

**RTT Biological Strategy Priorities**

Compiled from Appendix E page 9-14 and Tables E4, E5, E6, and E7- Citation: RTT (Regional Technical Team). 2013. A biological strategy to protect and restore salmonid habitat in the Upper Columbia Region. A Draft Report to the Upper Columbia Salmon Recovery Board. From The Upper Columbia Regional Technical Team. 52 pages plus appendices.

Assessment Unit	Priority Area Designation*	AU Restoration Priority	AU Protection Priority	Restoration Priority Action Type	Comments
<b>Wenatchee</b>					
Nason	Priority 2	1	1	Restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Various assessments have been completed (BOR 2009a, 2009b, 2009c). Some projects have been implemented (side channel reconnections) and various other projects are in development, with some soon to be implemented.
Upper Wenatchee	Priority 1	2	1	Increase LW retention and recruitment to increase complexity in a manner that is consistent with natural channel structure and function.	An assessment was recently completed (Inter-fluve 2012). An implementation plan to determine appropriate location and prescriptions is currently being developed by stakeholders. Preference for actions that enhance natural accumulations of LW.
Icicle Creek	Priority 2	3	3	Assess passage at boulder field, reconfigure Icicle/City of Leavenworth diversions	If the boulder field is currently inhibiting passage due to anthropogenic effects, then take measures to improve upstream adult passage over the boulder field.(EDT and ICTRT intrinsic potential model predict very large increases in capacity for steelhead with access to the upper Icicle).
Peshastin	Priority 2	4	4	Increase instream flow and channel complexity	Develop a restoration plan that includes restoration of natural processes where possible, normative flow levels, migration corridors, and holding and rearing habitat in lower Peshastin Creek.
Lower Mainstem (Mouth to Tumwater Canyon)	Priority 2	5	3	Restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Side-channel and/or off-channel connection or other actions that address causal mechanisms for ecological concerns.
Mission Creek	Priority 3	6	4	Increase water quantity, and restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Need additional information on fish use and assessment of habitat degradation.
Little Wenatchee	Priority 1		2	Increase floodplain connection.	Not a priority at this time
White River	Priority 1		1	Restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and instream structure complexity.	Mostly in the lower few miles. Not a priority at this time
Middle Wenatchee River	Priority 1		2	None	Continue to assess passage at Tumwater Dam and adopt management practices of passage is compromised. Not a priority at this time
Chumstick Creek	Priority 3		4	Increase water quantity, and reestablish riparian.	Practically all passage barriers have been addressed. Not a priority at this time
Chiwawa River	Priority 1		1	Remove anthropogenic barriers, if warranted.	Investigate whether to replace culverts at Minnow and Deep creeks. Not a priority at this time
Lake Wenatchee	Priority 1			Protect remaining near-shore habitat and investigate means to reduce impacts of bulkheads if possible.	Not likely to be able to do much in this AU. Additional information on fish use may be helpful, but only if it leads to potential actions.
<b>Entiat</b>					
Middle Entiat (Stillwater Reach)	Priority 1	1	1	Remove or modify levees, undersized bridges that reduce habitat potential, bank armoring, and other human features that affect channel form and function.  Increase LW recruitment and retention to increase complexity in a manner that is consistent with natural channel structure and function.	Setback or modification might achieve partial process reconnection and would be of lower benefit for this ecological concern. In some cases modification (i.e. hydraulic connection only) would not address this ecological concern.  Should be appropriately sited and scaled and numerically consistent with the Entiat watershed DIP and the ISEMP monitoring design.
Lower Entiat	Priority 2	2	2	Where possible, restore natural geo-fluvial processes, for example, structure and form, including instream structural complexity, floodplain interaction, and sediment transport.  Large woody material, log structure or log jam, rootwads	This area is set for implementation of projects in 2014.  Small to moderate sized structures need to be strategically placed in lower energy areas such as side-channels, or along the banks in appropriate locations.
Upper-Middle	Priority 1	3	2	Where possible, restore natural geo-fluvial processes, for example, structure and form, including instream structural complexity, floodplain interaction, and sediment transport.	Not a priority at this time
Mad River	Priority 1	4	2	Restore natural geo-fluvial processes, for example, structure and form, floodplain interaction, and sediment transport.	Not a priority at this time
<b>Methow</b>					
Upper Methow	Priority 2	1	1	Restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Channel migration, LW recruitment, or other actions that address causal mechanisms for ecological concerns. Implementation of Lynn and Maquire (BOR; 2008).
Lower Twisp	Priority 2	2	1	Increase instream flow; restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	MVID west efficiencies to increase instream flow. Where possible remove dikes and levees and manage roads to allow for natural channel migration. These actions will likely have additional benefits to other limiting factors such as water temperatures. Implementation (Inter-fluve 2010b). Suspend practice of effecting diversions with push-up berms.
Upper-Middle Methow	Priority 2	3	1	Restore natural geo-fluvial processes, for example, channel structure and form and migration, floodplain interaction, and sediment transport.	Channel migration, LW recruitment, or other actions that address causal mechanisms for ecological concerns. Complete Assessment of "Silver Reach" area.
					Still may be some opportunities with the Chewuch and Fulton irrigation and Barkley withdrawals (i.e. maintaining the ongoing agreement with Trout Unlimited). These actions will likely have additional benefits to other limiting factors such as water temperatures.

Lower Chewuch	Priority 2	4	1	Increase instream flow; restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Use all assessments that have been completed for this area to guide location and specific actions. These actions will have additional benefits to other limiting factors such as water temperatures. Encourage USFS road planning work to address sediment. Beaver reintroduction that could be universal need.
Beaver	Priority 2	5	2	Increase instream flow; restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport.	Now that structural passage barriers are nearly complete, efforts should focus on guaranteed water in the creek and connection with the Methow River. Other protection and restoration measures that contribute to increasing or maintaining instream flow would also be a priority. Determine if temperature is an issue.
Middle Methow	Priority 2	6	1	Increase instream flow; restore natural geo-fluvial processes, for example, channel migration, floodplain interaction, and sediment transport. Reduce death and injury to juvenile salmon and steelhead. Reduce juvenile stranding.	Suspend practice of effecting diversions with push-up berms. Reduce entrainment of juvenile fish into diversion-associated channels.
Gold Creek	Priority 2		2	Restore natural geo-fluvial processes, for example, channel structure and form and migration, floodplain interaction, and sediment transport.	Not a priority at this time
Libby Creek	Priority 2		4	Restore natural geo-fluvial processes, for example, channel structure and form and migration, floodplain interaction, and sediment transport.	Not a priority at this time
Upper Twisp River	Priority 1		2	Restore natural geo-fluvial processes, for example, channel structure and form and migration, floodplain interaction, and sediment transport.	Not a priority at this time
Upper Chewuch River	Priority 1		2	Restore natural geo-fluvial processes, for example, floodplain interaction, and sediment transport.	Not a priority at this time
Early Winters Creek	Priority 1		3	Restore natural geo-fluvial processes, for example, floodplain interaction, and sediment transport.	Not a priority at this time
Lost River	Priority 1		3	Restore natural geo-fluvial processes, for example, channel structure and form and migration, and floodplain interaction.	Not a priority at this time
Lower Methow River	Priority 2		4	Increase instream flow; restore natural geo-fluvial processes, for example, channel migration, floodplain interaction	Not a priority at this time
<b>Okanogan</b>					
Upper Salmon Creek	Priority 2	1	1	Increase winter water quantity.	
Loup Loup Creek	Priority 3	2	2	Increase water quantity; add small log structures to increase complexity and jump start gravel sediment processes.	
Okanogan River 01	Priority 3	3	4	Reconnect big side channel at Conservancy Island - a few smaller spots downstream - motorcycle track; ensure pump screens are in compliance with current criteria.	
Upper Omak Creek	Priority 2	4	2	Remove barriers	
Okanogan River 04	Priority 3	5	3	Side-channel at Peterson and Wilson; reduce predator densities; ensure pump screens are in compliance with current criteria.	
Upper Antoine Creek	Priority 3	6	3	Remove barriers and conduct watershed assessment	
Lower Salmon Creek	Priority 2	7	3	Restore year round flows	
Okanogan River 05	Priority 2	8	2	Reduce predator densities; ensure pump screens are in compliance with current criteria.	
Okanogan River 02	Priority 3	9	3	Ensure pump screens are in compliance with current criteria.	
Nine Mile Creek	Priority 2	10	2	Gravel augmentation and complexity projects to restore gravel sediment processes in lower 1 mile.	
Similkameen Lower	Priority 2	11	3	Create ground water feed off channel habitats (Driscoll Island)	
Johnson Creek	Priority 3	12	3	Remove barriers and conduct watershed assessment	
Lower Antoine Creek	Priority 3	13	3	Gravel augmentation and complexity projects to restore gravel sediment processes	
Okanogan River 03	Priority 2	14	4	Ensure pump screens are in compliance with current criteria.	
Similkameen Middle	Priority 2	15	2	Create ground water feed off channel habitats (Klein site and North side)	
Lower Omak Creek	Priority 2	16	1	Protection and ground water inputs during summer and winter	
Okanogan River 06	Priority 3		4	Reconnect side channels and off-channel habitats.	Not a priority at this time
Inundated Okanogan	Priority 3		4	Reduce predator densities; ensure pump screens are in compliance with current criteria.	Not a priority at this time
Okanogan River 07	Priority 3		2	Restore Natural flow patterns	Not a priority at this time
Bonaparte Creek	Priority 3		3	Reduce fines; flood plain reconnection; and improve complexity	Not a priority at this time
Tunk Creek	Priority 3		3	Reduce fines; flood plain reconnection; and improve complexity	Not a priority at this time

Aeneas Creek	Priority 3		4	Remove barriers.	Not a priority at this time
Chilliwist Creek	Priority 2		4	Remove barriers; Remove livestock and replant riparian	Not a priority at this time
Similkameen Upper	Priority 2		2	No actions identified.	Not a priority at this time
Siwash Creek	Priority 3		4	Supplement flows.	Not a priority at this time
Tonasket Creek	Priority 3		3	Restore complexity and gravel sediment process in lower 1 mile.	Not a priority at this time
Wild Horse Spring Creek	Priority 3		4	Livestock Fencing; Lawn Removal supplement flows with groundwater	Not a priority at this time
Wanacut Creek	Priority 3		4	Supplement flows with ground water and reestablish gravel processes	Not a priority at this time

**Priority Area Designation Key:**

*Priority 1*

Priority 1 areas represent high quality functioning habitat. In general, they comprise large, often contiguous blocks of high-quality habitat and sub-watersheds supporting multiple native fish populations. Few barriers exist to restrict connectivity among sub-watersheds and through the mainstem river corridor. Exotic species may be present but are not dominant.

*Priority 2*

Priority 2 areas support important aquatic resources, but may have a higher level of fragmentation than Priority 1 areas, resulting from habitat disturbance or loss. Connectivity among sub-watersheds may still exist or could be restored within the watershed so that it is possible to maintain or rehabilitate life history patterns and dispersal. Exotic species may be present but are generally not dominant throughout the watershed.

*Priority 3*

Priority 3 areas are strongly fragmented by habitat loss, most notably either through loss of connectivity with historically occupied habitat or through reductions in flow or disruption of habitat-forming processes. Exotic species are most likely present and may be dominant throughout portions of the watershed.

*Priority 4*

Priority 4 areas contain both functional and non-functional habitats that historically supported one or more native focal species or species of concern. Exotic species may now be dominant in one or more sub-watersheds.