

# Updates

## Hydro: this isn't the renewable energy resource you're looking for

On April 4, 2017, the financiers proposing the Amisk Hydroelectric Project (AHP) announced they would delay the AHP application for a dam on the Peace River for at least one more year. They now expect to submit an Environmental Impact Assessment (EIA) in 2020. Significant changes to the project design previously had led the proponents to push back the proposed submission to 2019, three years later than originally scheduled. The 24-metre high Amisk dam would be sited approximately 28 kilometres (km) southwest of the town of Fairview, just over 15 km upstream of the Dunvegan bridge on Highway 2. The headpond, or reservoir, would extend 77 km upstream and flood approximately 1,625ha of land. Almost one third of the flooded area (485ha) would be located in the Dunvegan West Wildland Provincial Park.

While AHP would mark the first Alberta dam on the Peace River, it could become the fourth dam on the Peace. It would join three BC dams on the river: the Bennett Dam (1968), Peace Canyon Dam (1980), and Site C (under construction). Site C, the target of strong opposition during the recent BC election, may not proceed under the new NDP-Green coalition government.

Site C is much larger than AHP – it would flood five times the land and generate three times as much electricity. But, many of the criticisms levelled at Site C apply just as strongly to the Amisk project. Environmentally and financially, 'Big Hydro' is very costly compared to increased energy efficiency, and other renewable choices. Even the existence of Site C, if it is completed, should be a strike against the development of another dam; how many dams and additive impacts can this

vital major river ecosystem take?

Large dams contribute large amounts of methane, a well-known and potent greenhouse gas, to the atmosphere due to the decomposition of flooded land. Reservoir flooding may release dangerous levels of methyl-mercury, a bioaccumulating neurotoxin. This chemical is linked significantly to damaging human health effects such as cardiovascular and neurological abnormalities.

AWA has several other concerns about the AHP project. First, Alberta must keep its protected area protected. The proposed plan will flood 4.85 km<sup>2</sup> of prime river corridor habitat in the Dunvegan West Wildland Provincial Park, home to important parkland wildlife and vegetation. AHP suggests compensating the Government of Alberta for destroying these lands. Compensation may sound reassuring but, in practice, this rare and specific habitat cannot simply be recreated – that's why we protected these riverine lands in the first place.

Fish in the Peace River, such as threatened bull trout, are already negatively impacted by the upstream dams in B.C. Amisk will further disrupt and fragment their habitat. Dams create barriers to fish movement and, if fish cannot migrate upstream past a dam, a population may be unable to find suitable breeding grounds. Additionally, the genes in fish populations can only move in one direction as downstream populations may be inhibited from moving past the dam. Amisk HP has yet to identify all of its proposed fisheries mitigation measures. However, one current proposed fish passage measure – a fish ladder, can be ineffective. A study in 2013 found that only three percent of a migrating fish population made it past the dam. Success varies with different species and environments but, what remains constant, is that there is a non-zero

impact: efficiencies do not approach 100 percent and certain species, such as salmonids, are more successful than others.

The physical attributes of the Peace River also will be affected by the dam. When the flows of a river are disrupted, so too is its deposition of sediment and nutrients. The sediments that used to be carried down the river will become trapped behind the dam since the Peace will flow too slowly in the reservoir to keep the particles suspended. Temperature, salinity, and dissolved oxygen levels shift as sediments and nutrients accumulate in and upstream of the reservoir. These are important changes to the aquatic ecosystem; they can make conditions unfavourable for cold water native species such as bull trout. If water is retained in a reservoir for long periods, harmful algal blooms may also develop.

The impact of the proposed dam would not be constrained to the immediate area either; the timing and disruption of natural flows and floods of the Peace River from current dams has been implicated in effecting on habitats more than 1,000 km downstream. The Peace-Athabasca Delta, Slave River, and Greater Slave Lake have all been affected by dams on the Peace River. A recent mission report released by the United Nations Educational, Scientific and Cultural Organization (UNESCO) stated that, in their communications with the company, AHP Development Corporation had so far given no consideration to the impacts of these downstream ecosystems.

Large hydroelectric dams are not the clean energy sources that their promoters claim. Renewable energy and clean energy are terms often used synonymously. But, as we continue to diversify our energy economy, it's important to recognize the difference. AWA believes there are reasonable energy alternatives such as

well-sited solar and wind that are similarly renewable and comparatively clean compared to AHP. Instead of creating new disturbance, the government should focus on increasing energy efficiency. Let's work to ensure our current energy

footprint services a larger range of needs. Let's also optimize already disturbed areas by, for example, adding solar panels to the rooftops of houses or on brown-field sites. Due to the ecological costs and the promise of these alternatives AWA

will continue to oppose the development of yet another major dam on the Peace River.

*Nick Pink*

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