2014 Endangered Rivers - Backgrounder

Methodology

2014 is the second year that nominations for the Endangered Rivers list have been based on the Outdoor Recreation Council's prescribed format using a web-based survey. Among the questions which we ask persons nominating rivers to answer are the following:

- Name of the river or stream and the section(s) affected or potentially affected
- Impacts on outdoor recreation, specific activities threatened and immediacy of threat(s)
- Name of the group or individual making the nomination, his or her background, whether resident or visitor, experience with the area and/or basis for knowledge of the river being nominated

This process is intended to establish not only the nature of the threat but also the credibility of the person making the nomination and the level of knowledge they can be presumed to bring to it.

2014 Nominations

During the March nomination period 662 nominations were submitted to the website, most of which provided responses to the requested information. Of this number more than 600 groups and individuals nominated the Peace River. A large number of these were submitted by long-time or former residents of the Peace country. This massive vote in support of the Peace demonstrates the huge concern by large sections of the public regarding the likely impact of the Site C dam on outdoor recreation opportunities in the Peace River valley.

This Backgrounder was developed after the nominations had been summarized and reviewed by ORC's Endangered Rivers Committee. Comments on the principal rivers and streams nominated for 2014 are set out below.

Peace River

The immediate threat to the Peace River is BC Hydro's plan to construct an earth fill dam (60 metres high and 1,050 metres long) and a hydro-electric generating station on the Peace River at Site C, near Fort St. John. The dam would be located downstream of the confluence with the Moberly River and the hydro-electric plant would generate 1,100 MW for BC's electricity grid. This dam would be the third impoundment on the Peace River and it would flood an additional 83 kms of the stream including key riparian areas and rich valley bottoms. The impoundment would reach as far upstream as the tailrace of the Dinosaur Reservoir at the Peace Canyon Dam, which was the second dam, constructed in 1980, about 23 kms below the W.A.C. Bennett Dam, and downstream to a point below the confluence with the Moberly.

The Peace is also a significant part of the headwaters of the Mackenzie River and this reach of the river includes most of the remaining undammed length of this stream in BC. The dam would result in a widening of the river to about three times its present width and its backwatering effect would also flood about 10 kms of the lower Moberly River and 14 kms of the Halfway River. The project would also require the realignment of

several sections of Highway 29 and the construction of two 77 kms transmission lines to connect Site C with the Peace Canyon complex.

On May 8, 2014, the Canadian Environmental Assessment Agency and the BC Environmental Assessment Office released the Report of the Joint Review Panel for the proposed Site C project. The Panel was mandated by Canada's Minister of the Environment and the BC Minister of Environment to assess the proposed project's potential environmental, economic, social, heritage and health effects. It is noteworthy that the Panel did not come to a definitive conclusion as to whether or not BC Hydro should proceed with the project. One of its more significant conclusions was that BC Hydro had not fully demonstrated the need for the project so the Panel recommended that, if the BC Government is inclined to proceed, it might wish to consider referring the load forecast and demand side management plan details to the BC Utilities Commission.

Among its conclusions and the 50 recommendations made by the Panel were a number which bear on the impact of the project on outdoor recreation. These included the following:

- The Panel concluded that there would be a risk of acid generation and metal leaching from construction activities and reservoir creation. The Panel made a recommendation aimed at reducing the significance of this impact.
- The project would cause significant adverse effects on fish and fish habitat and that the construction of the project would result in significant adverse cumulative effects on fish.
- The effects of the project on at-risk and sensitive ecological communities would be significant.
- The project would have a significant adverse effect on wetlands, in particular valley bottom wetlands. The Panel recommended that, if the project proceeds, BC Hydro must conduct an assessment of wetland functions lost to the project that are important to migratory bird and species at risk including wildlife and plants.
- The project would cause significant adverse effects on rare plants.
- The project would likely cause significant adverse effects to the following species:
    - Birds: Nelson’s sparrow; yellow rail; eastern phoebe; Le Conte’s sparrow; broad-winged hawk; short-eared owl; sharp-tailed grouse, *jamesi* subspecies; Baltimore oriole;
    - Butterflies: old world swallowtail, *pikei* subspecies; Alberta arctic; striped hairstreak; great spangled fritillary, *pseudocarpenteri* subspecies; coral hairstreak, *titus* subspecies; common wood-nymph, *nephele* subspecies; Uhler’s arctic; tawny crescent; Arctic blue, *lacustris* subspecies; Aphrodite fritillary, *Manitoba* subspecies;
    - Bats: eastern red bat, little brown *myotis* and northern *myotis*;
    - Amphibian: western toad.
- The Panel concluded that the wildlife species that would experience significant effects as a result of the Project would also experience significant cumulative effects.

- The Panel concluded that the project would likely cause significant adverse effects to migratory birds relying on valley bottom habitat during their life cycle and these losses would be permanent and could not be mitigated.
- The Panel recommended that Environment Canada complete a recovery strategy, in a timely manner, for the species listed under Schedule 1 of the *Species at Risk Act* for which recovery strategies have not yet been developed (including Canada warbler, olive-sided flycatcher, common nighthawk, rusty blackbird and short-eared owl and western toad).
- The Panel recommended that, if the project proceeds, BC Hydro must develop a monitoring and mitigation program in consultation with Environment Canada to avoid the loss of active migratory bird nests in the reservoir area and downstream of the dam and develop mitigation measures specific to migratory bird species in the project area that address the changes in aquatic and riparian-related food resources and other habitat features associated with the change from a fluvial to a reservoir system;
- The Panel recommended that, if the project proceeds, BC Hydro must, in collaboration with the Province, determine whether additional lands owned by BC Hydro or Crown Lands could be maintained as winter range for ungulates.
- The Panel concluded that the wildlife species that would experience significant effects as a result of the project would also experience significant cumulative effects.
- The Panel concluded that the Project would likely cause a significant adverse effect on fishing opportunities and practices for the First Nations represented by Treaty 8 Tribal Association, Saulteau First Nations, and Blueberry River First Nations, and that these effects cannot be mitigated.
- The Panel concluded that the Project would likely cause a significant adverse effect on hunting and non-tenured trapping for the First Nations represented by Treaty 8 Tribal Association and Saulteau First Nations, and that these effects cannot be mitigated.

In two overall conclusions specifically related to outdoor recreation the Panel concluded that, although the construction period would have an adverse effect on outdoor recreation activities associated with the Peace River, this effect would not be significant. The Panel also concluded that the cumulative effects on outdoor recreation and tourism would not be significant. We strongly suggest that these conclusions cannot readily be reconciled with the Panel's acknowledged impact on so many species of flora and fauna. From the point of view of naturalists, fishers and hunters there would inevitably be a significant long term impact on outdoor recreation and wildlife viewing. These aspects would be combined with the likely loss of canoeing and kayaking opportunities as well as the impact on swimming from the degradation of many kilometres of shoreline and the loss of opportunities for fossil and rock collecting. To these should be added that the creation of the reservoir above the Site C dam would effectively eliminate one of the most unique and iconic landscapes in BC.

There is no doubt in our minds that if the BC Hydro Site C project proceeds there will be a significant and long lasting impact on outdoor recreation in the Peace River valley between the Peace Canyon Dam and Fort St. John.

Similkameen River

The Similkameen River is one of the few remaining undammed and otherwise uncompromised rivers in the Southern Interior of BC. It has been under threat for many years from the plans of parties both in BC and Washington State. In 1955 the International Joint Commission studied the power potential of the river. In 1990 a feasibility study for generation in the canyon made by Stewart-EBA Consulting for West Kootenay concluded positively.

In 2008 the Okanogan Public Utility District in Washington State proposed a dam at Shankers Bend in the US that would have flooded as far upstream as Cawston. This proposal was withdrawn after concerted opposition in BC and US.

In 2009 the Similkameen River International Steering Committee, which included local government representatives and Fortis BC, commissioned Hatch Energy to make a study of the Similkameen watershed. Their report concluded that a 200 metre high dam with a 66 MW power plant in the canyon was feasible. The reservoir created would stretch 35 kms upstream to the foot of Similkameen Falls near the Eastgate entrance to Manning Provincial Park. It is this study which led Fortis BC in 2013 to request access to Crown lands in the canyon to further their studies of the project.

There are many issues at stake from this project. The Similkameen has two beautiful canyons stretching from Similkameen Falls to Princeton, essentially the entire section that would be lost to the dam and resulting changes. The Similkameen Canyon is well known to paddlers of all difficulty levels as it varies from Class III+ to V+, depending on river levels. It is a stretch regularly visited by members of the Vancouver Kayak Club and paddlers from the Fraser Valley, the Okanagan and Washington State.

The area proposed for the dam and reservoir also has extremely high wildlife and habitat values. The river and its adjacent cliffs and forests provide the critical life-sustaining requirements for many small and large mammals, including mule deer, elk, moose, mountain goat, black bear, California bighorn sheep, cougar, lynx, bobcat, coyote, pine marten, mink, red squirrel, golden -mantled and Columbia ground squirrel, yellow-pine chipmunk, long-tailed weasel and four species of bats.

Among the Red and Blue Listed bird species found in this area are white-throated swift, Lewis's woodpecker, white-headed woodpecker, canyon wren and flammulated owl. The area also supports a number of reptile and amphibian species including the Red-listed tiger salamander. The Similkameen supports abundant populations of rainbow trout and mountain whitefish.

The Similkameen's warm summer water makes it a favourite for picnics and swimming, especially at Bromley Rock Provincial Park. Whether this river is used by kayakers, naturalists or swimmers, it would be truly a shame to lose this recreational treasure.

However the issues go beyond recreation. Fortis BC has not declared whether the power output would be used for its customers, or sold on the open market. Should the many recreational and natural attributes of the river be sacrificed for the benefit of the shareholders of Fortis BC?

Lower Fraser River

The Fraser River from Hope to Mission, with a particular emphasis on the Chilliwack stretch

Known as the Heart of the Fraser, the Hope to Mission stretch of the river is one of the most productive stretches of river in the world. This section sustains more than 30 species of fish, more than any other BC fresh-waterway, including all species of salmon as well as Canada's largest population of sturgeon. In addition, up to 20 million pink salmon spawn in this part of the Fraser main-stem in peak years and it is the principal migration corridor for billions of other juvenile salmonids as they migrate through this reach of stream to the ocean.

The Heart of the Fraser faces an array of threats including urbanization, industrial development and agricultural expansion. This past year, the stretch near Chilliwack became what many refer to as an epicenter of concern, not only because of the aforementioned threats, but also due to a proposed toxic waste treatment and transfer site virtually on the banks of the one of the most productive stretches of river on Earth. This facility, if it goes ahead, will handle large volumes of hazardous materials such as PCB's and mercury. If there was to be a calamitous event, such as a flood or fire, the river would be unavoidably impacted.

While ORC supports the treatment of such waste, it does not support the proposed location of this facility, which is not in line with any kind of precautionary approach that should be required given the immense natural values of this part of the Fraser. ORC is currently leading a legal challenge to what many of our members and respondents believe was a flawed process employed by the city of Chilliwack to rezone the property. The City has tried to enable the building of this toxic waste facility but a growing number in the community are strongly opposed, believing such a facility should be much further away from the river.

This stretch of the Fraser is also known as the gravel reach and gravel extraction, ostensibly for flood protection, is a major concern. There is a need to better protect the gravel reach with an integrated approach to reducing the flood risk. In a recent report by Dr. Michael Church, professor emeritus at UBC and a world renowned river geomorphologist, Dr Church determined that the accumulation of gravel in this reach of the river over time is relatively slow and regular gravel removal for flood prevention was not justified. There is also clear empirical evidence, presented to government by river stewards and scientists, that some past gravel extractions have been excessive in certain locations. In any event, future large-scale gravel extractions should be avoided during pink salmon spawning years so as to prevent possible massive fish mortalities such as occurred at the Big Bar site in March of 2006. Furthermore, many believe there is a need for more science-based decisions when it comes to flood control options. At no point has the provincial government provided any empirical or modelled evidence that sediment (silt, sand, gravel) accumulation has affected the design profile of the dikes in the gravel reach over the last 50 years. Last but not least, highly-productive side-channel fisheries habitats that are more sheltered from flows, hence less likely to heal quickly from gravel extractions, should be protected from such activities.

To try and address this and other human-induced impacts to this section of the Fraser, the "Heart of the Fraser" campaign was launched in 2006 by various groups such as the

International River Foundation, the Rivers Institute at the BC Institute of Technology, the Nature Trust of British Columbia and the North Growth Foundation. The “Heart of the Fraser” initiative has received widespread support from the public, scientists and government alike. A key part of this initiative deals with the acquisition of private lands for conservation purposes. This is being spearheaded largely by the private and non-government sectors including the groups mentioned above.

The “Heart of the Fraser” project is one of the most exciting conservation initiatives in Canada and some major headway has already been made with the purchase and protection of much of the Harrison Knob, which has since been turned over by the Nature Trust to the Skowlitz First Nation to manage in perpetuity. The acquisition and protection of the Tom Berry Ranch property near Hope and the protection of the McGillivray Slough as part of the Bert Brink Wildlife Management Area are other examples.

As a complement to this initiative, there is also an urgent need for a collaborative vision/plan for the Heart of the Fraser that would identify key environmental and cultural values. The Province recently committed to the idea of a management plan for the lower river that would be developed through a multi-stakeholder process. This is something local Fraser River advocates have been seeking for more than 15 years. **Consequently, we believe it’s time for the Province to move forward with the development of such a plan immediately.**

The Lower Fraser River from Mission to the Strait of Georgia

The Lower Fraser River downstream of Mission continues to be plagued by many long-standing issues, such as sewage discharges and other types of pollution, which remain problematic. There are also a host of other, emerging, issues. These include reduced protection for many urban stream tributaries (i.e. the shift from Streamside Protection Regulations to Riparian Area Regulations), plans to deliver jet fuel by tanker to a new wharf upstream from the Massey Tunnel in Richmond, a number of agricultural-related impacts and a proposal to export coal from the US through the Fraser Surrey Docks. Furthermore the river continues to be threatened by impacts associated with rapid urbanization, urban run-off, new transportation corridors, and widespread bank armouring.

Other areas of concern are found in the North and Middle Arms of the Fraser River, along with the continued regression of the outer delta marshes, which provide important habitat to juvenile salmon as well as large numbers of waterfowl. This situation may further worsen in light of an array of new development proposals near Iona Spit on the North Arm, including a proposed airport expansion onto the salt marsh by Sturgeon Bank and Port Metro Vancouver’s effort to double the capacity of the container terminal at Deltaport on Roberts Bank.

There have been certain environmental gains in the practices of some large riverside communities, such as Burnaby, Surrey and Maple Ridge, and groups such as the Fraser Basin Council continue to promote sustainability throughout the watershed, but the lower Fraser River still faces an array of pressures and threats. The recent loss of

the Fraser River Estuary Management Program (FREMP), part of the mandate of which was to review developments on the Fraser below Kanaka Creek, makes this even more problematic.

It is important to note that the Fraser it is one of the very few rivers in BC which is part of the Canadian Heritage Rivers system, the mandate of which is to conserve rivers with outstanding natural, cultural and recreational heritage. While this status does not necessarily ensure adequate conservation efforts, it is surely a powerful incentive for such measures to be undertaken.

Pennask Creek

This small creek near the summit of the Coquihalla Connector was nominated by members of the fly fishing community which is concerned about the Pennask Lake rainbow trout. According to Brian Chan, a fisheries biologist, more than 20,000 wild rainbow return each spring to the spawning beds in Pennask Creek and constitute the biggest run of naturally spawning rainbows in the world. It's believed they are descendants of ancient steelhead that were trapped in large inland lakes by receding glacial meltwater. The Pennask Lake rainbow trout are unique and form the brood stock for the Province's southern interior fishing. According to BC Parks the rainbow trout from the 1,450 metre high lake provide eggs for much of the provincial stocking program in the south-central interior. The BC government has had an egg collection site on the creek since 1928.

Pennask Creek is being impacted by acid rock leachate caused by the original construction of Highway 97C. If that highway had been built just a metre higher, things would be different, but when it was constructed it created acid rock leachate which found its way into a little creek which is a tributary of Pennask Creek. A temporary fix consists of green plastic liners in the ditches alongside the Coquihalla Connector which hold limestone to neutralize the toxic leachate as it drains. The settlement pond below is currently being pumped out regularly to ensure none of the leachate gets into nearby water.

It was also reported that in 2013 Zero Emission Energy Developments Inc. proposed two projects in the Pennask Creek area (Pennask and Westbank) as well as two in the Shinish Creek area (Shinish and Summerland). Each project would consist of 7 turbine generators, a meteorological tower and transmission lines. One substation and operations and maintenance building would serve all four projects and is proposed within the Pennask project. Each project has a 14 - 15 MW capacity. This wind power project involves the construction, testing and operation of turbine towers and all associated structures and improvements, such as transmission lines and roads. The company claims that, since the projects are each below the 50 MW threshold for the environmental assessment of energy projects, an environmental assessment application is not required. We question that interpretation of the threshold, given that in aggregate the four wind farms will have a combined capacity which exceeds 50 MW. We also note that a other proponents which have proposed projects with less than the threshold capacity submit them to an environmental assessment on a voluntary basis.

The Pennask Creek component of this project is quite likely to have an impact on Pennask Creek and we consider it essential that it be subjected to an environmental assessment.

Callaghan Creek

Callaghan Creek is threatened by the possible development of a small hydro project by Innergex Renewable Energy Inc., an Independent Power Producer (IPP), which holds a tenure on the river and which continues to conduct the surveying necessary to maintain its tenure in good standing. Callaghan Creek drains Callaghan Lake in an area immediately north west of Whistler. A six kilometre section of the creek between Alexander Falls and its confluence with the Cheakamus River is considered to be a prime location for world class white water kayaking. It is arguably the most paddled Class IV to V creek in BC. It brings a great number of paddlers from all corners of the world. Callaghan Creek is always at the top of their list with its amazingly straightforward, famous waterfall and breathtaking scenery combined with quality whitewater. It's location in the whitewater mecca that is BC's Sea to Sky Corridor makes it easily accessible and ultra-classic. It completes the Whistler Triple Crown along with the Upper Cheakamus and Soo Rivers and graces the cover of the *River Gypsies* guidebook. Kayakers are concerned that the surveys currently being carried out by Innergex, an independent power producer, will lead to a small hydro development on the river and the loss of white water kayaking on this river. This is a resource that must be protected for future generations of paddlers to enjoy.

Innergex already operates the Rutherford Creek, Fitzsimmons Creek and Miller Creek projects among others in BC. It recently reached agreement with BC Hydro regarding the Upper Lillooet Hydro Project, which includes the Upper Lillooet River, Boulder Creek and North Creek run-of-river hydroelectric projects. The installed capacity of the Upper Lillooet River hydroelectric project will be 81.4 MW and for the Boulder Creek hydroelectric project it will be 25.3 MW. As part of this agreement the 16.0 MW North Creek hydroelectric project has been cancelled.