

# Connecting to the Environment in Non-Majors Ecology

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Far too many students know little of the ecosystems around them. They have acquired the idea from media and

videos that diversity and ecological significance are elsewhere - Madagascar, the Amazon or anywhere but their

local environment. They don't know the species of birds, mammals, plants or insects that surround them. Since

for it, it is vital that students become acquainted with and begin to appreciate their natural surroundings.

protection of the local environment requires a body of interested, concerned and knowledgeable citizens to speak

In non-majors ecology I use field notes following a walkabout to accomplish these goals. During the first week of

classes in the fall, we join a local naturalist for a walkabout in the provincial park adjacent to St. Mary's. He leads

an invasive shrub, the presence of earthworms, or the difference between 2 poplar species. This simple activity

the class on a walk across the park, and we stop and talk about everything we see and hear, whether it be a flicker,

has a profound effect on the students, who begin to realize how much there is to be seen and heard in a place they

The walkabout prepares students for writing field notes each week. These emphasize observations of the natural

world (changing seasons, a spider in the bathtub, location of willows by streams or anything that catches their

walkabout scheduled during class (90 min) second week of the fall term

we walked across the park to the creek talking about everything we saw

naturalist was "paid' by a donation in his name to a local naturalist charity

accuracy and significance of observations

use and significance of images as well as words

I am very grateful to the students who allowed me to use their field notes: Henning Christensen, Alicia

Hubka, Suzanne Larson-Wall, Rick Russell, Andrea Weldrick, Jonathan Wong. It was a pleasure reading

Contact your local naturalist club and ask if someone would be willing to do a walkabout with your class. The

opportunity to walk in a natural area with someone knowledgeable is a real eye-opener for many students - they

The combination of the walkabout and the field notes enhanced the students' ability to observe and appreciate

park right next door so walked down the hill to meet the naturalist in the park

handwritten; writing engages different parts of the brain than typing

connections between observations, theory and class discussions

attention). Field notes are graded every week on the quality of observations and the integration of observations

**ABSTRACT** 

take for granted.

**METHODS** 

with topics discussed in class.

Field notes:

grading:

**ACKNOWLEDGMENTS** 

RECOMMENDATION

the world around them.

have never met anyone with that kind of knowledge.

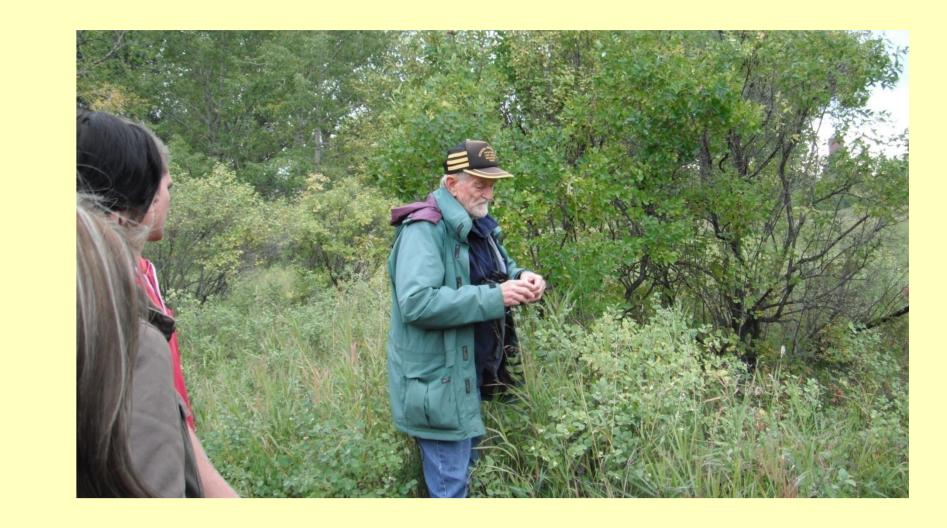
local naturalist with decades of experience

1-2 p/wk (less often was less effective)

illustrations encouraged close observation

local guide books recommended to identify species







#### Students made more connections between organisms and their environment

The benefit of taking the service road is that one gets a clear view of the ongoing evosions from the spring runoffs and minor avalance patters

Forest floor
evotions

The forest floor in the mountains is especially prone to exosion from channols created from previous years. Topsoil forms slowly and what has been built over a century can be rapidly lost if the land Locks its protective cover of vegetation.

Fortunately the forest floor along the service road is covered with thick vegetation such as the creeping juniper, causing minimal damage.

what Seasonal (Early Spring) Ecology means in Calgary:

the apperance of migratory birds who require neating areas
increased food sources for birds
the displacement of field nice into new temporary shelters
the emergence of snow held made and algae that returns (AHHH... allergies)

the Start of sap flowing in trees
the begunnings of grasses and flowers which help feed large animals
such as the deer

the return of books to the part! (very nice)

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an increase in water areas that draws out small returning mosquitoes and insects.

I arge increases in water areas also provide spaces for many of the water bugs later

under bugs later

tad pole and fish eggs (as well as insects, such as tree hole mosquitoes eggs hutch)

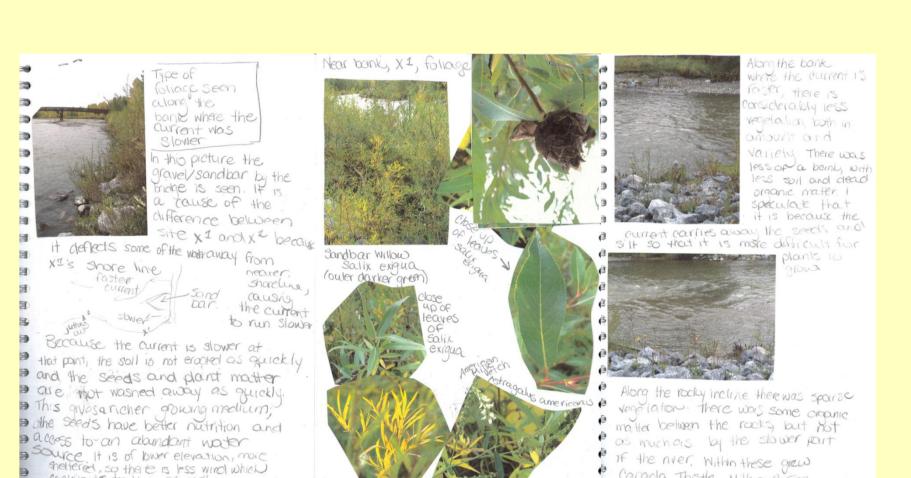
tad pole and fish eggs (as well as insects, such as tree hole mosquitoes, which has yet there is an increase of sunlight! (and warmer temperatures, which has yet to be seen in Calgary)

Things to examine once the Ice/snow thaw:

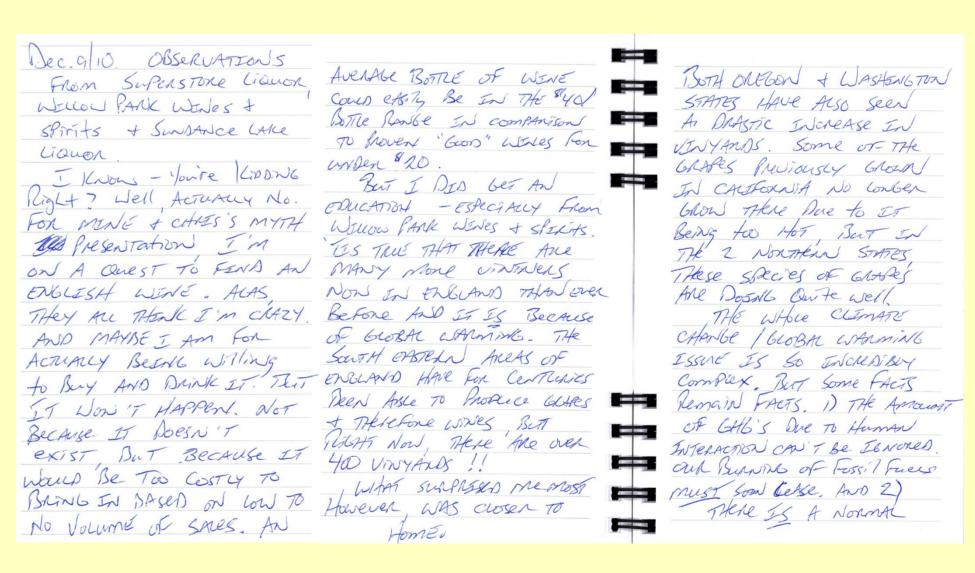
The scum on ponds and rocks on the creek withhird often green/brown?

The type of minious that appears in the creek withhird.

BATS! (not water related)

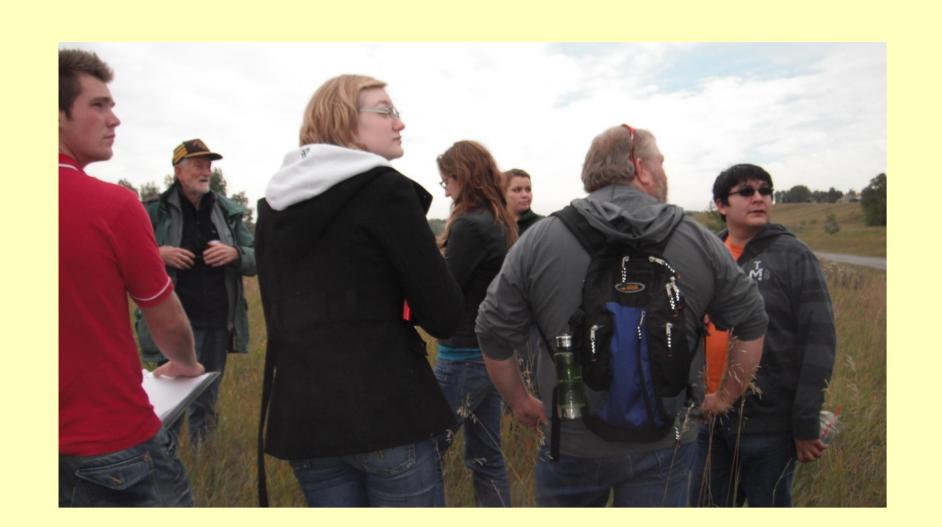


## Students made more connections between large scale processes eg climate change, and human activities



## Students made more connections between human activities and their impacts on the ecosystem

"...composters <u>never</u> fill up. There is always room for more vegetative matter. They are very effective waste reducers. It is a wonder more people don't compost. I wonder if it is because of the "ick" factor - because it is messy and smelly to take the veg. matter out of the house. Once it is in the composter it isn't smelly though. I wonder if society's obsession with cleanliness and sanitation is actually creating a dirtier earth with regards to more waste in landfills, larger landfills & dirtier oceans because individuals don't want to deal with the icky part of the waste we create. We now have toilets that compost human waste into helpful, proper manure, but we don't use them. Instead we send it to our rivers, lakes & oceans. It doesn't make much sense."



### RESULTS - ENRICHED APPRECIATION

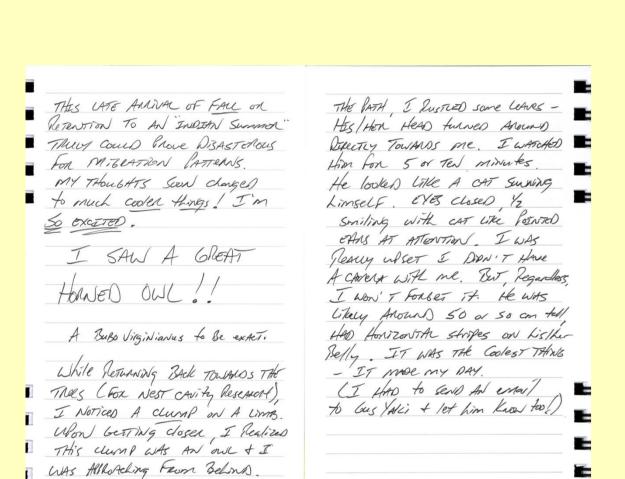
## Students appreciated the wealth of knowledge of the naturalist and the complexity of their environment

"I want to thank you for bringing in Gustave Yaki. I have never had that experience and I truly enjoyed having him show us around. It was wonderful."

#### RESULTS - ENRICHED OBSERVATION

#### Students had more opportunities for observation by being outside more frequently

"I never really took the time to look at the things around me and the way everything is connected together."





Those eyeam white strands of algae wave back and forth in the waym acevrent. The strands of algae can be mistaken for pollution or deposits of sulphur, but are in fact the bread and butter of the wetland area and provide a basic food source for those and live there.

## Students paid more attention to details in their environment that had been mere background previously

Fish Creek Park:
Weather: 5°C clear and Lunny
Observation spot: West of Show's Meadow (Show Meadows?) near the
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Observatio

- Nort to flawing evert-had still has large amounts of ice

- low elevations (did not take elevation map / GPS - Lemember next time!)

- does not face the sun of 9:00 am however the clearing-had leads to the

nier/creek will have direct exposure to sunlight

- the snows not as cleep as in some exposed parts of the meadaes

- the snow's not as cleep as in some exposed parts of the meadaes

- in the suppress 7 cm in the shode, 3.5 cm on the far west side

with sunlight exposure

- In the location I was observing I did not expect large amounts
of snow-to occumulate due-to the large tree cover.

The Plants and Fungi
- again on the pine-trees, several branches without many needles had been covered on the lower end of the branches with Bryonia. If this was quite close to where the snow was covering indicating that this was similar to the snow expected or averaged in my location.

There were other tall grass-like plants that had unerged from under the snow cover but the type of plant was hard to identify as most of it remained hidden

Oct. 5/10 - Fish Creek Provincial Park, MID-AFTERNOON (3:00 pm?)

What a beautiful DAY, However

Afrel walking along the pathway

For 1/2 How on SO - I STAIL

HADN'T NOTICED LOBSERVED ANYTHING

UTHER THAN THE THEL BROMUS

GRASSES DANCENG IN THE BRETE.

NOT ONE BIND, MOUSE, SOUND

ON ANY OTHER SIGN OF LIFE.

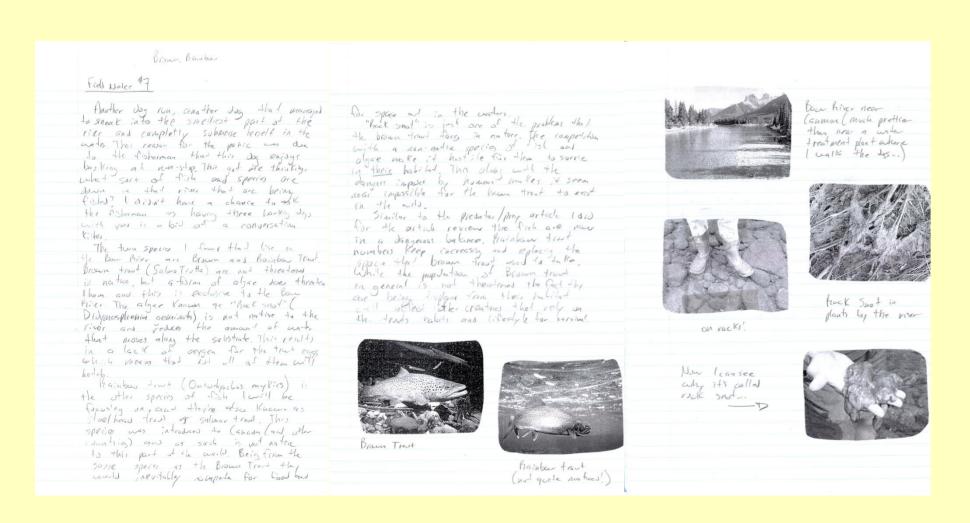
THEN IT DANNED ON ME.

I WAS OBSERVING LIFE. THE

GRASSES THEMSELVES WERE

DISPLAYING THEM SIGNS OF

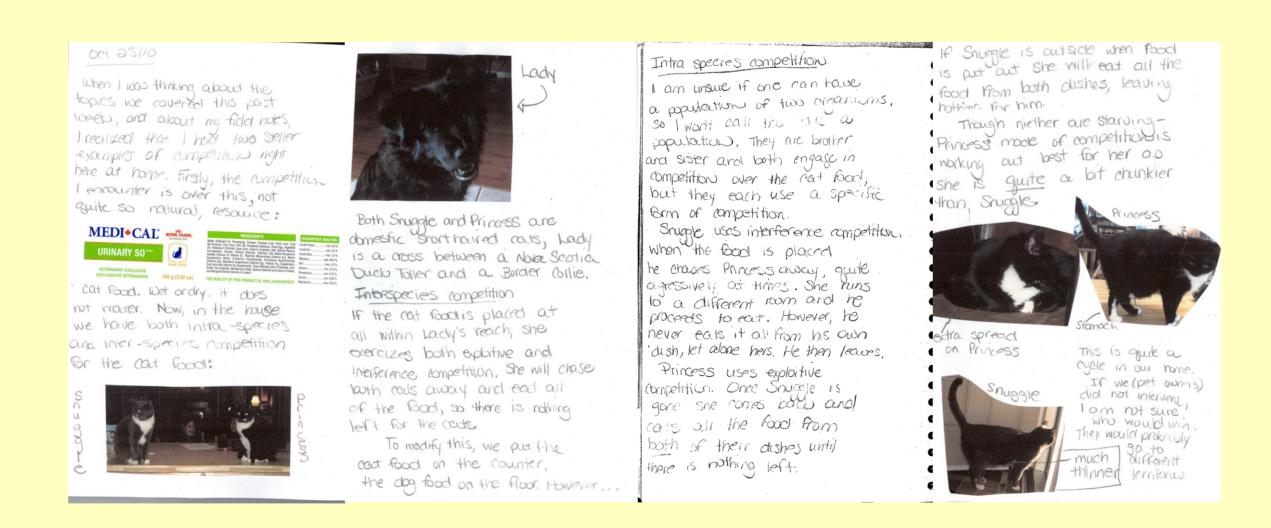
HEALTH WITHEN THE ECOSYSTEM.



Students made more connections between the lecture material and their environment

"The weekly field notes were great, they help solidify the readings."

"I always knew in the back of my mind that there was a reason for why things happen but now that I have had an opportunity to actually 'observe' things surrounding me it's really interesting. Having the time to reflect on issues that were discussed in class enabled me to get a better feel for the topics. I was able to get first hand experience and understanding by connecting the information learnt & read in the text to practical & concrete things. I will admit that finding the time to do the journal entries was challenging but to have the personal time was quite rewarding!! I suppose that was the whole point of the journal entries!!"



#### Students noticed similarities between processes

