

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
Snake River Steelhead	Tucannon River	TUS1C	Pataha	1.1: Habitat Quantity: Anthropogenic Barriers	Pataha Creek Fish Passage Rectification - 2 Barriers in 40-mile removed, Columbia Center NPT (2012)	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	6 miles* **VERIFY	*Updated barrier location and metric per EP Lookback 10/28/15. Original text: Barrier Removal: 2 barriers to passage removed opening 46 miles (2012)
Snake River Steelhead	Tucannon River	TUS1C	Pataha	1.1: Habitat Quantity: Anthropogenic Barriers	Pataha Culverts USFS - Barrier Removal: 2 barrier removed at Delaney (CTUIR) RM-1 and Dodge (CTUIR) RM-14, 46 total miles opened to RM-46 (2014)	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	46 miles	*Updated barrier locations based on EP Lookback 10/28/15. Original Text: Pataha Culverts USFS - Barrier Removal: 2 barrier removed and 3.9 miles opened (2014)
Snake River Steelhead	Tucannon River	TUS1C	Pataha	1.1: Habitat Quantity: Anthropogenic Barriers	Pataha Culverts USFS - Barrier Removal: 2 barrier removed at Delaney (CTUIR) RM-1 and Dodge (CTUIR) RM-14, 46 total miles opened to RM-46 (2014)	85. Remove/Breach Fish Passage Barrier	1563. # of barriers in the freshwater zone	2 barriers	*Updated barrier locations based on EP Lookback 10/28/15. Original Text: Pataha Culverts USFS - Barrier Removal: 2 barrier removed and 3.9 miles opened (2014)
Snake River Steelhead	Tucannon River	TUS1B	Lower Tucannon - Mouth to Pataha	4.1: Riparian Condition: Riparian Vegetation	Riparian Planting (Reach 2 Project Area 40 (Tucannon Ranch Habitat Improvement) (#35-TU 13-1391)): 5.54 acres Planted over 0.24 miles and 2,600 stems (2014)	47. Plant Vegetation	1403. # of riparian acres treated	5.54 acres	
Snake River Steelhead	Tucannon River	TUS1B	Lower Tucannon - Mouth to Pataha	5.2: Peripheral and Transitional Habitats: Floodplain Condition	Tucannon Ranch Levee Setback	30. Realign, Connect, and/or Create Channel	1754. # of miles of side channel created in the freshwater non-tidal zone	0.64 miles	2014 Field Survey SRSRB CCD.
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	1.1: Habitat Quantity: Anthropogenic Barriers	PA-1 - Fish Passage: Panjab Bridge Rock Weir back watered (2014)	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	16.09 miles	The rock weir built to protect the bridge was backwatered to eliminate drop.
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-1 - Enhance Floodplain Connectivity	180. Enhance Floodplain/Remove, Modify, Breach Dike	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.59 miles	Entire project length 0.59 miles
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-1 - Main Channel LWD Placement: Miles of Stream Treated for Channel Structure Placement 0.81 (includes main and side channel), with 51 structures placed using 231 key pieces (>6m long and 0.30 cm dia), 0.59 main channel and 0.22 in side channel (2014)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.59 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-3 - LWD Placement: 1.36 miles of stream treated with LWD placing 324 logs (>6m long &0.3cm Dia) into 46 LWD structures and single log configurations (2014)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.36 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-14 Riparian Planting: 9.73 acres replanted with trees and shrubs (2014)	47. Plant Vegetation	1403. # of riparian acres treated	9.73 acres	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-14 - LWD Placement: 1.64 miles of stream treated with LWD placing 712 logs (>6m long &0.3cm Dia) into 87 LWD structures and single log configurations (2014)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.64 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-14 - Enhance Floodplain Connectivity	180. Enhance Floodplain/Remove, Modify, Breach Dike	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1.64 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-15 - Riparian Planting: 8.1 acres along 0.63 miles of stream. Riparian planting with trees and shrubs (2014)	47. Plant Vegetation	1403. # of riparian acres treated	8.1 acres	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-1 - Riparian Planting	47. Plant Vegetation	1403. # of riparian acres treated	2 acres	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-15 - Enhance Floodplain Connectivity	180. Enhance Floodplain/Remove, Modify, Breach Dike	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.63 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-15 - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.63 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-22 LWD - Riparian Planting: 415 stems planted on 2 ac along 0.7 miles (2014)	47. Plant Vegetation	1403. # of riparian acres treated	2 acres	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-3 Large Wood Placement	47. Plant Vegetation	1403. # of riparian acres treated	1 acre	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-22 LWD - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.01 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-10 Big-4 to Beaver Watson - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.56 miles	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-10 Big-4 to Beaver Watson - Enhance Floodplain Connectivity	180. Enhance Floodplain/Remove, Modify, Breach Dike	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	1.56 miles	2012
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-23 - Main Channel LWD Placement: Treatment of 0.98 miles with LWD. EST 12 structures with 36 key pieces (>6 m long .3cm dia) (2015)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.98 miles	2015 Field measurements
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-23 - Levee Removal	180. Enhance Floodplain/Remove, Modify, Breach Dike	1730. # of miles of dike removed or treated	0.98 miles	estimated from asbuilt
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-24 - Enhance Main Channel Form: Modify channel bed and improve bed form 0.86 miles treated with wood structures to drive channel form. Creating 0.32 new side channels and enhancing 0.13 miles. (2015)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.86 miles	2015 field measuments
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-24 - Main Channel LWD Placement: place LWD over 0.86 miles of river habitat in 28 structures and 33 single log configurations with 498 logs (2015)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.86 miles	2015 field measurements
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-11 - Side Channel Enhancement	30. Realign, Connect, and/or Create Channel	1752. # of miles of side channel treated in the freshwater non-tidal zone	1.56 miles	2015 field measurements
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-11 - Main Channel Habitat Creation: create and maintain bed form on 1.56 mi of river channel (2015)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.56 miles	2015 field measurements
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-11 - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.56 miles	2015 field measurements
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-24 - Enhance Side Channel	30. Realign, Connect, and/or Create Channel	1754. # of miles of side channel created in the freshwater non-tidal zone	0.86 miles	2015 field measuments
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	5.2: Peripheral and Transitional Habitats: Floodplain Condition	PA-3 - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.36 miles	*Action credited to LF 5.2 at EP Lookback 10/28/15. Added 11/2. -MAH
Snake River Steelhead	Tucannon River	TUS1C	Pataha	1.1: Habitat Quantity: Anthropogenic Barriers	Pataha Creek Fish Passage Rectification - 2 Barriers in 40-mile removed, Columbia Center NPT (2012)	85. Remove/Breach Fish Passage Barrier	1563. # of barriers in the freshwater zone	2 barriers	Added per EP Lookback 10/28/15.
Snake River Steelhead	Tucannon River	TUS1B	Lower Tucannon - Mouth to Pataha	6.1: Channel Structure and Form: Bed and Channel Form	Tucannon Ranch Levee Removal	30. Realign, Connect, and/or Create Channel	1752. # of miles of side channel treated in the freshwater non-tidal zone	0.64 miles	Credited to LF 6.1 and 6.2 at EP Look back 10/28/2015 then revised 7/20/2016.
Snake River Steelhead	Tucannon River	TUS1B	Lower Tucannon - Mouth to Pataha	6.2: Channel Structure and Form: Instream Structural Complexity	Tucannon Ranch Levee Removal	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.64 miles	Credited to LF 6.1 and 6.2 at EP lookback 10/28/15
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-1 - Fish Passage: Panjab Bridge Rock Weir back watered (2014)	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	0.59 miles	Added per EP LB 11/10/15. -mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-3 - LWD Placement: 1.36 miles of stream treated with LWD placing 324 logs (>6m long &0.3cm Dia) into 46 LWD structures and single log configurations (2014)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.36 miles	Added per EP LB. 11/10/15 - mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-10 Big-4 to Beaver Watson	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.56 miles	Added per EP LB 11/10/15. -mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-14 - LWD Placement: 1.64 miles of stream treated with LWD placing 712 logs (>6m long &0.3cm Dia) into 87 LWD structures and single log configurations (2014)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.64 miles	Added per EP LB. 11/10/15 -mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-15 - LWD Placement	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.63 miles	Added per EP LB - 11/10/15. -mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-23 - Main Channel LWD Placement: Treatment of 0.98 miles with LWD. EST 12 structures with 36 key pieces (>6 m long .3cm dia) (2015)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.98 miles	Added per EP LB 11/10/15. -mh
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-23 Levee Removal	47. Plant Vegetation	1403. # of riparian acres treated	1 acre	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-11 Beaver Watson Lake to Deer Lake	47. Plant Vegetation	1403. # of riparian acres treated	5 acres	

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-24 Levee Removal	47. Plant Vegetation	1403. # of riparian acres treated	0.5 acre	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	4.1: Riparian Condition: Riparian Vegetation	PA-26	47. Plant Vegetation	1403. # of riparian acres treated	44.27 acres	
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-22 LWD	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	1.01 miles	Added per expert panel look back. Entered 8/31/2016 RM.
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.1: Channel Structure and Form: Bed and Channel Form	PA-26	85. Remove/Breach Fish Passage Barrier	1441. # of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	3.2 miles	Added per expert panel look back. Entered 8/31/2016 RM.
Snake River Steelhead	Tucannon River	TUS1A	Upper Tucannon - Pataha up to Panjab	6.2: Channel Structure and Form: Instream Structural Complexity	PA-26	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	3.2 miles	Added by expert panel look back and entered 7/20/2016.

ESU	Population	Code	Assessment Unit	2012 Standardized Limiting Factor	Action	Work Element	Metric	Metric Plan Value	Plan Comment
Snake River Steelhead	Asotin Creek	ACS1	Alpowa	6.2: Channel Structure and Form: Instream Structural Complexity	Upper Alpawa PALS (CCD with DOE Funding) (2014 and 2015)	29. Increase Aquatic and/or Floodplain Complexity		2.00 miles	The panel requested that the new calculation developed and calibrated for the look forward be adapted and used for the look back. This refined estimate belter accounts for the improvement in riparian function realized by 2018. Additionally the new calculator reflects a standardized denominator for Chinook domain. In 2015 one action was included in the look back. The panel also discussed "root matrix strength" and how that influenced support of new structures and overall effect. The system is spring fed, so although the channel may migrate it was not anticipated to happen in the near term. Based on the length treated the panel assigned a 7% uplift. The panel questioned whether the low bookend (35) was too high and based on that adjusted the 7% uplift to 5%. Taking into account the improvement in habitat function and realizing 100% function is not immediate the new calculator was used to estimate the uplift at 4.95%. Comment revised 7/20/2016.
Snake River Steelhead	Asotin Creek	ACS3	George Creek	4.1: Riparian Condition: Riparian Vegetation	Upper George Cr. Wildlife Area. 760-acres total; 1,500 feet fencing, weed control, 10 acres off planting, 0.1 miles of left streambank fencing.	40. Install Fence	1527. # of acres of riparian wetland habitat protected	10 acres	Added per EP LB 11/10/15 -mh
Snake River Steelhead	Asotin Creek	ACS3	George Creek	5.2: Peripheral and Transitional Habitats: Floodplain Condition	Lower George Creek - 0.75 miles of LWD, channel reconstruct. (Dave Karl project)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.75 miles	Added per EP LB 11/12/15 -mh
Snake River Steelhead	Asotin Creek	ACS3	George Creek	6.1: Channel Structure and Form: Bed and Channel Form	Lower George Creek - 0.75 miles of LWD, channel reconstruct. (Dave Karl project)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.75 miles	Added per EP LB -mh
Snake River Steelhead	Asotin Creek	ACS3	George Creek	6.2: Channel Structure and Form: Instream Structural Complexity	Lower George Creek - 0.75 miles of LWD, channel reconstruct. (Dave Karl project)	29. Increase Aquatic and/or Floodplain Complexity	1387. # of miles of stream with improved complexity	0.75 miles	Added per EP LB -mh
Snake River Steelhead	Asotin Creek	ACS3	George Creek	4.1: Riparian Condition: Riparian Vegetation	Lower George Cr. fencing and planting, 9 acres over 1 mile (x2 projects) = 2 miles	40. Install Fence	1401. # of miles of fence installed in a riparian area	2 miles	Added per EP LB -mh
Snake River Steelhead	Asotin Creek	ACS2	Asotin Creek	4.1: Riparian Condition: Riparian Vegetation	Charley Creek. 10,700 feet fencing both sides of stream over 1mile (livestock) and 27.7 acres of plantings. Asotin Conservation District	47. Plant Vegetation	1403. # of riparian acres treated	27.7 acres	Added per EP LB 11/12/15 -mh