Water Quantity: Decreased Water Quantity	2013 Lower Wenatchee IF Enhancement: replace a 15 CFS surface diversion, improve side channel habitat; dam removal on side channel	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	15 cfs	Per 2012 LF: 7.5 mi, Project identified in 2009, still in progress.
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2015 YN Upper White Pine Reach Restoration, Sites 3-4	47. Plant Vegetation	1406. # of riparian miles treated	0.38 miles	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2012 Lower White Pine: Reconnect Nason Creek to tributaries and habitat cut off by BNSF	30. Realign, Connect, and/or Create Channel	1518. # of acres of riparian wetland habitat treated	1 mile	per 2012 LF: 1.7miles, includes all of DIZ-2 and DOZ-4 and half of both DIZ-1 and DOZ-2. barrier removal (85) applies to Roaring and Coulter creeks. Previously identified in 2009, still in progress +1.75 mi access from breaching levee +64 wetland acres enhanced +26 riparian acres enhanced BELONGS IN LF 1.1 BUT ACCESS (LF 1.1) IS NOT A RECOGNIZED PRIMARY LF FOR THIS AU-EP WILL NEED TO EVALUATE THE BENEFITS OF THIS ACTION RELATED TO THE PRIMARY LFs
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Nason Creek RM 4.6	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.06 miles	Changed metric from 0.7m to 0.06miles for this LF during 2015 LB EP. -MAH2.24.16
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	6.2: Channel Structure and Form: Instream Structural Complexity	2013 YN First Bend project	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.16 miles	Per 2012 LF: Nason LWP 1st Bend: We will reactivate a historic alignment of Nason Creek. We will add large woody material along an eroding bank within the current alignment, in order reudce sheer stress, and we will revegetate the bank with native plant species. In addition, large woody material structures will be placed to stabilize the new alignment and improve fish habitat allowing the riparian vegetation an opportunity to establish. Retaining an existing natural log jam at this site will be accomplished. 0.1 miles of realigned Nason Ck, 0.4 miles of off-channel and in-channel habitat wood placement, 3.30 riparian acres restored.
Upper Columbia Steelhead	Wenatchee River	WES8	Peshastin	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2012 YN Peshastin RM 0.8	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	.2 miles (3 acres)	Per 2012 LF: YN will modify and enhance an existing side channel on Peshastin Creek to provide high-quality habitat for listed fish species. The project will involve removing a 48 inch culvert at the upstream end of an existing side channel, modifying the levee and excavating the 735-foot long side channel to accommodate increased flow. Seven log structures will also be constructed as part of this Project. Log structures are planned at both the inlet and outlet of the new side channel. Seven log structures will also be constructed as part of this Project. Log structures are planned at both the inlet and outlet of the new side channel, as well as scattered along the length of the side channel. Streambed material will be augmented to provide stable material under a re-connected hydrologic regime, and log structures will be built to maintain channel position and create habitat throughout the channelâ€™s length
Upper Columbia Steelhead	Wenatchee River	WES8	Peshastin	6.2: Channel Structure and Form: Instream Structural Complexity	2012 YN Peshastin RM 0.8	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	7 structures	Per 2012 LF: YN will modify and enhance an existing side channel on Peshastin Creek to provide high-quality habitat for listed fish species. The project will involve removing a 48 inch culvert at the upstream end of an existing side channel, modifying the levee and excavating the 735-foot long side channel to accommodate increased flow. Seven log structures will also be constructed as part of this Project. Log structures are planned at both the inlet and outlet of the new side chan. Seven log structures will also be constructed as part of this Project. Log structures are planned at both the inlet and outlet of the new side channel, as well as scattered along the length of the side channel. Streambed material will be augmented to provide stable material under a re-connected hydrologic regime, and log structures will be built to maintain channel position and create habitat throughout the channelâ€™s length
Upper Columbia Steelhead	Wenatchee River	WES9B	Upper Wenatchee	4.1: Riparian Condition: Riparian Vegetation	2014 Beaver Creek Well conversion: Replaces a surface diversion with wells	47. Plant Vegetation	1406. # of riparian miles treated	0.1 mile	Per 2012 LF: water savings estimated at .5-.75 cfs, project also eliminates a source of entrainment.
Upper Columbia Steelhead	Wenatchee River	WES9B	Upper Wenatchee	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Beaver Creek Well conversion: Replaces a surface diversion with wells, restore riparian vegetation	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.1 miles	Per 2012 LF: water savings estimated at .5-.75 cfs, project also eliminates a source of entrainment. 2.5 miles, but Panel determined 0.1 miles.
Upper Columbia Steelhead	Wenatchee River	WES9B	Upper Wenatchee	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Beaver Creek Well conversion: Replaces a surface diversion with wells	82. Install Well	1438. # of miles of primary stream reach improvement	2.5 miles	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Lower White Pine	180. Enhance Floodplain/Remove, Modify, Breach Dike	1403. # of riparian acres treated	1.5 miles	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Coulter Creek Culvert	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1.6 miles	2015 LB EP: This was a partial barrier to steelhead only, upstream of chinook use. -MAH 2.24.2016
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	2015 Nason Creek UWP Horseshoe Bend Acquisitions	5. Land Purchase and/or Conservation Easement	1380. # of riparian acres protected	10.3 acres	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	2015 Nason Creek RM1.8-2.4 Protection: Grant PUD Acquisition	5. Land Purchase and/or Conservation Easement	1380. # of riparian acres protected	63 acres	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	2015 Lower Nason Creek MC Protection	5. Land Purchase and/or Conservation Easement	1380. # of riparian acres protected	10 acres	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	2014 CDLT Nason Creek Lower White Pine Alcove Acquisition	5. Land Purchase and/or Conservation Easement	1380. # of riparian acres protected	5-20 acres	
Upper Columbia Steelhead	Wenatchee River	WES9B	Upper Wenatchee	6.2: Channel Structure and Form: Instream Structural Complexity	2015 Natapoc Project Wenatchee River RM 51.7	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.17 mile	
Upper Columbia Steelhead	Wenatchee River	WES2	Chumstick	4.1: Riparian Condition: Riparian Vegetation	2015 Chumstick Creek RM8.5 Riparian planting	47. Plant Vegetation	1406. # of riparian miles treated	0.3 mile	
Upper Columbia Steelhead	Wenatchee River	WES2	Chumstick	9.2: Water Quantity: Decreased Water Quantity	2014 Chumstick Creek flow	164. Acquire Water Instream	1452. Amount of water secured in acre-feet/year	18 acre-feet / approx. 0.06 CFS (5 months of the year)	
Upper Columbia Steelhead	Wenatchee River	WES9B	Upper Wenatchee	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Beaver Creek Fish Passage and Instream Flow Enhancement	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	0.5 cfs	
Upper Columbia Steelhead	Wenatchee River	WES6	Mission	4.1: Riparian Condition: Riparian Vegetation	2015 Cashmere Mill Sites on Bender Creek	47. Plant Vegetation	1406. # of riparian miles treated	0.34 miles	

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Wenatchee River	WES6	Mission	4.1: Riparian Condition: Riparian Vegetation	2014 Cashmere Growers League on Brender Creek	47. Plant Vegetation	1406. # of riparian miles treated	0.03 mile	
Upper Columbia Steelhead	Wenatchee River	WES8	Peshastin	4.1: Riparian Condition: Riparian Vegetation	2014 Peshastin Road Decommissioning - Tronsen Creek	33. Decommission Road/Relocate Road	1394. # of miles of road improved or decommissioned in a riparian area	> 1 mile	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 YN First Bend project	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.13 miles	Added to LF5.1 2/9/16mh
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	4.1: Riparian Condition: Riparian Vegetation	2013 YN First Bend project	47. Plant Vegetation	1406. # of riparian miles treated	0.13 miles	Added to LF4.1 on 2/9/16mh
Upper Columbia Steelhead	Wenatchee River	WES8	Peshastin	1.1: Habitat Quantity: Anthropogenic Barriers	2012 YN Peshastin Fishway Repairs	186. Operate and Maintain Habitat/Passage/Structure	1731. # of miles of streambank protected by fence maintenance	0.06 miles** (*YN/Brandon need to provide Action details so EP can determine uplift)	Added per UCHRP revisions on 2/9/16mh. No LF2.3 in this AU, added to LF1.1 instead.
Upper Columbia Steelhead	Wenatchee River	WES2	Chumstick	8.1: Water Quality: Temperature	2014 Chumstick Creek flow	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	0.06 CFS (5 months/year)	
Upper Columbia Steelhead	Wenatchee River	WES7	Nason	6.1: Channel Structure and Form: Bed and Channel Form	2014 Nason Creek RM 4.6	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.06 miles	

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Upper Columbia Steelhead	Okanogan River	ORS3C	Okanogan River 04 (Riverside to Janis Bridge)	2.3: Injury and Mortality: Mechanical Injury	2015 Irrigation Diversion Screening: 15 screens	84. Remove/Install Diversion	1480. # of screens addressed	15 screens	
Upper Columbia Steelhead	Okanogan River	ORS3D	Okanogan River 05 (Janis to Siwash Creek)	2.3: Injury and Mortality: Mechanical Injury	2015 Irrigation Diversion Screening: Installed 1 screen	84. Remove/Install Diversion	1480. # of screens addressed	1 screen	LF 2012 anticipated 5 screens
Upper Columbia Steelhead	Okanogan River	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2013 Conservancy Island Side Channel Reconnection (RM 29)	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.85 miles	Reconnect side channel to the mainstem Okanogan River. Some cold water refugia identified within side channel. Per 2012 LF: \$200,000, UC Salmon Recovery Plan. Reconnect 4350ft of sidechannel and there is coldwater input. This cold water could allow cold water refugia addressing the temperature limiting factor.
Upper Columbia Steelhead	Okanogan River	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	5.1: Peripheral and Transitional Habitats: Side Channel and Wetland Conditions	2014 Conservancy Island Side Channel Reconnection (RM 29)	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.28 miles	Reconnect side channel to the mainstem Okanogan River. For off channel refugia. Per 2012 LF: \$200,000, UC Salmon Recovery Plan. Reconnect 4350ft of sidechannel and there is coldwater input. This cold water could allow cold water refugia addressing the temperature limiting factor.
Upper Columbia Steelhead	Okanogan River	ORS3C	Okanogan River 04 (Riverside to Janis Bridge)	5.2: Peripheral and Transitional Habitats: Floodplain Condition	2014 Peterson Sidechannel (RM 42)	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.3 miles	Per 2012 LF: Small part of total reach length. Monitoring will provide insight on benefits. Final value will be evaluated considering supplemental info tbd- also potential benefit to 5.1 tbd later Small part of total reach length. Monitoring will provide insight on benefits. Final value will be evaluated considering supplemental info tbd- also potential benefit to 5.1 tbd later. : Relic sidechannel groundwater fed. This is a terminal sidechannel with a downstream connection to the Okanogan river. Side channel serves as high water refugia for outmigrants
Upper Columbia Steelhead	Okanogan River	ORS4B	Upper Omak Creek (Upstream from Mission Falls)	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Mission Falls - RM 5.1: 12% gradient over an 1/8 mile. High gradient and high velocity. This project removed debris and install step pool to facilitate fish passage.	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	17 miles	
Upper Columbia Steelhead	Okanogan River	ORS2A	Wells Pool (Inundated-Confluence to Chilliwist Creek)	2.3: Injury and Mortality: Mechanical Injury	2015 Irrigation Diversion Screening	84. Remove/Install Diversion	1480. # of screens addressed	31 screens	
Upper Columbia Steelhead	Okanogan River	ORS2B	Okanogan River 01 (Chilliwist to Salmon)	2.3: Injury and Mortality: Mechanical Injury	2015 Irrigation Diversion Screening	84. Remove/Install Diversion	1480. # of screens addressed	9 screens	Per 2012 LF: Washington Dept of Fish and Wildlife study
Upper Columbia Steelhead	Okanogan River	ORS3A	Okanogan River 02 (Salmon Creek to Omak Creek)	2.3: Injury and Mortality: Mechanical Injury	Irrigation Diversion Screening: 1 screen	84. Remove/Install Diversion	1480. # of screens addressed	1 screen	
Upper Columbia Steelhead	Okanogan River	ORS3B	Okanogan River 03 (Omak to Riverside)	2.3: Injury and Mortality: Mechanical Injury	Irrigation Diversion Screening: 12 screens	84. Remove/Install Diversion	1480. # of screens addressed	12 screens	
Upper Columbia Steelhead	Okanogan River	ORS4B	Upper Omak Creek (Upstream from Mission Falls)	7.2: Sediment Conditions: Increased Sediment Quantity	2013 Livestock Management: 2 miles of fencing to keep the livestock out of Omak creek	40. Install Fence	1401. # of miles of fence installed in a riparian area	2 miles	1/2 miles of stream treated, prorated 10%
Upper Columbia Steelhead	Okanogan River	ORS4B	Upper Omak Creek (Upstream from Mission Falls)	7.2: Sediment Conditions: Increased Sediment Quantity	2012 Bank Stabilization and erosion abatement through in-stream structures	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	3 log structures	0.05 miles treated, 75% proration
Upper Columbia Steelhead	Okanogan River	ORS5A	Lower Salmon Creek (OID to Mouth)	9.2: Water Quantity: Decreased Water Quantity	US ORS5B flow	164. Acquire Water Instream	1452. Amount of water secured in acre-feet/year	1200 acft/year	Updated 11/18/15: Upper Salmon Cr. OR55B project= 1200 acre feet/year-605 CFS/year. ((Comment from 2012 LF: same status as Upper SALmon (5B))-
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	7.2: Sediment Conditions: Increased Sediment Quantity	2014 Messinger: Sediment abatement, flood plain activation and in stream wood structure	29. Increase Aquatic and/or Floodplain Complexity		150 feet of streambank stabilized	
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	9.2: Water Quantity: Decreased Water Quantity	Ongoing Water lease from BOR and OID - 605 CFS/ year. 1200 acre ft/year	164. Acquire Water Instream	1452. Amount of water secured in acre-feet/year	1200 acre ft / year	
Upper Columbia Steelhead	Okanogan River	ORS7D	Aeneas Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2012 Breach of remnant fish passage obstructions	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.74 miles	
Upper Columbia Steelhead	Okanogan River	ORS7I	Wild Horse Spring Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Wild Horse Spring Creek Culvert Replacement (RM .5?)	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.15 miles	
Upper Columbia Steelhead	Okanogan River	ORS8A	Okanogan River 06 (Siwash to Confluence with Similkameen)	2.3: Injury and Mortality: Mechanical Injury	2015 Diversion Screening: Installed 7 screens to meet current standards	84. Remove/Install Diversion	1480. # of screens addressed	7 screens	
Upper Columbia Steelhead	Okanogan River	ORS7K	Nine Mile Creek	9.2: Water Quantity: Decreased Water Quantity	2012 Point of diversion change to ground water source	164. Acquire Water Instream	1453. Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	2 cfs / 180 days per year	
Upper Columbia Steelhead	Okanogan River	ORS4B	Upper Omak Creek (Upstream from Mission Falls)	7.2: Sediment Conditions: Increased Sediment Quantity	2013 Livestock Management: 3 springs to water livestock	34. Develop Alternative Water Source	1569. # of alternate water sources installed	3 springs	
Upper Columbia Steelhead	Okanogan River	ORS5A	Lower Salmon Creek (OID to Mouth)	6.2: Channel Structure and Form: Instream Structural Complexity	2013 Instream structures	29. Increase Aquatic and/or Floodplain Complexity		0.038	maximize steelhead utilization by watering at critical time of year for migration
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Messinger-Sediment abatement/flood plain inundation/LWD	29. Increase Aquatic and/or Floodplain Complexity	1388. # of structures installed	750 feet	
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	6.2: Channel Structure and Form: Instream Structural Complexity	2014 Knutson - bioengineering	180. Enhance Floodplain/Remove, Modify, Breach Dike	1518. # of acres of riparian wetland habitat treated	200 feet	
Upper Columbia Steelhead	Okanogan River	ORS7G	Lower Antoine Creek (Mouth to Rock chute)	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Culvert removal (impediment not barrier) and replacement with Bridge	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1 miles	
Upper Columbia Steelhead	Okanogan River	ORS7I	Wild Horse Spring Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2013 Culvert removal (impediment not barrier) and replacement with Bridge	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.35 miles	
Upper Columbia Steelhead	Okanogan River	ORS7K	Nine Mile Creek	1.1: Habitat Quantity: Anthropogenic Barriers	2012 Culvert removal (impediment not barrier) and replacement with Bridge	184. Install Fish Passage Structure	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	2 miles	
Upper Columbia Steelhead	Okanogan River	ORS1	Loup Loup Creek	9.2: Water Quantity: Decreased Water Quantity	Ongoing Loup Loup Water Lease	164. Acquire Water Instream	1452. Amount of water secured in acre-feet/year	4.01 acre feet/year	
Upper Columbia Steelhead	Okanogan River	ORS5A	Lower Salmon Creek (OID to Mouth)	6.2: Channel Structure and Form: Instream Structural Complexity	2015 Salmon creek floodplain development and bank protection	180. Enhance Floodplain/Remove, Modify, Breach Dike		0.2 miles	prorated 75% PFC
Upper Columbia Steelhead	Okanogan River	ORS7G	Lower Antoine Creek (Mouth to Rock chute)	1.1: Habitat Quantity: Anthropogenic Barriers	2015 Antoine Creek mouth weirs	184. Install Fish Passage Structure	1563. # of barriers in the freshwater zone	3 structures	1 mile to culvert
Upper Columbia Steelhead	Okanogan River	ORS4A	Lower Omak Creek (Mouth to Mission Falls)	6.2: Channel Structure and Form: Instream Structural Complexity	2015 Omak Creek pool creation	29. Increase Aquatic and/or Floodplain Complexity		0.04 miles	prorated 75%
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	6.1: Channel Structure and Form: Bed and Channel Form	Salmon Creek-McCormick off-channel spring development	30. Realign, Connect, and/or Create Channel	1476. # of stream miles after treatment	0.028	
Upper Columbia Steelhead	Okanogan River	ORS5B	Upper Salmon Creek (OID to Conconully Dam)	7.2: Sediment Conditions: Increased Sediment Quantity	2014 Knutson - bioengineering			200 feet	
Upper Columbia Steelhead	Okanogan River	ORS7H	Upper Antoine Creek (Rocks to Fancher Dam)	1.1: Habitat Quantity: Anthropogenic Barriers	2014 Antoine Creek Diversion and Passage	84. Remove/Install Diversion	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	4.35 miles	
Upper Columbia Steelhead	Okanogan River	ORS7H	Upper Antoine Creek (Rocks to Fancher Dam)	7.2: Sediment Conditions: Increased Sediment Quantity	2013 Antoine Creek Exclusion fencing	40. Install Fence		0.75 miles	both sides of stream. Prorated 75%
Upper Columbia Steelhead	Okanogan River	ORS7H	Upper Antoine Creek (Rocks to Fancher Dam)	7.2: Sediment Conditions: Increased Sediment Quantity	2014: Antoine Corral Relocation			1 mile	