

Stream-eroded Landscapes

Refer to your notes, the ppt slides, the red lab physical geology lab manual, Aerial Stereo, and The Canadian Landscape book. Note: on a Landsat image, clear water shows black, and water with sedimentation shows varying shades of blue.

Laboratory Manual in Physical Geology (red)

- Use Google Maps to examine the Shuswap River from Enderby to Mara Lake. What stage of maturity is it (Early youth → Late maturity)? How do you know this? *See pg 68-69 of the red lab manual for reference.*
- See pg 72 of the red lab manual. What do the oxbow lakes in the floodplain of the Souris River show?
- If the channel isn't controlled by engineers, where along the present course of the river might an oxbow form?
- See pg 74 of the red lab manual. Where is the gradient of Cedar Creek the steepest, upstream of the apex (top) of its alluvial fan or on the fan surface?
- Relate the gradient change of Cedar Creek to to formation of the alluvial fan

The Canadian Landscape Book

- Read about Stereoscopes on page 13 and practice using the stereoscope

Examine the image of Fort McMurray on pg. 107 in stereo. There are 3 different sizes of streams visible. Athabasca River is the largest, Clearwater River drains into it North of town, and Horse River meets the Athabasca River south of town.

- What does the colour difference between Clearwater River and Athabasca River reveal about their stream load?
- Classify Horse River (Early youth → Late maturity). Provide evidence for this classification:

Aerial Stereo Book

Observe, in stereo, pg 34 and 44. What stage is each river at? Explain why you know this.

Draw a sketch of the river on pg 44. Include where you think the oxbow lake will eventually form. Why will this area become an oxbow lake?

Observe the river on the right side of pg 39. What is the shape of this riverbed: Meandering, U-shaped, or V-shaped? (circle one)

Why does the landscape beside this river appear to be so cut up (what is causing all these cuts)?

Look at pg 38. What causes the river to leave all of its sediment in sand bars like this? (think about how fast the river is moving at this stage)