












## APPENDIX B PESHASTIN CREEK PROJECT OPPORTUNITIES



Reach	Sub-Unit	Project Number	Strategy Category	Project Name	Description	Photo
1	Inner Zone 2 (IZ-2)	Project RM 0.2R&L	Riparian Restoration	Expand riparian buffer (right and left banks).	A very narrow band of riparian forest extends along the right and left banks between river mile 0.1 and 0.45 (approx. 1,800 ft). Plant native riparian forest vegetation within a 100 foot buffer in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	
1	Disconnected Inner Zone 3 (DIZ-3)	Project RM 0.3R (Alt. 1)	Reconnect Stream Channel Processes	Full side-channel reconnection.	This option would entail reconfiguring the WDOT access road to completely reconnect the historic channel to the active inner zone. In this option, split-flow could be created enhancing channel complexity. The access road would need to be moved south onto the terrace surface at the edge of the outer zone.	 <p>Historical channel in right-bank floodplain near mouth (May 2010).</p>
1	Disconnected Inner Zone 3 (DIZ-3)	Project RM 0.3R (Alt. 2)	Reconnect Stream Channel Processes	Side-channel and off-channel connection enhancement.	In order to maintain the existing roadway location, full side-channel reconnection may not be feasible. This alternative would enhance off-channel and floodplain connection while keeping the roadway in its current location. Culverts would be placed at the two locations where the existing roadway crosses the old channel location. This effort could be combined with excavation of additional side-channel and off-channel/wetland habitat in the delta area that would benefit Peshastin fish populations as well as Wenatchee River fish populations seeking flow and temperature refuge.	
1	Disconnected Inner Zone 2 (DIZ-2)	Project RM 0.6 R	Reconnect Stream Channel Processes	Side-channel reconnection	This site is on river-right downstream of the Highway 2 Bridge. This site is the pre-1962 channel. Excavation of this area and removal of fill material at the upstream end could create a high flow side-channel for velocity refuge and rearing complexity. An alternative to be considered at this site is a re-route of the mainstem channel to increase sinuosity. LWD and boulder structures could be utilized to stabilize the new channel and to provide features to induce scour pool development.	




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1	Disconnected Inner Zone 1 (DIZ-1)	Project RM 0.8L	Reconnect Stream Channel Processes	Side-channel reconnection	This site is on river left upstream of the Highway 2 Bridge. There is an existing culvert through a push-up levee at the upstream end that allows high flows to enter the river left flood overflow channel. The levee and culvert could be removed to provide flows into the side channel during high flows to provide flood refuge for juvenile fish. Excavation may be necessary to allow inundation at the desired flow level. An active low-flow side-channel could also be considered at this site. In addition, there are good opportunities for log jam placements in the main river adjacent to this area.	 <p>Push-up levee and culvert on river-left bank near river mile 0.85. (August 2009).</p>
1	Inner Zone 1 (IZ-1)	Project RM 0.9L	Reconnect Stream Channel Processes	Rip-rap removal/replacement.	Rip-rap begins on the river left bank at RM 0.85 and extends upstream approximately 400 feet. The rip-rap is associated with the old Highway 97 alignment prior to the reconstruction of the interchange of Highways 2 and 97. Rip-rap limits geomorphic connectivity (e.g. channel migration), riparian function, and habitat complexity. The rip-rap could be removed and replaced with LWD to reconnect long-term channel migration processes, enhance instream habitat cover/complexity, and provide bank stability until a restored riparian forest can provide long-term natural stability (riparian revegetation work is currently underway). This project could be associated with removal of the small push-up levee and culvert removal just downstream (see Project RM 0.8L in DIZ-1).	 <p>Looking downstream to the east at the river left bank near river mile 0.85 that has been heavily rip-rapped (August 2009).</p>
1	Inner Zone 1 (IZ-1)	Project RM 1.0C	Instream Habitat Enhancement	LWD enhancement.	Pool habitat is extremely limited in this reach, and opportunities to increase pool quality should be considered. The project would include a lateral log jam constructed on the river-left bank. Sandstone bed rock in the channel could limit pool depth at this site. However it may be possible to easily excavate the sandstone.  If possible, pool depth could be enhanced through excavation and maintained by log jam hydraulics.	 <p>Looking upstream to the northwest at the left river bank near river mile 1.0 (August 2009).</p>



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1	Inner Zone 1 (IZ-1)	Project RM 1.1L	Reconnect Stream Channel Processes	Rip-rap removal/replacement.	Rip-rap begins on the river left bank at RM 1.05 and extends upstream approximately 500 feet. The rip-rap is associated with the old Highway 97 alignment prior to the reconstruction of the interchange of Highways 2 and 97. Rip-rap limits geomorphic connectivity (e.g. channel migration), riparian function, and habitat complexity. The rip-rap could be removed and replaced with LWD to reconnect long-term channel migration processes, enhance instream habitat cover/complexity, and provide bank stability until a restored riparian forest can provide long-term natural stability (riparian revegetation work is currently underway).	 <p>Upstream view near river mile 1.1. Rip-rap associated with old Highway 97 alignment is located on the river left bank (right side of photo) (August 2009).</p>
1	Outer Zone 1 (OZ-1)	Project RM 1.1R	Riparian Restoration	Expand riparian buffer (right bank).	A very narrow band of riparian forest extends along the right bank between river mile 1.05 and 1.2 (approx. 900 ft). Plant native riparian forest vegetation within a 100 foot buffer in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	
1	Outer Zone 2 (OZ-2)	Project RM 1.2L	Riparian Restoration	Native plant revegetation (left bank).	There is little to no riparian forest along the left bank between river mile 1.1 and 1.25 (approx. 700 ft). Plant native riparian forest vegetation within a 100 foot buffer in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	 <p>Cleared riparian zone on river left bank near river mile 1.2. (August 2009).</p>
2	Inner Zone 5 (IZ-5)	Project RM 1.65C	Instream Habitat Enhancement	LWD enhancement	This wood placement project includes a river right bank log-jam. The goal of the jam is to add complexity to the otherwise plane bed morphology of the reach, thereby increasing ecological value.	 <p>View looking upstream toward the south at a potential log jam location near river mile 1.7 associated with Project RM 1.65C. (August 2009).</p>

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2	Inner Zone 4 (IZ-4)	Project RM 2.25C	Instream Habitat Enhancement	LWD enhancement.	This project includes two potential locations for lateral log-jams between river miles 2.2 and 2.3. These structures would enhance pool habitat and provide instream cover and complexity.	 <p>View looking upstream toward the south near river mile 2.2 at a potential log jam location associated with Project RM 2.25C. (August 2009).</p>
2	Disconnected Outer Zone 8 (DOZ-8)	Project RM 2.4R	Off-Channel Habitat Enhancement	Side-channel enhancement	The fish bypass channel at the Peshastin Canal runs along the river-right bank. There is a connection with a floodplain pond that may provide potential stranding risk during certain periods. There may also be off-channel habitat restoration opportunity in this area (this information was provided by Mike Kane, Chelan County Dept of Natural Resources). This site warrants further investigation with respect to stranding risk and restoration potential.	
2	Disconnected Outer Zone 7 (DOZ-7)	Project RM 2.7L	Off-Channel Habitat Enhancement	Side-channel enhancement.	This site provides a good opportunity to create off-channel and side-channel habitats by excavating new flood-prone area and side-channels. It might be possible to supplement side-channel work with constructed ground water galleries. The landowner was very receptive to enhancement work on his land.	 <p>View looking downstream toward the north near river mile 2.75 at a potential upstream inlet to the Project RM 2.7L side-channel. (August 2009).</p>



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2	Inner Zone 4 (IZ-4)	Project RM 2.9L	Protect and Maintain	Reduction of avulsion risk.	At this site, the existing channel has locally aggraded creating a possibility that the channel will avulse into a side channel adjacent to Highway 97. No rip-rap exists in this area. If the channel avulsed during a flood it is possible the Highway 97 road prism would rapidly erode. Log jams constructed in the lower segments of the valley adjacent to the road would increase local roughness and reduce this avulsion risk. Wood placed on the adjacent gravel bar would further reduce avulsion risk and force floodwater to the right side of the valley where riparian areas and habitats are more intact.	 <p>The outflow of the secondary channel on river-left associated with project RM 2.9R. During low flow there is no surface discharge here. (August 2009).</p>
2	Disconnected Outer Zone 5 (DOZ-5)	Project RM 2.9R	Off-Channel Habitat Enhancement	Side-channel enhancement/reconnection.	This project is on the right (east) side of the valley where a high flow side channel runs through an intact valley bottom riparian wetland. The high flow side channel could be re-graded to function as a low flow side channel. There is evidence of beaver activity in the riparian area and the goal of the project would be to enhance the connection of this side-channel to create off-channel habitat and high-flow refuge. Log-jams would be necessary to ensure stability of the main channel and side channel inlet location.	 <p>Groundwater pond in a side-channel on river-right near river mile 2.9. (August 2009).</p>
2	Disconnected Outer Zone 5 (DOZ-5)	Project RM 3.0R	Protect and Maintain	Riparian and floodplain protection	The riparian and floodplain area in the downstream portion of the unit (RM 2.8 to 3.0) is undeveloped and retains mature riparian vegetation and floodplain function, especially compared to the upstream portion of the unit where floodplain filling and development have disconnected riparian and floodplain processes.	




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2	Inner Zone 4 (IZ-4)	Project RM 3.35L	Instream Habitat Enhancement	LWD enhancement	This project includes a lateral log-jam along the left bank of the channel. The goal of the wood placement is to provide adult holding and juvenile rearing habitat. This location benefits from having few infrastructure constraints, good existing riparian habitat in the adjacent floodplain, and site access.	 <p>View looking downstream at a potential log jam location near river mile 3.35. (August 2009).</p>
2	Inner Zone 4 (IZ-4)	Project RM 3.45L	Instream Habitat Enhancement	LWD enhancement.	This project includes a lateral log-jam along the left bank of the channel. The goal of the wood placement is to provide adult holding and juvenile rearing habitat. This location benefits from having few infrastructure constraints, good existing riparian habitat in the adjacent floodplain, and site access.	 <p>View in the downstream direction toward the northeast at a potential log jam location near river mile 3.45. (August 2009).</p>
2	Disconnected Inner Zone 1 (DIZ-1), Disconnected Outer Zone 3 (DOZ-3), Inner Zone 3 (IZ-3)	Project RM 3.8L	Reconnect Stream Channel Processes	Stream channel reconnection	This project would re-establish the historical channel alignment from RM 3.55 to 4.1. There are multiple options to consider for achieving this goal. One option is to re-route the highway, possibly along the Campbell Creek Road alignment to move the highway entirely out of the floodplain. Residences would need additional flood protection following full process reconnection. A second alternative would involve bridging Highway 97 at the upstream and downstream ends of the historical channel near RM 4.1 and 3.75. This option would not provide full process restoration, but would reconnect isolated habitat. This is a large-scale and expensive project and may not be feasible given available funding and existing infrastructure. Nevertheless, large benefits would be accrued by this project, including the re-establishment and reconnection of geomorphic processes and aquatic habitat conditions. Sinuosity of the cut-off channel is 1.23, and sinuosity of the current channel is 1.0. The current channel is a straightened, uniform, plane-bed channel, with very limited habitat diversity. Re-establishing the old channel would increase the frequency and quality of pool and riffle habitats. Removing the channel from its current confined location would enhance riparian connectivity, floodplain connectivity, and channel migration processes.	



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2	Inner Zone 2 (IZ-2)	Project RM 4.0R	Instream Habitat Enhancement	LWD enhancement.	This project is a log jam downstream of Larsen Creek on the right bank. The log jam is a good site to provide habitat and reduce existing bank erosion.	 <p>View looking upstream at a potential log jam location on the river-right bank (left side of photo) near river mile 3.95 associated with Project 4.0R. (August 2009).</p>
2	Outer Zone 4 (OZ-4)	Project RM 4.0L	Off-Channel Habitat Enhancement	Side-channel enhancement	This site consists of an existing hyporheic-fed side-channel between RM 3.95 and 4.05 along the river-left side. This project would enhance the cover habitat in the existing side channel. Additional investigation is needed to determine the potential for enhancing flow through excavation and the use of groundwater galleries.	 <p>View looking south at the groundwater-fed channel on river left near river mile 4.0. (August 2009).</p>
2	Inner Zone 2 (IZ-2)	Project RM 4.05L	Reconnect Stream Channel Processes	Levee removal/set-back.	This project involves setting back the levee at this location in order to maintain protection of Highway 97 and nearby residential development, but allow for more natural channel dynamics during high flow events.	
2	Inner Zone 2 (IZ-2)	Project RM 4.1L	Instream Habitat Enhancement	LWD enhancement	This site is located at the inlet to the side channel associated with Project RM 4.0L. The work here would construct a log jam at the inlet to prevent an avulsion down the existing side channel in order to maintain existing Peshastin Creek channel length. The log jam would extend out into the Creek and extend approximately 300 feet upstream along the eroding bank adjacent to Highway 97. The log jam would be partially buried, extending from the eroding bank outward into the channel to provide pool formation and habitat complexity.	 <p>View looking downstream near river mile 4.1 at the potential log jam location associated with Project RM4.1L. (August 2009).</p>



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2	Outer Zone 4 (OZ-4)	Project RM 4.2R		Floodplain protection and riparian restoration	This undeveloped floodplain surface is important for protection due to the extremely limited acreage of undeveloped floodplain in this reach. This sub-unit appears from the LiDAR to be relatively free of floodplain fill and has the potential to provide important floodplain and channel migration zone function. There is no substantial development. Protect and allow no further degradation of geomorphic, hydrologic, and vegetative function. Riparian restoration could be conducted to re-establish a native large conifer community. Evaluate existing land-use protections and, if necessary, look for opportunities to purchase conservation easements on the property. The following project (Project RM 4.3R) would also be located in this same area.	
2	Disconnected Outer Zone 1 (DOZ-1)	Project RM 4.3L	Riparian Restoration	Expand riparian buffer (left bank).	There is a narrow vegetated riparian buffer zone that extends from RM 4.2 to 4.45 (approx. 1,500 ft). Maintained pasture is buffered approximately 80 feet from the stream, but the riparian zone is immature, sparse, and contains invasive species. This project would restore a native riparian forest within 100 feet of the stream along this section in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	
2	Outer Zone 4 (OZ-4)	Project RM 4.3R	Reconnect Stream Channel Processes	Stream channel reconnection.	This is a large scale excavation and grading project in the valley bottom area previously occupied by Peshastin Creek but now isolated as a result of channelization and incision. There are several options for length and complexity of channel alignment. The restoration strategy involves excavation down to elevations that will allow Peshastin creek to inundate, and in the future occupy, segments of this portion of valley bottom. Excavated material could be filled along the foot of the valley wall. Project length would run from approximately river mile 4.05 to river mile 4.4.	 <p>View looking south in the upstream direction at OZ4 near river mile 4.25. This surface is the proposed site for a side-channel project associated with Project 13. (August 2009).</p>
2	Inner Zone 1 (IZ-1)	Project RM 4.6C	Instream Habitat Enhancement	LWD habitat enhancement	This site is on a bend in the Creek near RM 4.65. A log jam here would provide habitat complexity and cover.	 <p>View looking downstream toward the northeast at a potential log-jam location near RM 4.65. (August 2009).</p>







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2	Inner Zone 1 (IZ-1)	Project RM 4.6R	Off-Channel Habitat Enhancement	Side-channel habitat enhancement.	There is an existing side- channel (primarily a high-flow channel) within the right side of the valley bottom from approximately RM 4.55 to RM 4.7. This project would enhance the existing side-channel habitat by deepening the lower one third of the channel to increase hyporheic flows. LWD placement within the side-channel would enhance habitat complexity and cover.	 <p>Potential side-channel enhancement area near RM 4.6. (August 2009).</p>
2	Inner Zone 1 (IZ-1)	Project RM 4.8C	Instream Habitat Enhancement	LWD habitat enhancement	This site extends approximately 200 feet centered on RM 4.8. A log jam here would provide habitat and could be used to restore natural stability to the rapidly eroding left bank. This effort should be combined with riparian restoration.	 <p>View looking upstream near RM 4.8. Potential log jam placements on river-left bank (right side of photo) to enhance pool complexity and restore natural bank erosion rates. (August 2009).</p>
2	Outer Zone 1 (OZ-1)	Project RM 4.8L	Protect and Maintain	Riparian and floodplain habitat protection	This undeveloped floodplain surface is important for protection due to the extremely limited acreage of undeveloped floodplain in this reach. Protect and allow no further degradation of geomorphic, hydrologic, and vegetative function. The proximity to Highway 97 and to existing development may place this area at risk of future development that could compromise geomorphic function and aquatic habitat conditions. Evaluate existing protections and, if necessary, look for opportunities to purchase conservation easements on the property.	


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2	Inner Zone 1 (IZ-1)	Project RM 4.9C	Instream Habitat Enhancement	LWD habitat enhancement	This site extends from RM 4.85 to 4.9. There are good opportunities here for log jams that would provide complex habitat and pool formation.	
						
3	Inner Zone 2 (IZ-2)	Project RM 5.1C	Instream Habitat Enhancement	LWD enhancement.	There are two left-bank locations for log jam installations. One near RM 5.1, the other near RM 5.17. This project would place a log-jam into an eroding bank at the upstream end of an existing pool. The log-jam would provide natural rates of stability to the unstable bank, which has a degraded riparian zone. The log jam placements would enhance pool formation and habitat cover and complexity.	



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3	Disconnected Outer Zone 3 (DOZ-3)	Project RM 5.1R	Reconnect Floodplain Processes	Levee removal and side-channel enhancement.	This project is aimed at restoring floodplain and side-channel connection. There are several potential alternatives. The levee near river mile 5.2 could be removed in order to re-connect the floodplain channel. A new side-channel alignment could be excavated through the alluvial material between the channel and Highway 97. Protection would need to be provided for Highway 97, preferably as near to the road embankment as possible to provide maximum space for channel/floodplain processes. A second option would extend the proposed side-channel alignment down to river mile 4.9. Culverts would need to be installed under Highway 97 to provide flow connection and fish passage. Further investigation would be needed to determine the feasibility of this option.	
3	Disconnected Outer Zone 2 (DOZ-2)	Project RM 5.2L	Riparian Restoration	Riparian restoration (left bank).	Approximately 1,000 feet of stream in this area, which extends from river mile 5.05 to 5.25, has limited riparian function due to a narrow and intermittent forested riparian buffer. This project would restore a native riparian forest within 100 feet of the stream along this section in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	 <p>View looking upstream near river mile 5.2. There are opportunities for riparian restoration along the river-left bank (right side of photo). (August 2009).</p>
3	Inner Zone 2 (IZ-2)	Project RM 5.25C	Reconnect Stream Channel Processes	Bridge abutment removal and LWD enhancement	There is an old road, associated fill, and concrete bridge abutments near river mile 5.25. Although there is no longer a bridge in this location, the concrete abutments continue to constrict the channel and affect channel processes. This project would remove the bridge abutments and the associated fill. Lateral log jams could be constructed to provide stability of the disturbed area and to enhance pool formation and instream habitat complexity.	 <p>Old bridge abutment at river mile 5.25. (August 2009).</p>
3	Disconnected Outer Zone 1 (DOZ-1)	Project RM 5.4R	Reconnect Floodplain Processes	Levee removal/set-back and riparian restoration (right bank).	There is a push-up levee over 700-ft long (may be intermittent in places) made up of local material that is protecting property from flooding along this segment. The forested riparian area is also cleared along much of this segment and in some areas is very narrow or non-existent. This project would remove the levee, potentially constructing a set-back levee as necessary to address flooding concerns. The project would also include riparian forest restoration.	

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3	Outer Zone 2 (OZ-2)	Project RM 5.4L	Protect and Maintain	Riparian and floodplain habitat protection.	This undeveloped floodplain surface is important for protection due to the limited acreage of undeveloped floodplain in this reach. Protect and allow no further degradation of geomorphic, hydrologic, and vegetative function. Evaluate existing protections and, if necessary, look for opportunities to purchase conservation easements on the property.	
3	Inner Zone 2 (IZ-2)	Project RM 5.4C	Instream Habitat Enhancement	LWD enhancement.	This project is located along the river-right bank and provides an opportunity to place a lateral log-jam in order to increase habitat quality and diversity in the reach. Constraints at this location include houses in the floodplain on river right, and a nearby power line crossing. The log jam site is near RM 5.4.	 <p>View looking downstream toward the northeast at a potential log-jam location near river mile 5.41. (August 2009).</p>
3	Disconnected Outer Zone 1 (DOZ-1)	Project RM 5.6R	Riparian Restoration	Riparian restoration (right bank).	Maintained lawns and residential areas impair riparian function along over 700 feet of stream in this area, which extends from river mile 5.55 to 5.7. This project would restore a native riparian forest within 100 feet of the stream where feasible along this section in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	 <p>Residential development impacts on riparian function near river mile 5.65, left bank. (August 2009).</p>
3	Outer Zone 1 (OZ-1)	Project RM 5.8L	Protect and Maintain	Riparian and floodplain habitat protection	This undeveloped floodplain surface is important for protection due to the limited acreage of undeveloped floodplain in this reach. Protect and allow no further degradation of geomorphic, hydrologic, and vegetative function. Evaluate existing protections and, if necessary, look for opportunities to purchase conservation easements on the property.	

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4	Disconnected Inner Zone 1 (DIZ-1)	Project RM 6.2R	Reconnect Stream Channel Processes	Levee removal	This project would remove the levee near river mile 6.2 in order to reconnect this portion of the active high-flow channel. Removal of the total length of levee (over 300 ft) would also restore hydrologic connectivity to DOZ-1). Local flooding concerns/risks would need to be addressed as part of this project.	
4	Inner Zone 2 (IZ-2)	Project RM 6.55C	Instream Habitat Enhancement	LWD habitat enhancement	There is good opportunity for a log jam to enhance the quality of pool habitat and habitat diversity. A private bridge just downstream will require any wood in this reach to be immobile. The site is a natural wood transport site and may not be high priority for LWD enhancement.	
4	Inner Zone 2 (IZ-2)	Project RM 6.65C	Instream Habitat Enhancement	LWD habitat enhancement	There is good opportunity for a log jam on river-left at the downstream end of a long boulder riffle with the goal of enhancing pool habitat and increasing roughness on the immediately adjacent floodplain. There may be other potential log-jam locations in the vicinity where grade breaks create glides that could be enhanced. The site is a natural wood transport site and may not be high priority for LWD enhancement.	 <p>View looking upstream toward the southwest at a potential log jam location along river-left near river mile 6.65. (August 2009).</p>
4	Outer Zone 1 (OZ-1)	Project RM 7.2R	Protect and Maintain	Riparian and floodplain habitat protection	This undeveloped floodplain surface is important for protection, especially because it is one of the few floodplain terraces along this section of stream. Protect and allow no further degradation of geomorphic, hydrologic, and vegetative function. Evaluate existing protections and, if necessary, look for opportunities to purchase conservation easements on the property.	

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5a	Disconnected Outer Zone 2 (DOZ-2)	Project RM 8.0R	Riparian Restoration	Expand riparian buffer (right bank).	Vegetation clearing associated with the RV Park and recreational access leaves only a narrow riparian buffer along approximately 600 feet of channel. This project would restore a native riparian forest within 100 feet of the stream where feasible along this section in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	 <p>View looking downstream at access area associated with RV Park on river-right bank. There is only a narrow forested riparian buffer along this segment. (August 2009).</p>
5a	Inner Zone 1 (IZ-1)	Project RM 8.15R	Reconnect Stream Channel Processes	Rip-rap removal and LWD habitat enhancement	There is an approximately 100 ft long grouted rip-rap wall on the river-left bank near river mile 8.15 that protects private property from erosion. Investigate opportunities to remove the rip-rap and replace with LWD jams that would provide bank stability as well as aquatic habitat cover, complexity, and pool formation. Re-plant the riparian area in order to provide long-term stability and riparian functions.	 <p>View looking upstream near river mile 8.15 at a grouted rip-rap bank and concrete access stairway along private property. (August 2009).</p>
5a	Inner Zone 1 (IZ-1)	Project RM 8.3L	Riparian Restoration	Expand riparian buffer (left bank).	Numerous residences along the left bank have only a narrow strip of forested riparian vegetation. This condition extends intermittently between river miles 7.7 and river mile 8.35. Look for opportunities to restore a native riparian forest within 100 feet of the stream where feasible along this section in order to restore riparian functions including stream shade, bank stabilization, and LWD recruitment.	 <p>Narrow riparian buffer associated with residential development near river mile 8.3. This condition is typical along much of Reach 5. (August 2009).</p>
5b/6	Disconnected Outer Zone 3 (DOZ-3)	Project RM 8.65R	Riparian Restoration	Riparian revegetation	This project responds to similar impacts and shares similar goals with Project RM 8.9R. This area has been disconnected by Highway 97, and subsequently cleared. Revegetation would ideally occur in tandem with larger-scale stream channel and floodplain reconnections in this reach	

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5b/6	Disconnected Outer Zone 4 (DOZ-4)	Project RM 8.7L	Reconnect Floodplain Processes	Levee removal, reconnect off-channel habitat.	This project involves removing 835 ft of spoils piles along the channel margin between RM 8.61 and 8.78. The spoils are composed of poorly sorted material ranging from boulders to sand. The area inside of the spoils is disconnected from Peshastin Creek. Removal of the spoils would allow for natural tributary interactions at the mouth of Hansel Creek and would connect Peshastin Creek with habitat in Hansel Creek and the floodplain of Hansel Creek at its mouth. A scaled back option here would be to increase the connectivity at the upstream and downstream ends of the sub-unit to allow moderate flows from Peshastin Creek to connect with this floodplain area.	
5b/6	Disconnected Inner Zone 1 (DIZ-1)	Project RM 8.8R	Reconnect Stream Channel Processes	Bridge highway, reconnect main channel, reconnect side-channel habitat, reconnect off-channel habitat.	This project involves reconnecting the historical channel of Peshastin Creek downstream of the Ingalls Creek confluence. There are multiple options, with a range of potential benefits. Full reconnection of the channel (i.e. moving the main channel into its historical alignment) would require rerouting or bridging Highway 97. Bridges would be needed at the upstream and downstream ends of the sub-unit for full process reconnection. Culverts may allow for partial habitat and hydrologic reconnection. Several side-channel and overflow channels can be seen in LiDAR data. Re-connection of these features to the former/restored main channel could also be included in restoration alternative scenarios. Due to the current highway alignment and industrial uses of the site, this effort would require extensive coordination with landowners and other stakeholders.	 <p>View to the southeast at industrial development of the former floodplain east of Highway 97. ( May 2010).</p>
5b/6	Disconnected Outer Zone 2 (DOZ-2)	Project RM 8.85L	Riparian Restoration	Riparian revegetation.	Currently, this sub-unit is a cleared field with some sparse woody vegetation. Restore riparian and floodplain vegetation to the extent possible across this surface.	

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5b/6	Disconnected Outer Zone 1 (DOZ-1)	Project RM 8.9R	Riparian Restoration	Riparian restoration.	This surface has been cleared over large areas. Revegetation efforts in this sub-unit could be scale to achieve a variety of habitat goals. As a minimum effort, riparian vegetation could be planted around the margins of wetlands and wet depressions in the former channel. As a larger scale effort, riparian and upland vegetation, including sage and pine would be planted over larger areas of the sub-unit. This option might include purchase of some developed land. If reconnection of the historical channel was carried forward, this revegetation would be a component of the project.	 <p>View to the east across Highway 97 at the cleared surface of the historical floodplain of Peshastin Creek. ( May 2010).</p>
5b/6	Disconnected Inner Zone 2 (DIZ-2)	Project RM 8.9L	Reconnect Stream Channel Processes	Levee removal, reconnect side-channel habitat.	This project involves removing 630 ft of levee between RM 8.85 and 8.99. The material forming the levee includes alluvium that was dredged or pushed up from the channel or floodplain nearby, as well as large, angular material that was imported to the site. By removing this levee, habitat and process reconnection could be established for DIZ-2, as well as DOZ-2 downstream. Once the levee has been removed, options for enhancing side-channel or off-channel habitat could be assessed.	 <p>View to the north in the downstream direction at a portion of the levee near RM 8.9 where newer riprap has been placed on top of older alluvial material. (May 2010).</p>