BC Hydro
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GMSWORKS-10

Peace River Industry and Taylor Water Quality

Sedimentation concerns at water intakes

The Peace Water Use Plan Committee recommended that a study be implemented to assess if there was a hydraulic effect from reduced Peace River flows during Pine River freshet. There were concerns that sedimentation was affecting intakes at District of Taylor (District) and Spectra Energy. The results of the study would help understand the source and degree of sedimentation and inform decisions for Peace Canyon Dam flows or non-operational alternatives such as physical works.

Questions We Wanted to Answer

1. What is the evidence of sedimentation at the intakes and islands?
2. What is the cause of sedimentation?
3. Assuming sedimentation from Pine River, could Peace River flows mitigate sedimentation?
4. Would increasing dam discharges reduce Peace River summer temperatures?

Results of the Study

- Sediment coats the islands and intakes.
- The regulation of the Peace River has reduced the ability to transport bedload. Material builds up and is covered with vegetation and fine sediment.
- Neither increase in Peace River flow nor changing the ratio of Peace River flows to Pine River flows would reduce the material accumulation.
- Increasing discharges would reduce temperatures.

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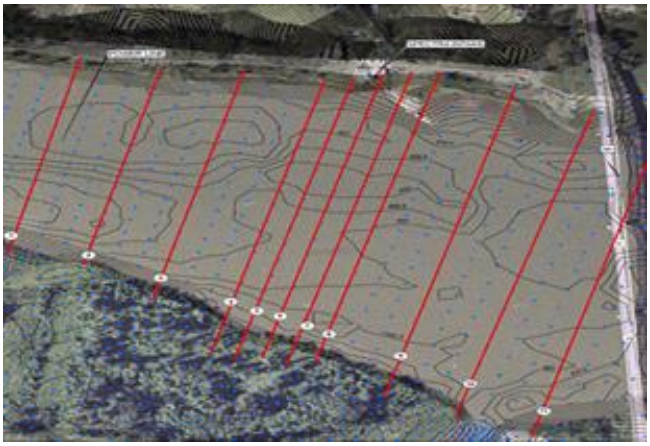
Lessons Learned

- The turbid Pine water is not the primary cause of sedimentation.
- The District of Taylor's well function was related to maintenance and screen fouling.
- At the Pine River, material deposits and builds up to the elevation of the channel. This aggradation is evident to 7 km downstream of the Pine River.
- Industrial cooling issues are independent of Peace River temperatures.



Key Findings and Next Steps

- The intakes have been incrementally affected by flow regulation.
- There is no practical solution to reverse the ongoing aggradation process in the Peace River below the Pine River confluence.