Field Study Activity Key

Your map should have a baseline. The baseline should be approximately parallel to the shore (a real shoreline is unlikely to be a straight line) If the shore was curved, your baseline might follow the curve of the shore. You want the transects to intersect all three zones in a similar way.
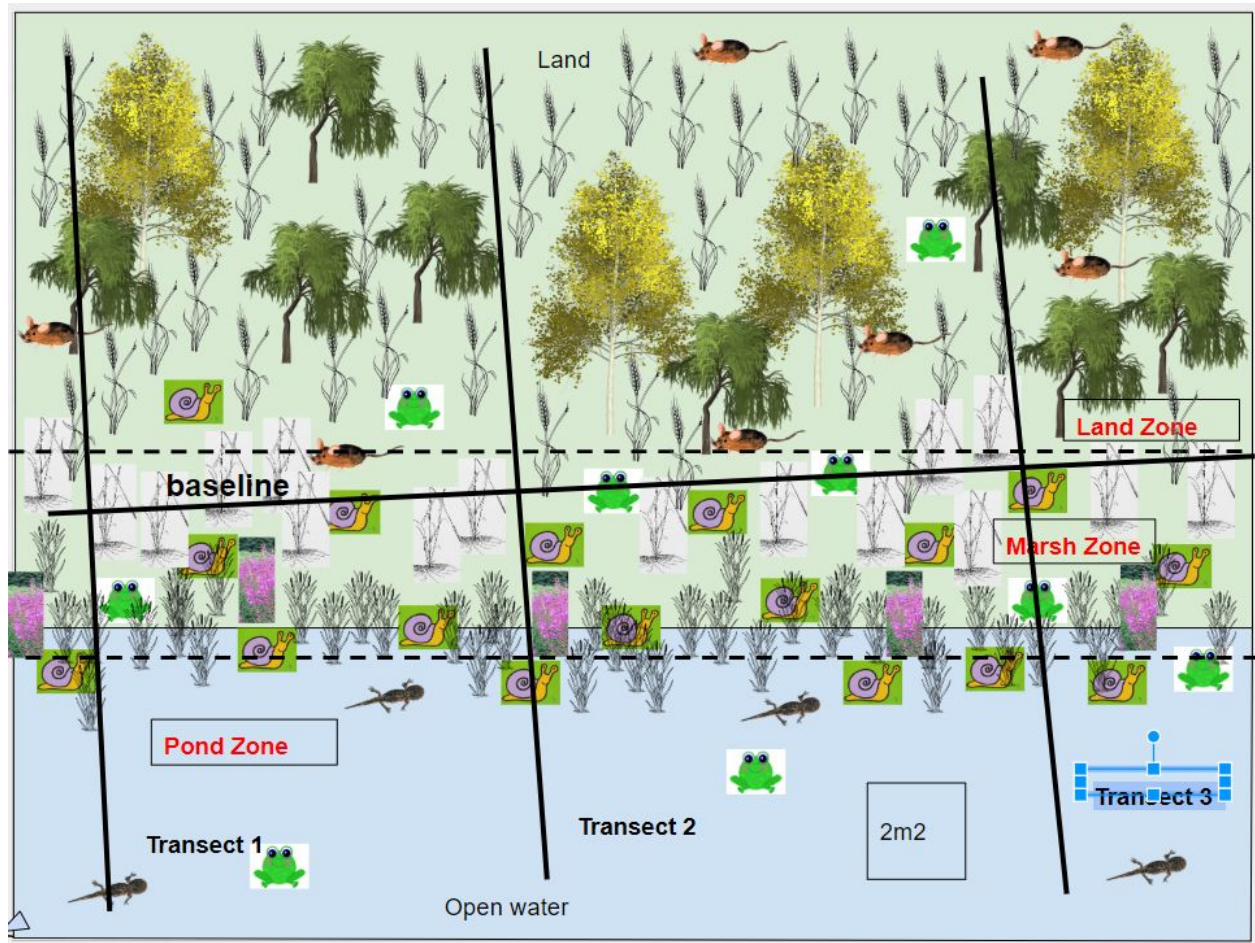
Data table example

These are the numbers from one transect. You might have taken an average of three transects to get your data.

Species Key		Pond zone	Marsh Zone	Land Zone
Willow		0	0	2
Tamarack		0	0	1
sedge		0	2	1
cattail		3	2	0
Purple loosestrife		0	1	0
grass		0	0	5
frog		0	1	0
salamander		1	0	0
snail		1	2	0
mouse		0	0	1

Analysis Questions Sample Answers

1. Looking at your data, what plants and animals seem to characterize each of the three zones? (Which plants and animals are most present in each zone?)

Open water is characterized by cattails, salamander and snails

Marsh is characterized by sedges, cattails, frogs and snails

Land is characterized by tamarack, willow, grass and sedge (maybe mice but I only counted 1)

2. Compare your results to the results shown in the key. Were they similar?

Your numbers should be similar, but not exactly the same.

3. Plants were partially inside and partially outside the sample space, so how did you decide to count them. Would you have this problem counting real plants?

I counted plants if the stem was inside the sample space. Some people count them if more than half the plant is inside the sample space. Real plants would be easier to count than pictures of plants, but a vertical sample would need to be considered. For example, willow branches 5 to 15 meters above your 2m2 sample space really do affect the populations in your survey.

4. Purple looseleaf is an invasive species in Alberta, that means it is not native to Alberta. Was an invasive species found in your survey?
Yes

5. How would you count animals in a real field study? Most animals would run away or hide. Would the baseline and transect method work well counting animal populations?

An animal like a mouse might not be seen, but a person could see footprints or droppings. Beaver might be there but would mostly be seen at night. Birds might not leave much evidence, but are probably present.
The baseline and transect method is not such a good way to survey animal populations.

6. Did each of the three transects give similar results? If you chose different transects do you think you would get similar results?

I got similar results from each transect. But the numbers were so low it is difficult to come to a conclusion. I wish I have more transects or a larger sample space.

7. If 5 different people used the baseline and transect method to survey populations, would they get similar results?

I think 5 different people would get similar, but not exactly the same results. They would probably be able to characterize the three zones using the same plants and animals.

8. Was the baseline and transect method a systematic way to measure populations?

The baseline and transect methods is a good way to systematically measure plant populations, and some animals that do not move much. It is not a good way to measure animal populations that are moving.