

Restoration options for the Saskatchewan River Delta

PROJECT SUMMARY

We set out to understand the fate of sediment that passes through the delta and whether restoration of trapped sediment might be feasible. Through that process, we have identified other pressing restoration needs for the delta. These range from local to regional solutions and from inexpensive to potentially cost-prohibitive. Here we list some of these proposed solutions.

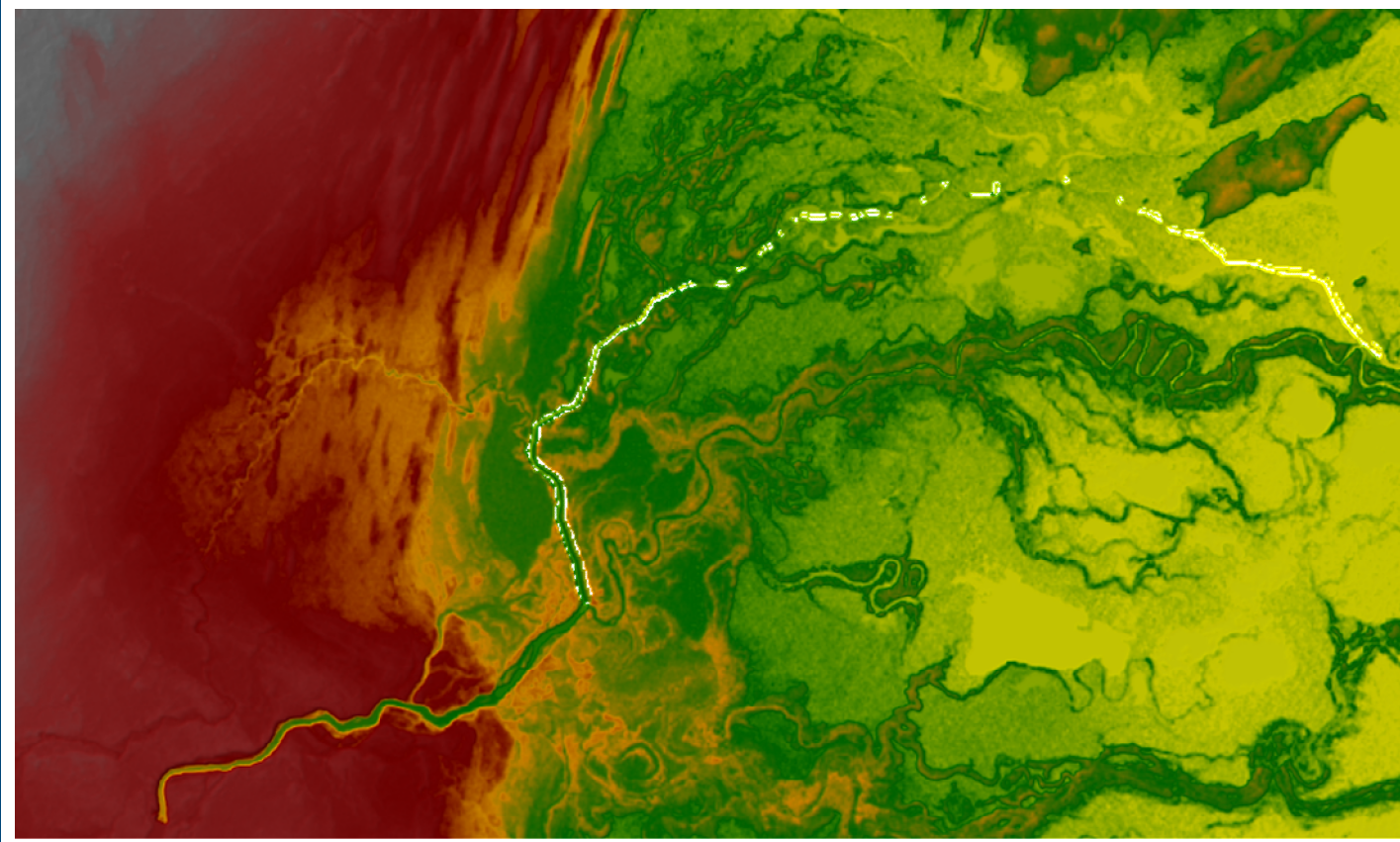
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PROJECT NAME: We need more than just water: Assessing sediment limitation in a large freshwater delta

The Problem

The Saskatchewan River Delta is in need of repair.

- Upstream development has altered seasonal flows
- The delta lake has shrunk
- Dams have trapped sediment
- The river channel is cutting deeper, blocking small side channels that lead to wetlands
- Hydropeaking kills fish
- Invasive weeds are taking over the wetlands



The Solutions

We have identified six key restoration options for the delta.

- Renaturalize the flow regime
 - Regional; \$\$
- Build a low-head dam in the delta to retain water and generate hydropower
 - Local; \$\$\$
- Restore the delta sediment regime
 - Regional; \$\$\$\$
- Dredge and clear key channels in the delta
 - Local; \$
- Eliminate hydropeaking
 - Local; \$\$\$
- Return burning to traplines
 - Local; \$

User Engagement

Our work is guided by the Delta Stewardship Committee, a group of people in Cumberland House that is concerned about the long-term health of the delta.

- We have met as a group ~3 times per year since 2015
- Additional one-to-one conversations occur to better gauge each individual's desire for different solutions
- Larger meetings, facilitated by IPMC, are held with outside agencies that have a stake in the fate of the delta



Outcomes and application uptake

Restoration will depend on the desires of the community, the feasibility of a given project and the availability of funding. Further expected changes upstream such as the proposed irrigation expansion place greater urgency on finding solutions. The best possible outcomes are those that improve the health of the delta and provide meaningful engagement and employment for the people of Cumberland House.

