

FORT MCPHERSON Peel River

OUR VISION FOR OUR RIVER

FOR THE FUTURE:
Need to listen to what the river is telling you, and make changes in response to what it's saying.

WHERE WE ARE TODAY?

- STEP 1** (Recognize the Problem) **EROSION OF WESTERN SLOPE, CEMETERY**
- STEP 2** (Manage the Threat) **WORKING ON IT.** (water heating up (lower water levels) More sand-banks; harder to predict what will happen to the land, fish, water. What's happening)
- STEP 3** (Gather/Assess Info) **IN PROGRESS**
- STEP 4** (Evaluate Options & Plan)
- STEP 5** (Take Action)

FORT MCPHERSON
Slope stability study, artificial and geological maps (2015)
Findings: There are significant long-term risks to the community from slumping on the banks below the church, cemetery and other buildings in the community.
Recommended actions:
- Limit traffic on the slopes
- Fill erosion cracks and frost cracks with silt or clay
- Manage Snow Load
- Surface slope at William Fyfe Health Centre and Charles Kue Building
- Bush removal
- Protect toe of slope with erosion control
Site Visit Report - Adaptive Slope Stability Management (2025)
Recommendations: Monitoring, surface engineering slope stabilization around the church, surface water drainage improvements, reduced slope with trees rather than shrubs, make snow dump away from areas at risk.

last flood 2006

What can be done to restore your relationship to nature - adapt to how nature is changing

Been done (by the health centre) - put in Bentonite (absorbs water - fills permafrost cracks)

- Have already established a no-build zone near the slope
- rules about putting snow near/over the edge of the slope (too much snow increases the erosion of the slope)

LOOKING FORWARD

CHALLENGES & BARRIERS

McPherson: Funding is drying up - will have to find new ways/means of adapting because there's no money to stop the slope

LACK OF COMMUNITY INVOLVEMENT
- LACK OF RECORDS
- LATERAL VIBRATION
- SELF DEFENSE

IDEAS:

More education on monitoring & on the slope so they'll generate ideas - which helps mix funding (ie funds for people who like hunting - gets people to come out to a discussion - brings new ideas from new sources)
For instance, host a beading gathering & then ask people for their slope/erosion
↳ dance is a giveaway with hunting gear
↳ helps steer youth to climate change

IDEAS & SOLUTIONS

Tree planting for stability
What funding sources available to fund this?
Eg. 1 Billion from Federal program or Private funders for tree planting.
- START HOLDING MEETINGS
- UPDATE
- PARTNERSHIPS
- CULTURAL HEARING
- PURPOSE, INCENTIVE
- 5, 10, 25 YEAR PLAN
- CSDM
Future Adaptation:
Going to open up the slope to help pack the snow & freeze the ground.
(McPherson - future adapting)

Cemetery: ↳ people don't want to talk about it, but when you hold community meetings, there are lots of good ideas & histories.
What's happened: 1950-2004, lost 10.8m of slope in McPherson. Of that 10.8, 5.6m were in the last 14 years.

ICBCM
Funding available for land-based mapping & monitoring (ie. mapping where the changes are to help w/ travel)
ICBCM Program
↳ Indigenous Community-based Monitoring Program

HOW TO GET PEOPLE INVOLVED
Next: Drones:
- there are drones in McPherson, Aklavik & Tsilghechic
- ARI is a resource for drone survey & certification

Potential source of funding: private sources (companies)
- hire a summer student & plant lots of birch

COMMUNITY UPDATE
ERASE YARD
HIGH SCHOOL UPDATES
OPEN SLOPE TO SLIDING SNOW - MOBILES

the Cemetery: a new one needs to be built, and graves need to be moved.

Priorities & Next Steps

Ideas & Solutions

Build the roads up.

They have an emergency plan - There is a siren to listen to radio (Local station)

Questions & Needs

CHALLENGES & BARRIERS

Ferry land contributing to the barrier extending
Concern:

Questions & Needs



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WHERE WE ARE TODAY?

STEP 1
(Recognize
the Problem)

EROSION OF WESTERN SLOPE, CEMETERY
~~EROSION~~

STEP 2
(Manage the
Threat)

WORKING ON IT.

(Water heating up
(lower water levels)
More sand-
banks; harder
to predict
what will
happen to the
land, fish,
water
What's happening

STEP 3
(Gather/Assess
Info)

IN PROGRESS

STEP 4
(Evaluate Options
& Plan)

STEP 5
(Take Action)

- Have already
established a
no-build zone
near the slope

- rules about
putting snow
near / over
the edge of the
slope (too much
snow increases
the erosion of
the slope)

Been done (around
2015)

Bentonite
- put in
by the
health
centre
absorbs
water - fills
permafrost
cracks

Restore
your
relationship
to nature

- adapt to
how nature
is changing

FORT MCPHERSON

Slope stability study, surficial and geohazard maps

Findings: There are significant long-term risks to the
banks below the church, cemetery and other built

Recommended options

- Limit traffic on the slopes
- Fill tension cracks and frost cracks with silt or clay
- Manage Snow Load
- Buttress slope at William Firth Health Centre and
- Brush slopes
- Protect Toe of slope with erosion control

Site Visit Report - Adaptive Slope Stability Man

Recommendations: Monitoring, pursue engineer

church, surface water drainage improvements, re

than shrubs, move snow dumps away from areas

LOOKING FORWARD

LOOKING FORWARD

CHALLENGES & BARRIERS

McPherson:
Funding is drying up - will have to find new ways/ means of adapting because there's no money to stop the slope eroding.

- LACK OF COMMUNITY INVOLVEMENT
- LACK OF RESOURCES
- NATURAL VIBRATION
- SELF DETERMINATION

IDEAS:
More education on monitoring & on the slope so they'll generate ideas - which helps mix funding (ie funds for people who like hunting - gets people to come out to a discussion - brings new ideas from new sources)

Day 1 - end of day discussion
- Can't fight nature
- River has always been changing
- need to adapt rather than fight change
- would be helpful to know how to read water
- McPherson - our biggest problem is the cemetery
- may need to move graves
- we also have a re-burial zone near the bank

IDEAS & SOLUTIONS

Cemetery:
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Of that 10.8, 5.6m were in the last 14 years.

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private sources (companies)
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For instance, host a beading gathering + then ask people for their slope/ erosion

- ↳ dance
- ↳ a giveaway with hunting gear
- ↳ helps steer youth to climate change

Tree planting for stability.

↓
What funding sources available to fund this?

EG 1 Billion trees Federal program

Private Funders for area planting.

- STATE HOLDINGS MEETING
- UPDATE
- PARTNERSHIPS
- CULTURAL HEALING
- PURPOSE, INCENTIVE
- 5, 10, 25 YEAR PLAN

ICBCM
Future Adaptation
Going to open up the slope to help pack the snow + freeze the ground.
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HOW TO GET PEOPLE INVOLVED

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Questions & Needs

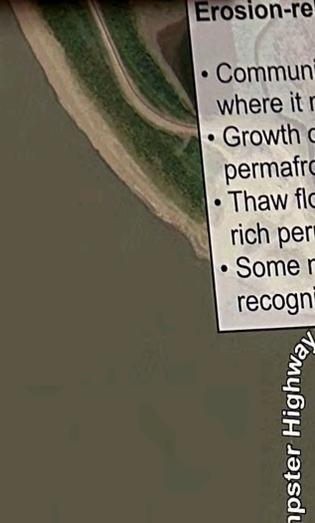
- COMMUNITY UPDATE
- GRAVE YARD
- HIGH SCHOOL UPDATE
- OPEN SLOPE TO SLIDING, SNOW - MOBILES

McPherson
The Cemetery:
a new one needs to be built, and graves need to be moved.

Priorities & Next Steps

Erosion-related Considerations

- Community is situated on the outer bend of Arctic Red River where it meets Mackenzie River
- Growth of nearby ponds over time is a result of thawing permafrost
- Thaw flows caused by erosion of the slope toe and the rich permafrost are impacting the cemetery
- Some mitigation has previously been proposed but it is recognized that multiple drivers of instability must be



Highway