

Stream Trailer Program



A curriculum guide for
teachers

Bookings for School or Community events www.mainstreams.ca



2015



Terms

- Instructors explore watershed terms/concepts using a bulletin board
- Terms/concepts are reinforced during the lesson and reviewed at the end

What is a watershed?

- Watersheds are alive with all kinds of plants and animals that need water
- Watersheds include branch streams, or tributaries
- Watersheds include all the snow and rain as part of its water cycle
- Some of the rain, or snow melt flows into streams
- Some of rain, or snow seeps into the ground as ground water and adds to the water table
- Some of rain, or snow melt seeps deep into the ground to add to aquifers
- Many different kinds of plants and animals live in watersheds
- Can you name some animals and plants that live in your watershed?

Stream Trailer Manners

- Please don't fiddle with the sand unless instructors ask you to
- The sand sticks, so shake it off into the trailer when it dries, or wash hands in water buckets
- Students will change positions around the trailer so everybody get to do all the jobs

Core Program

Carving channels

- Students will form two teams Right side (Eagles); Left side (Ospreys) *or students choose their own names*
- Each team will carve a channel with bends (sinuosity) using trowels
- Works well if instructors or students trace a line first as a guide
- Have you ever seen a stream that is completely straight? *We call that a ditch*
- Rule: Only students with the trowel dig and all students get to dig
- When channel is complete, it is tested with low flow and high flow (freshet)

Riparian vegetation

- Each team is shown how to place the vegetation (*Hint: dig it under*)
- Each team places vegetation on both sides of their channel from source to mouth
- Each channel is then tested with low and high flows so that students can compare with channels without vegetation

Million \$ View

- A house is placed on an outer bend of the stream bank
- Homeowner removes vegetation to increase view and to clear a way to get to the beach
- Removing riparian vegetation causes erosion; the house will gradually topple into the creek
- Students repair the stream with riparian vegetation and re-test in low and high flow



Optional Lessons

Culverts

- A rancher needs to build a way to cross a stream on his land
- Students pose solutions using rocks, pipe of various sizes and vegetation
- It is far cheaper to use a culvert than a bridge
- Is culvert size important?
- Riparian vegetation is vital to protecting the culvert

Farm animals need water

- Build a fence around the farmyard (*what are the pros and cons of fences?*)
- Add the animals one at a time, engaging students in the idea of farm animals needing water
- Refer to Environment Canada chart of water requirements of various kinds of farm animals
- Now that the farmer has all these animals, how do they all get enough water to drink?
- Brain-storm student suggestions
- Remove fence and vegetation along the creek – observe the erosion and potential land loss
- Design ways of watering animals, while protecting the stream (*try riprap*)
- Test student solutions

Boulders and Dams

- Teams experiment with creating a dam, or weir in the stream
- Boulders, small rocks, vegetation and culverts can be used
- Each solution is tested against low and high flow conditions

Storm Water

- Students broken into 4 teams
- Each team designs a parking lot
- Permeable versus non-permeable surfaces
- What are storm drains? - Do they have impact on streams?
- What happens to extra water during snow melt or rain storms?
- Introduce swales, rain gardens, ponds, wetlands
- Student teams design water-friendly parking lots
- All designs are reviewed and tested

Closure

Wind-down

- Class moves back to bulletin boards
- Terms introduced in the beginning are reviewed
- Teachers receive Mainstreams Glossary of Terms that can be used for review in class



Stream Trailer Program Bookings

- Teachers or organizations wishing to book Mainstreams Stream Trailer Program can make requests on our website mainstreams.ca - we go to all kinds of festivals!
- Generally the Stream Trailer Program takes place in Spring and Summer



Mainstreams Stream Trailer Program has been made possible by funding from Columbia Basin Trust

Sponsored by

