



North Fork Payette River Watershed Coalition: Stream Conditions Work Group

Work Group Lead: Jordan Messner jordan.messner@idfg.idaho.gov

www.valleyswcd.org | NFPayette@outlook.com | durena.farr@id.nacdnet.net



Ideal Outcome (Goals)	Top Priorities (Objectives)	Action Items (Tasks)	Notes, Examples, Research, Case Studies
Increase summer flows in Cascade tributaries	Boulder Creek, Lake Fork Creek, and Gold Fork River experience relatively low flows during summer months (mid-June through mid-September), primarily due to irrigation withdrawal. Increasing the volume of water that reaches Cascade Reservoir will help improve water quality conditions in the reservoir as well as improving fish habitat and stream health in the tributaries themselves.	Work with irrigation districts to identify opportunities to increase instream flow. Are there savings realized from improvements to irrigation delivery systems that could be allocated to summer instream flows? Is there potential to increase reservoir storage in the basin to provide more overall storage capacity, and result in greater instream flows during the summer months? Explore opportunities for water transactions which would result in increased summer instream flow. Finally, work with the Idaho Water Resource Board to set desired stream maintenance flows.	Several examples of this type of work exists throughout the west, including in Idaho. A few resources listed here: <ul style="list-style-type: none"> • Allianceforwaterefficiency.org • Idaho Water Transactions Program (IDWR) • Upper Salmon Basin Watershed Program (OSC) • Kendy et al. 2018. Water Transactions for Streamflow Restoration, Water Supply Reliability, and Rural Economic Vitality in the Western United States. Journal of the American Water Resources Association.
Improve connectivity and fish passage	Boulder Creek, Lake Fork Creek, and the North Fork Payette River have unscreened diversions that entrain fish during the irrigation season. A fish screening and passage program in the watershed would eliminate entrainment issues and result in healthier fish populations, especially including migratory life histories. Upper Gold Fork River has been	Hundreds of millions of dollars are available for removing barriers, improving stream connectivity, and improving fish passage across the country. In order to tap into these funds the coalition, fish and game, and other stakeholders will need to develop an operation and maintenance plan for a fish screening and passage program in the	<ul style="list-style-type: none"> • US Fish and Wildlife Service – Fisheries Restoration and Mitigation Act (FRIMA program) • ODFW, WDFW, California Fish and Game, and Idaho Fish and Game all have established Fish Screening and Passage Programs • Gale et al. 2008. Effectiveness of Fish Screens to Prevent Entrainment of Westslope Cutthroat Trout into Irrigation Canals. North American Journal of Fisheries Management.



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	<p>functionally disconnected from the North Fork Payette River (now Cascade Reservoir) for over 100 years due to an impassable diversion dam. Fish passage at this diversion dam would result in utilization of over 20 miles of spawning habitat and 40 miles of rearing habitat that is currently not being utilized. In addition to a screening program, increased summer base flows will help improve functional connectivity in these systems.</p>	<p>watershed. Screens require personnel for install and shut-down at the beginning and end of each season. During the irrigation season, personnel will need to routinely check, clean, and grease screens to keep them operational and not impact irrigation needs. Once an O&M plan is laid out, funding for these projects will be easily obtainable.</p>	
<p>Improve and protect stream corridors</p>	<p>Healthy riparian zones along stream corridors play a critical role in protecting water quality, soil, fish and wildlife. Riparian vegetation acts as a natural filter for sediment, nutrients, and toxic chemicals that storm water and melting snow carry toward streams. Vegetation also helps prevent erosion of streambanks, thereby resulting in a deeper channel profile as opposed to more shallow, sandy zones. Lastly, healthy canopies provide shade and help reduce stream temperature. Developing appropriate riparian stream buffers and maintaining connectivity of stream corridors is important for overall watershed health in the NFPR basin.</p>	<p>Stream corridor inventories should be conducted to determine priorities for project development. Work with landowners to identify where bank stabilization, riparian planting, and riparian fencing projects are feasible/desirable. Explore potential use of 'virtual fencing' to exclude livestock from riparian corridors and protect buffer zones. Work with the Payette Land Trust to identify and purchase conservation easements that function to protect stream corridors.</p>	<ul style="list-style-type: none"> • Rangelandsgateway.org/virtual-fence • Payettelandtrust.org • NRCS – Regional Conservation Partnership Program Easements • Weconservepa.org – Riparian Buffer Protection Agreements • Riparian Plant Reference Guide – Idaho Soil and Water Conservation Commission, 2014 • NRCS – Technical Supplement 3A – Stream Corridor Inventory and Assessment Techniques
<p>Increase education and awareness on the</p>	<p>Educating community members including recreationists, HOAs,</p>	<p>Assemble materials from other communities throughout the country</p>	<ul style="list-style-type: none"> • Landcan.org/pdfs/your-land-you-idaho-guidelines.pdf



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<p>importance of healthy streams, and how the community and landowners can help</p>	<p>developers and ranchers on the importance of a healthy watershed can go a long way in making strides towards improving the health of the watershed. Building a community that functions as a team with a unified mission to improve the health of the watershed should be a top priority. Developing an education and outreach program that focuses on reaching those key groups will be necessary.</p>	<p>who have already developed effective education and outreach programs. Identify leaders within our community who are willing to work on development of programs for our community. Ensure inclusion of key target groups including developers and large landowners.</p>	<ul style="list-style-type: none"> • Environmental Quality Incentives Program (EQIP) • Rural Community Assistance Corporation Septic System Program • National Association of Conservation Districts Stewardship and Education Materials • Lake*A*Syst – valleyswcd.org
<p>Fill in knowledge gaps where further data is needed</p>	<p>In order to determine where improvements are needed, how proposed projects may impact watershed health, and to track changes in the health of our watershed over time, more monitoring and data collection is needed. These include data such as temperature and flow on ungauged tributaries, routine lake monitoring such as temperature, nutrients, algae, and stream corridor/riparian inventories to identify priorities for restoration work.</p>	<p>Work with IDEQ, IDFG, IDWR, USGS, Trout Unlimited, and citizen science groups to determine where further data is warranted. Collaborate to put monitoring plans and protocols in place. Seek funding to support monitoring through the coalition.</p>	<ul style="list-style-type: none"> • USGS Groundwater and Streamflow Information Program • Heck et al. 2018. Monitoring stream temperatures – A guide for non-specialists: US Geological Survey Techniques and Methods, book 3, chap. A25, 76p • NRCS – Technical Supplement 3A – Stream Corridor Inventory and Assessment Techniques • Bearlakewatch.org/resources/usgs-water-quality-monitoring-sites/ • EPA – Participatory Science Water Projects