FWCP-Peace Priority Actions for Project Applications due November 29, 2013:

Species of Interest Action Plan

Action	Rationale	Intended Outputs	Priority
Restore function of ungulate winter range for woodland caribou herds occupying the west side the Peace basin.	Legacy forest harvesting activity in woodland caribou winter range has created an unproductive patchwork of habitat conditions that is impacting the effectiveness of areas managed for caribou on the west side of the reservoir.	 Support the development of a habitat management plan to restore function of winter range for woodland caribou. Support collaboration with forest licensees, MOF and others to improve mid-to long-term habitat conditions for caribou. Support activities that improve connected habitat for caribou. 	1
Support the protection and recovery of woodland caribou.	Community engagement is critical to the success of woodland caribou management efforts. This is recognized through the implementation of management actions for south Peace caribou herds; however, further support for caribou protection and recovery could be achieved through education related to management of herds on the west side of the reservoir.	 Support caribou recovery team objectives by funding community outreach and education. Support activities that improve awareness to create, enhance or protect habitat for woodland caribou. 	1
Conduct ecosystem/habitat restoration activities (e.g. prescribed burns, vegetation management, etc) to benefit moose, elk and deer populations, where appropriate.	The FWCP intends to support the enhancement, restoration and creation of habitat for high priority identified species. The FWCP has invested in prescribed burning projects in the past. Planning and executing burns is complex and requires appropriate environmental conditions. Burn plans exist for the Peace basin and partner funding might be available.	 Support the development of management plans that identify priorities and actions for habitat improvement, including e.g. prescribed burns, vegetation management improvements. Partner to fund prescribed burning and other vegetation management improvements as identified in plans agreed to through a community engagement process. 	1

Conduct ecosystem/habitat restoration activities (e.g. prescribed burns, vegetation management, etc) to benefit sheep and goat populations.	The FWCP intends to support the enhancement, restoration and creation of habitat for high priority identified species. Sheep and goats make extensive use of open habitats with abundant grasses and forbs (Shackleton 1999). Areas for potential improvement have been identified in regional burn plans. As with other ungulate species, prescribed burning is a common technique used to improve forage conditions.	 Support the development of management plans that identify priorities and actions for habitat improvement, including e.g. prescribed burns, vegetation management improvements. Partner to fund prescribed burning and other vegetation management improvements as identified in plans agreed to through a community engagement process. 	1
Improve understanding of First Nations use of traditional foods and medicines.	First Nations make use of a variety of plant and animal species that are neither species-at-risk nor ungulates or furbearers. Understanding whether current flora and fauna management is supporting the food and medicinal requirements of First Nations requires a better understanding of traditional use.	 Work with First Nations to identify opportunities to conduct traditional ecological knowledge studies to improve understanding of use of traditional foods and medicines. 	1
Implement projects identified through approved recovery strategies, action plans and management plans.	There is an existing planning process for species- at-risk that involves provincial and federal agencies, as well as First Nations and stakeholders. Resulting recovery strategies, action plans and management plans generate recommendations to achieve recovery goals. The FWCP can leverage this work to identify suitable actions to undertake in the Peace basin.	Partner with groups who have developed recovery strategies and action plans to support the conservation and enhancement of priority species and their habitats in the program area.	1

Uplands Action Plan

Action	Rationale	Intended Outputs	Priority
Help prevent the distribution of invasive plant species in the program area,	Invasive plants pose a significant risk to the functioning of native ecosystems and the services they provide (Charles and Dukes 2006). Regions have local invasive plant committees that map and set priorities for treatment and working with these committees can leverage existing planning work and resources.	 Partner with local invasive plant committees to address infestations that directly affect habitat as identified in the 6 Action Plans. Ensure project proponents are aware of the transportation of invasive plants and have a plan to mitigate against this, supported by the development of educational material. 	2
Help protect ecologically important habitats from domestic stock.	Trampling and grazing by domestic stock can generate significant damage in moist soil habitats that are often associated with red- and blue-listed ecosystems in BC. Results include soil compaction and introduction of invasive species. Fencing, or other forms of exclusion, can be effective in mitigating these impacts.	 Support programs that educate about the ecological impact caused by domestic animals. Consider partner support for projects that exclude domestic stock from important and sensitive habitats. Partner with local invasive plant committees to address infestations that do not have ownership. 	2

Riparian and Wetlands Action Plan

Action	Rationale	Intended Outputs	Priority
Help protect riparian and wetland ecosystems from invasive plants.	Invasive plants pose a significant risk to the functioning of riparian and wetland ecosystems (e.g., Zedler and Kercher 2004) as well as other habitat types. Regions have local invasive plant committees that map and set priorities for treatment and working with these committees can leverage existing planning work and resources.	 Support programs that educate about the ecological impact caused by invasive plants in riparian and wetland ecosystems. Partner with local invasive plant committees to address infestations that do not have ownership. 	2

Install and maintain artificial habitats, including nesting or roost structures for wildlife species, and habitat complex structures in aquatic habitats.	Suitable nesting, roosting and rearing habitat for wildlife and aquatic species are sometimes limiting in specific habitat and adding structures can lead to increased survival success (e.g., Sargeant and Arnold 1984). For example, the construction and installation of nest boxes is a popular stewardship project with the public but requires ongoing maintenance commitment.	 Support the development, placement and maintenance of artificial habitats including nest, roost and rearing structures, or other habitat types, where natural habitat is limited. Partner with organizations (e.g. Ducks Unlimited, local clubs) to create structures, boxes, floating islands etc as determined by local interests, for the benefit of species. 	2
Help protect ecologically important habitats from domestic stock.	Trampling and grazing by domestic stock can generate significant damage in moist soil habitats that are often associated with red- and blue-listed ecosystems in BC. Results include soil compaction and introduction of invasive species. Fencing, or other forms of exclusion, can be effective in mitigating these impacts.	 Support programs that educate about the ecological impact caused by domestic animals. Consider partner support for projects that exclude domestic stock from important and sensitive habitats. 	2

Lakes Action Plan

Action	Rationale	Intended Outputs	Priority
Work with First Nations and	Species of local interest to First Nations	 Support projects that work with First	1
appropriate agencies to	communities may include porcupine, muskrat,	Nations to identify opportunities to	
characterize priority species,	beaver and other species that are traditionally used	enhance species of local traditional or	
habitats, locations and methods for	for food and cultural purposes but may have a local	cultural interest by enhancing habitats or	
sustenance use enhancement.	low abundance.	other means in and around lakes.	

Streams Action Plan

Action	Rationale	Intended Outputs	Priority
Improve fish passage in streams.	Improving upstream access benefits fish populations. Perched culverts are the main reason fish access is limited. The FWCP is interested in supporting the improvement of fish access where the culvert does not have existing ownership or responsibility, and in partnership with local interest groups who provide in-kind or volunteer support. This action could involve the removal, restoration or replacement of existing culverts.	 Support projects that work in partnership with others to improve fish access caused by perched or improperly installed or damaged culverts that can be demonstrated to not have existing ownership or responsibility. 	1
Work with First Nations and appropriate agencies to characterize priority species, habitats, locations and methods for sustenance use enhancement.	Species of local interest to First Nations communities may include porcupine, muskrat, beaver and other species that are traditionally used for food and cultural purposes but may have a local low abundance.	 Support projects that work with First Nations to identify opportunities to enhance species of local traditional or cultural interest by enhancing habitats or other means in an around streams. 	1
Review existing information on stream restoration/enhancement opportunities, inventory enhancement opportunities, and provide prioritized enhancement recommendations.	Various restoration/enhancement activities and inventories have been conducted throughout the basin (e.g., Langston 1993, Morgan 1995, Koning et al. 1995) that may provide insight to enhance or conserve habitat in the program area. A review of these recommended actions is important to ensure valuable historical information is effectively used in the context of current FWCP priorities.	 Review existing historical plans and recommendations found in FWCP documentation to restore and enhance priority stream habitat using available survey and local and historical knowledge in the context of current FWCP priorities. Partner with communities, local organizations and the public to make local improvements to stream habitat. Work with local groups to organize stream and lake clean-up activities that promote healthy habitats. Review existing FWCP, government and BC Hydro (e.g. Water Use Plan) documentation to identify relevant specific opportunities for habitat enhancement including culvert removal/restoration, road deactivation, habitat complexing, erosion control, riparian revegetation, flow restoration, nutrient enrichment, side channel development, etc. 	2

Reservoirs Action Plan

Action	Rationale	Intended Outputs	Priority
Improve connectivity between reservoirs and their tributaries.	Erosion and sediment build-up at some tributary outlets to the reservoirs has occurred. The potential indications are impediments to stream access, unstable or eroding banks, lack of vegetation and collapsing ice dams in winter, all of which can be potentially mitigated. These issues degrade habitat connectivity, which may limit access to important habitat areas (e.g., Sheer and Steel 2006, Cloern 2007). Both connectivity issues are primarily the result of large, annual water level fluctuations. Several tributaries to Williston and Dinosaur reservoirs have been inventoried and some are being monitored in advance of conducting enhancement activities under the Water Use Plan program (e.g., BC Hydro 2008, Knight Piesold 2010).	 Review existing information to identify opportunities to improve connectivity between reservoir and tributaries by e.g. addressing sediment concerns, stabilizing banks or creating opportunities for natural revegetation. Support projects that improve connectivity between the reservoir and their tributaries. 	1

References

BC Hydro. 2008. Physical Works Terms of Reference. Peace Project Water Use Plan Reference GMSWORKS-19.

Charles, H, and J. S. Dukes. 2006. Impacts of invasive species on ecosystem services. Ecological Studies 193:217-237.

Cloern, J.E. 2007. Habitat connectivity and ecosystem productivity: Implications from a simple model. The American Naturalist, 169(1): E21-E33.

Knight Piesold Consulting. 2010. Finlay River Access Information Plan: Implementation Year 1. Peace Project Water Use Plan Reference GMSWORKS-27.

Koning, C.W., K.I. Ashley, P.A. Slaney, R.W. Land, and P.W. 1995. Davidson Development of a premier northern river fishery: Mesilinka River pre-fertilization progress 1992-93. PWFWCP Report No. 82, 37 p. + appendices.

Langston, A.R. 1993. Firth Creek habitat enhancement project 1993. PWFWCP Report No. 77, 11 p.

Morgan, M.R. 1981. Carbon Creek spawning/rearing channel preliminary design. PWFWCP Report No. 81, 24 p. + appendices.

Sargeant, A. B., and P. M. Arnold. 1984. Predator management for ducks on waterfowl production areas in the northern plains. Proceedings of the Eleventh Vertebrate pest Conference 11:161-167.

Shackleton, D. M. 1999. Hoofed mammals of British Columbia. UBC Press, Vancouver, BC and the Royal British Columbia Museum, Victoria.

Sheer, M.B. and E.A. Steel. 2006. Lost Watersheds: Barriers, Aquatic Habitat Connectivity, and Salmon Persistence in the Willamette and Lower Columbia River Basins. Transactions of the American Fisheries Society, 135(6): 1654-1669, DOI: 10.1577/T05-221.1

Vander Zanden, M.J., J.M. Casselman and J.B. Rasmussen. 1999. Stable isotope evidence for the food web consequences of species invasions in lakes. Nature, 401: 464-467.

Zedler, J. B., and S. Kercher. 2004. Causes and consequences of invasive plants in wetlands: opportunities, opportunists, and outcomes. Critical Reviews in Plant Sciences 23:431-452.