

Kaelin Andrus • Field Skills
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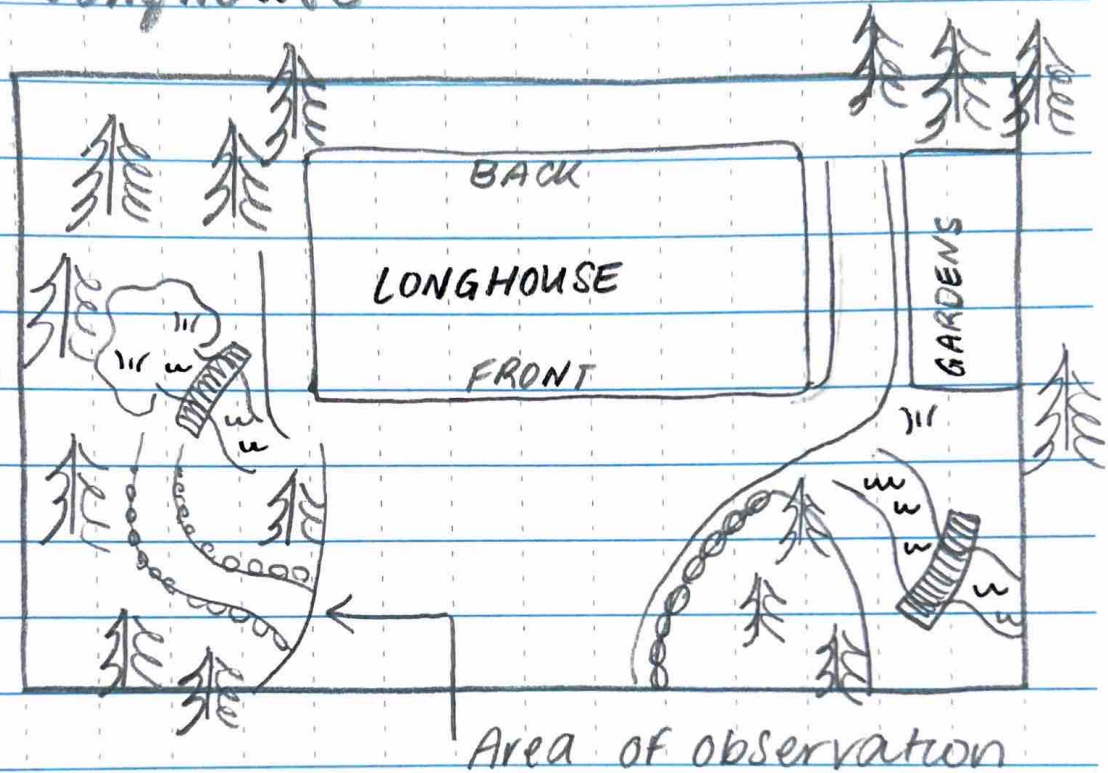
pg. 17

Biodiversity Skills Part 2
Homework

April 17, 2023

Andrus 1

11 AM 47°F (8.333°C)

The Evergreen State College
Longhouse

Location: 47.0725°
 -122.9738°

Near the entrance of a short trail located near the front left of the Longhouse (if facing the front of the building.)

Wind: Beaufort 1 (2-5 km/h)

Sky condition: overcast + cloudy (2)
 Wooded area, open canopy.

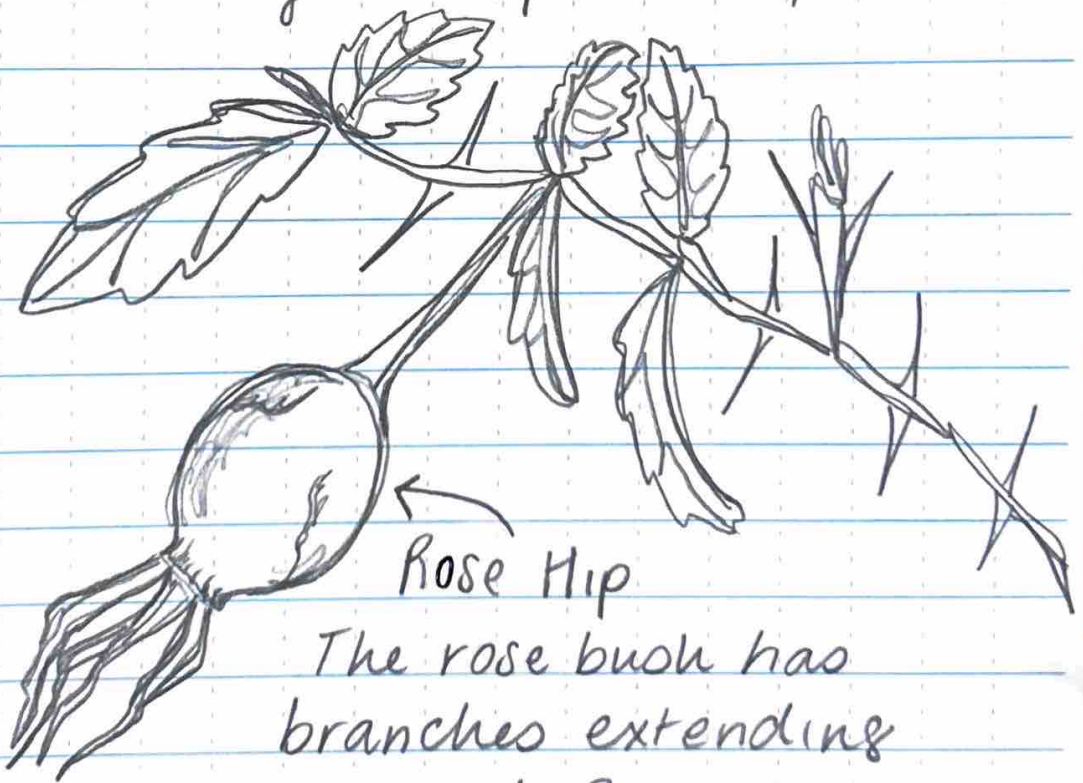
Forest is dominated by Douglas Fir and Cedar.

Scale: 1 square = _____

Andruss 2

We began by choosing an area to observe for one hour. At first we focused on a 1m plot, then shifted focus to the wider surrounding area.

Within my 1 m, precise plot:



The rose bush has branches extending around 2m out of the ground, with green, toothed leaves. The rosehips are bright orange/red.



Andruss 3

Soil in area is dark, and compacted on the path. Soil off-path is covered with wood chips, sticks, and layers of wet leaves.

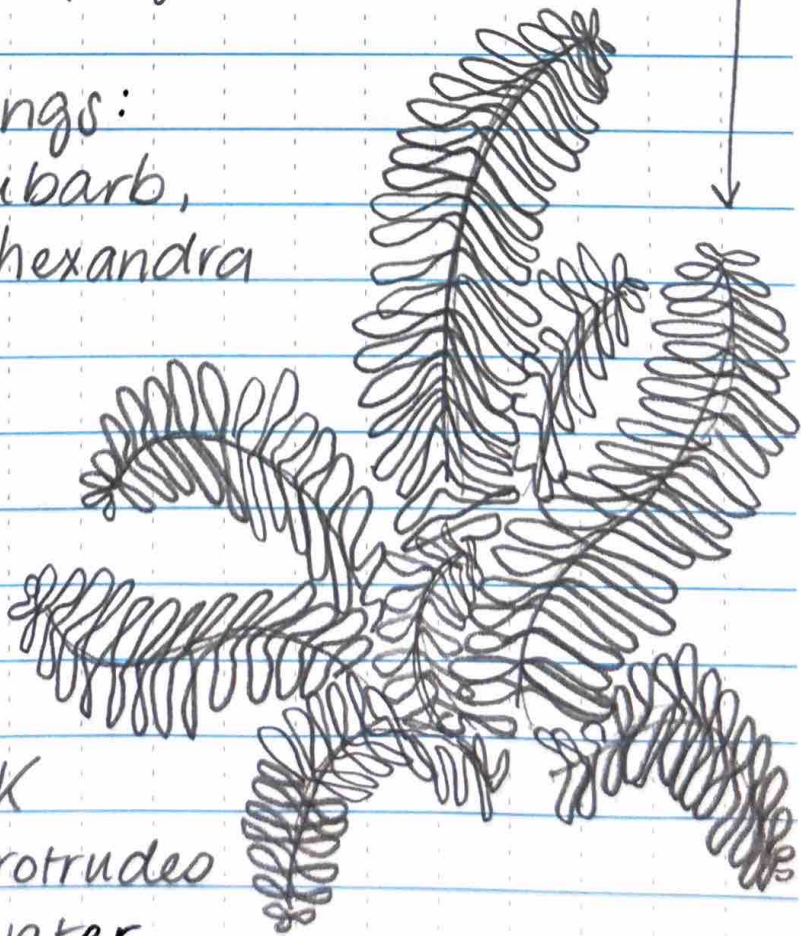
At 11:47 AM it begins to rain.
(A light sprinkle)

Western Sword Ferns
in abundance
(*Polystichum munitum*)

Possible sightings:

- Salal, Rhubarb, *Ranunculus hexandra*

A stream leads to a marshy area, where yellow skunk cabbage protrudes from the water.



April 23, 2023

Andruss 4

15:00 49°F (9.444°C)

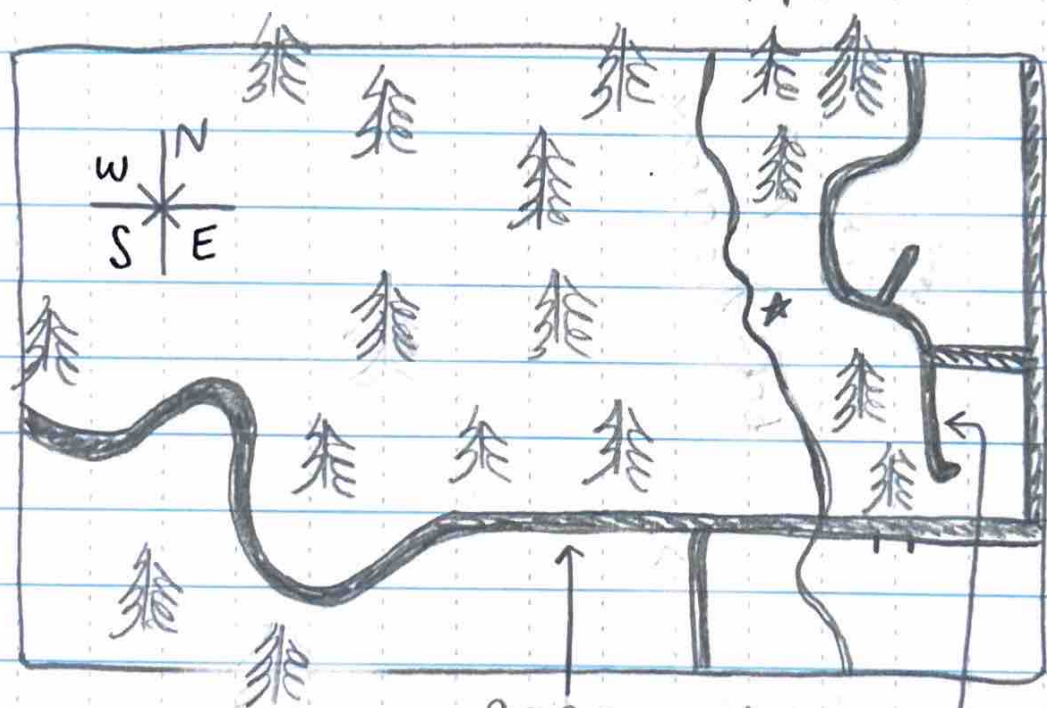
wind 1-3 mph / 2-5 km/hr

(Beaufort 1)

sky conditions: overcast + cloudy (2)

Percival Creek Watershed

Percival Creek via Sapp Road



[* = Area of Observation]

Cassie Dr. SW

Antsen St. SW

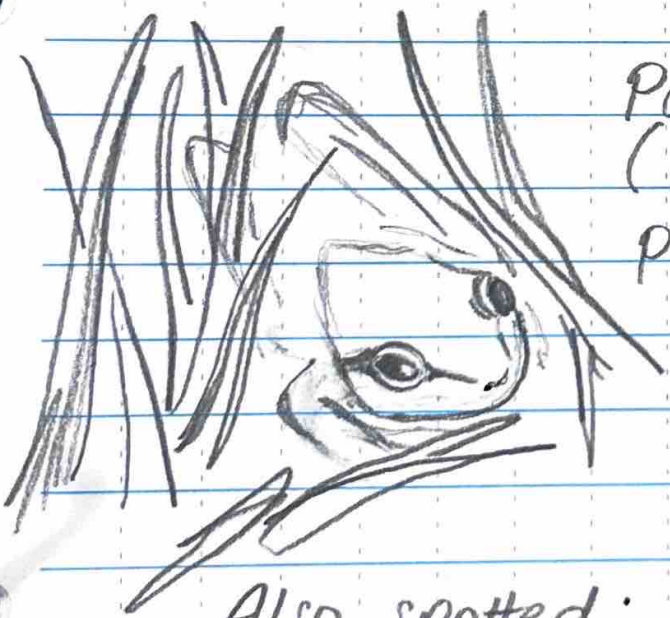
Location: 47.01253° N

122.93311° W

Entered trail head off Sapp Rd.
+ walked through forest / closed
canopy until reaching a clearing
with creek access (*)

Scale: 1 square =

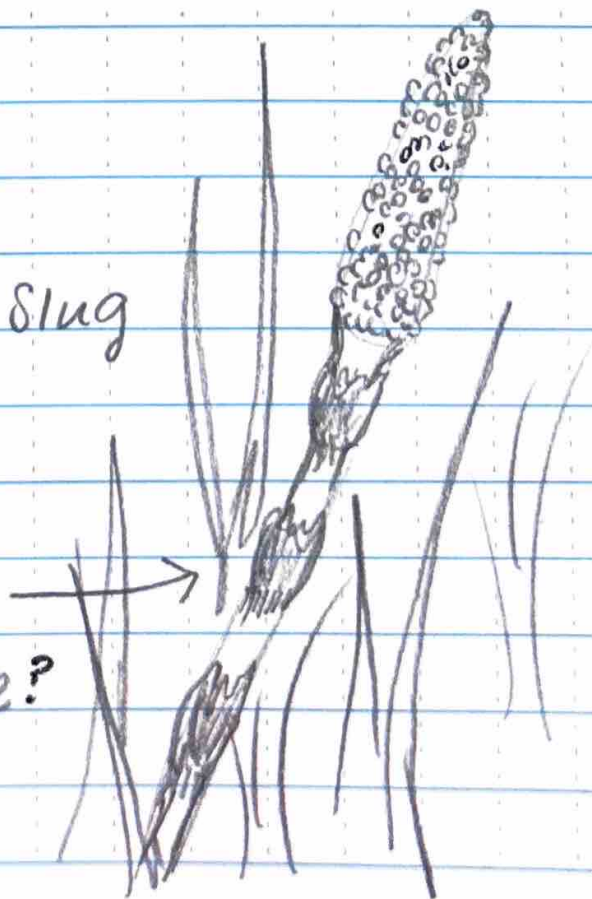
(2) In my 1m area of observation,
I spotted 2 red-legged frogs
(10cm, 5.5cm), the tiniest
Pacific Tree Frog (<2.5cm), an
ant colony, and a sparrow
(possibly Lincoln's sparrow) looking
for a snack.



Pacific Tree Frog
(*Hyla regilla*)
peeking out of the
water + grass

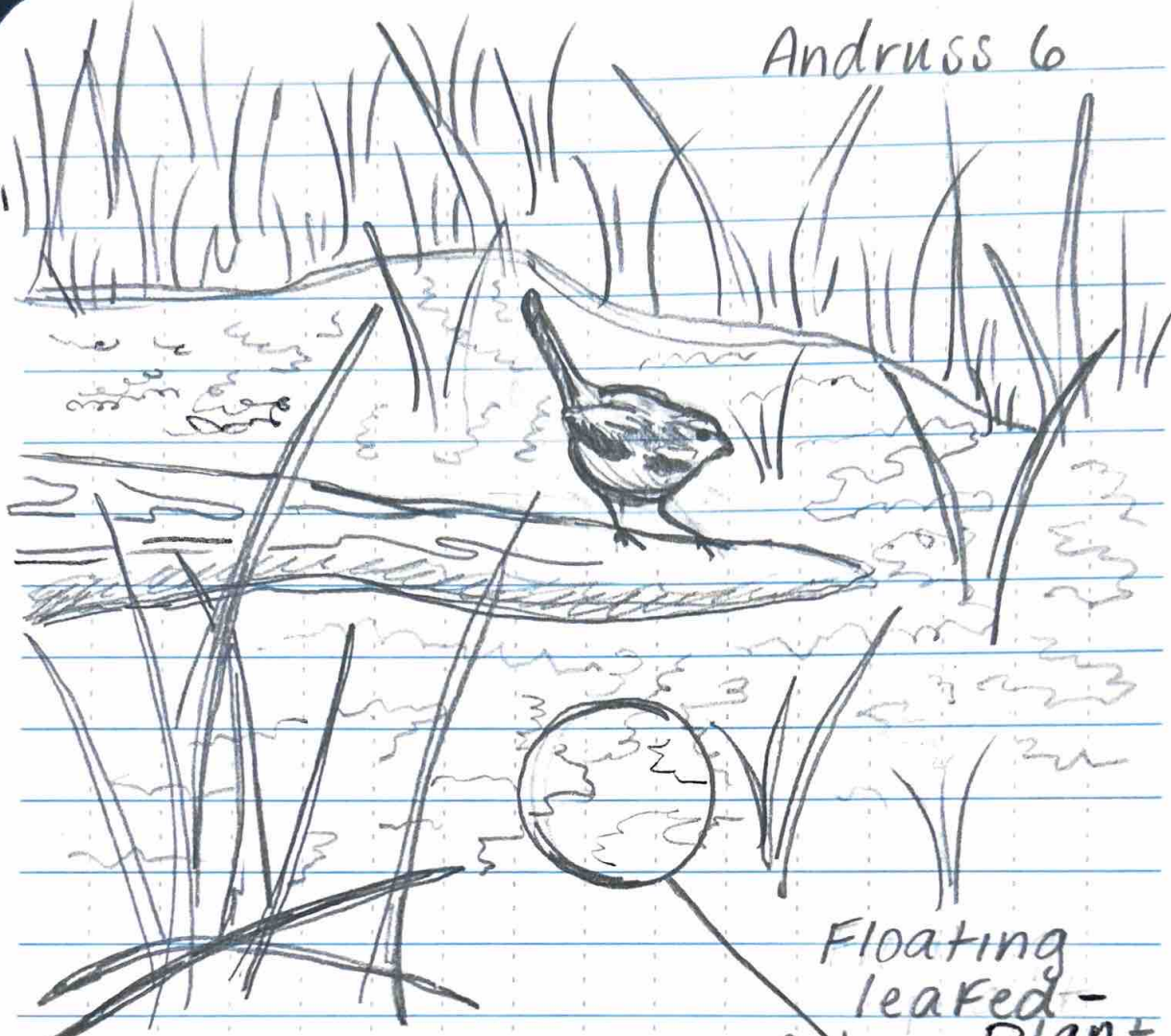
Also spotted:
Pacific Banana Slug
+ Black Slug

Some kind of
Swamp cabbage?
<Horse Tail >



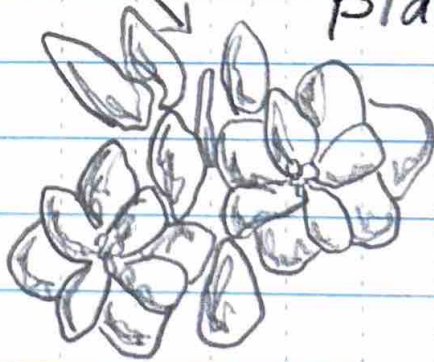
Scale: 1 square = _____

Andruss 6



Lincoln's sparrow
or Savannah
sparrow looking
for a snack in
the water.

Floating
leafed-
plant



The creek is surrounded by
Cattail (*Typha latifolia*)

24 April, 2023

10.3°C (50.4°F)

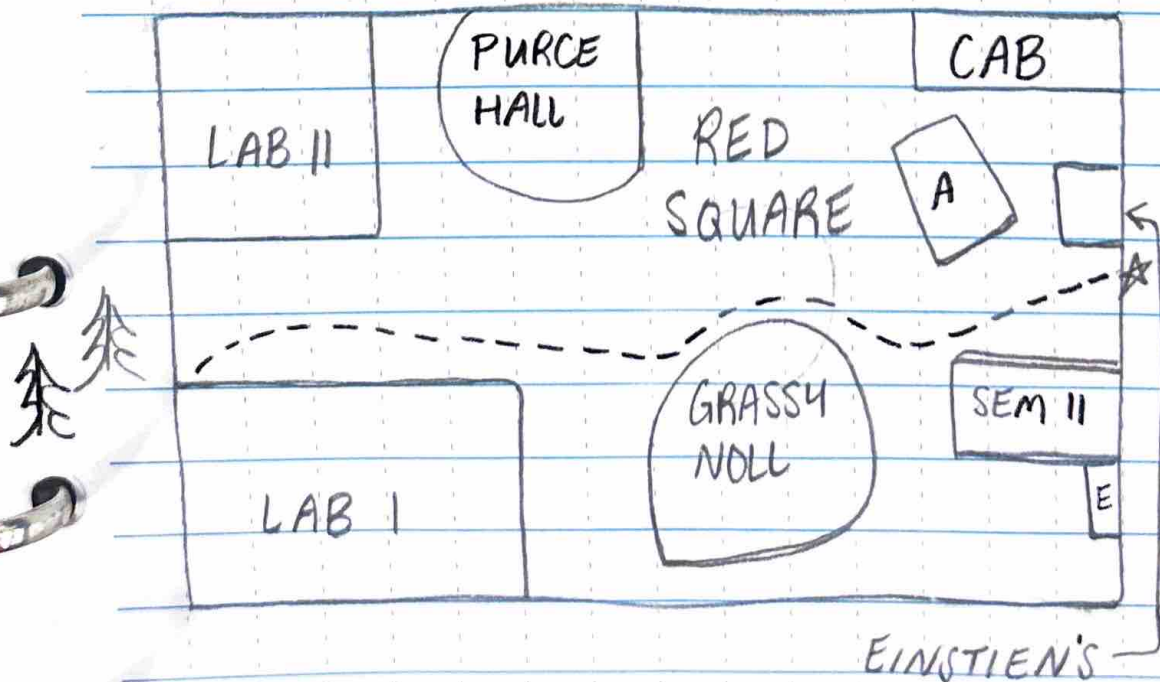
Wind: 0 < 2 Km/hr

Sky: 1 partly cloudy

Location: on the walkway west
of the lab buildings.

47.0718°N, 122.97896°W

Built environment

surrounded by 2nd growth
temperate rain forest

Temperate Forest, covered
canopy. Beaufort 1
Sky conditions: cloudy (2)

Measurement 1:

Bumble Bee

Bombus bifarius



Measurement: 2cm
(estimated based on
finger-segment length)

Measurement 2:

Pink Flowers (the
bees were interested in)

Possibly Salmonberry

Rubus spectabilis



Measurement: 2.5cm, slightly
larger than the bees.

Measurement 3:

Distance away from bees
and salmonberry: 8m

Estimating Coverage + Density (Working with Addie)

In our 10m length, with a ground cover height of 20cm, we found 75% coverage.

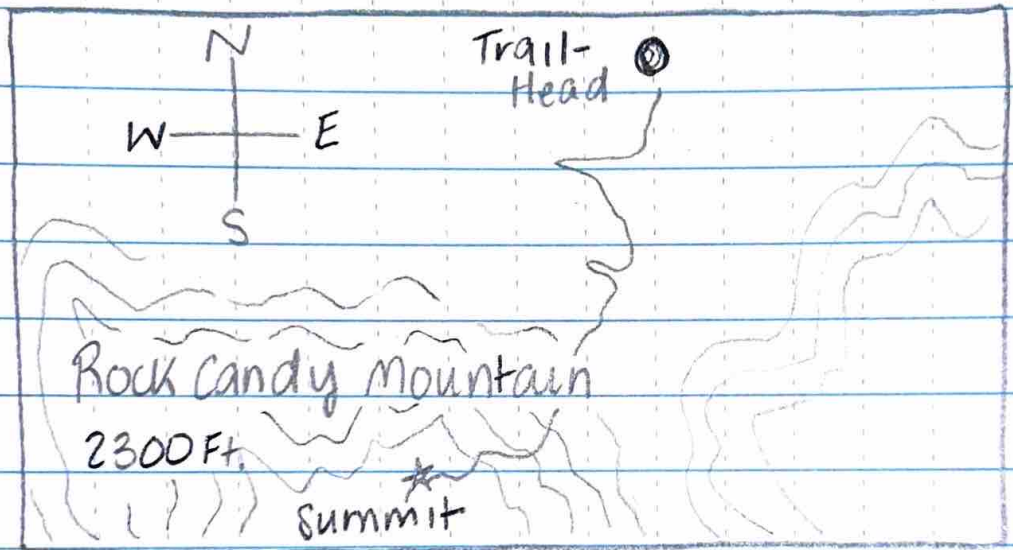
Ground cover included:

Sword Fern, Salal, Oregon grape, doug-fir branches, blackberry, huckleberry, yellow violet, liverwort, and leaf-litter.

Study Idea using Environmental Field Measurements +

Estimations: Fish + Amphibian Inventory. When surveying specific species of fish, it is helpful to approximate size, as many non-native and native species appear similar in color, while differing in size.

07 May 2023 10:00 AM

Rock Candy Mountain E. Trail
Capital State Forest

Trail head : $47.03594^{\circ}N$
 $123.09117^{\circ}W$

Beaufort 1

Sky conditions 2

Trail is through a working forest, and passes through areas that have been clear-cut.

Majority of the trail is under a closed canopy.

Elevation gain is 1,837 ft.

Forest is mostly Douglas Fir.

Organism I.D.

(in order of appearance)

Ground Cover Plants

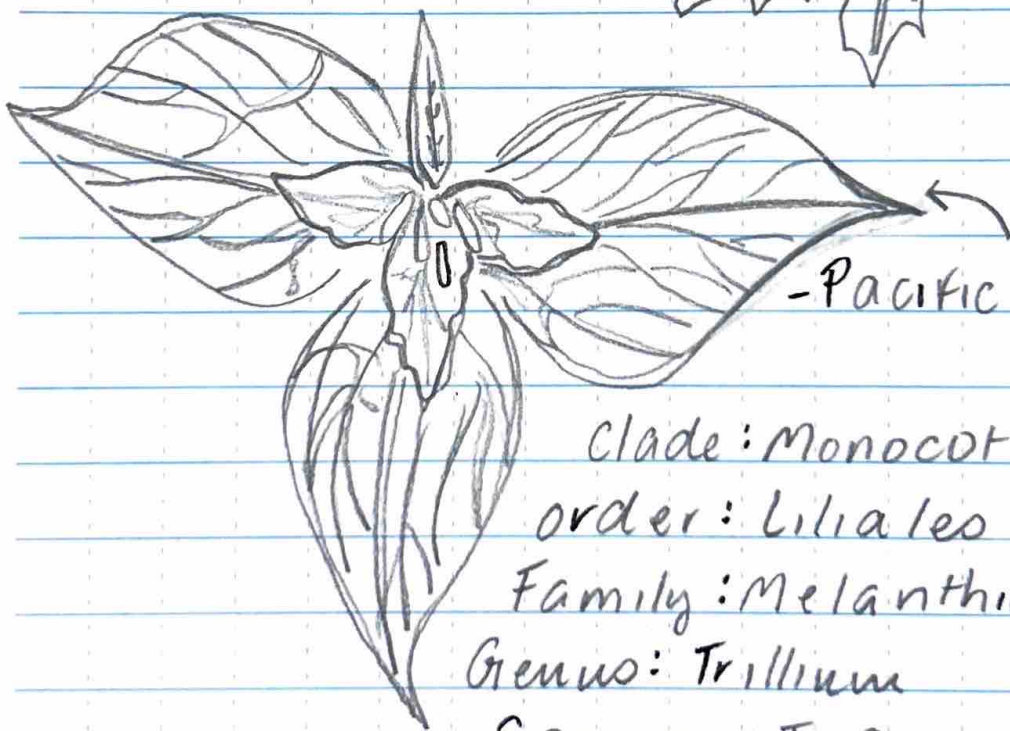
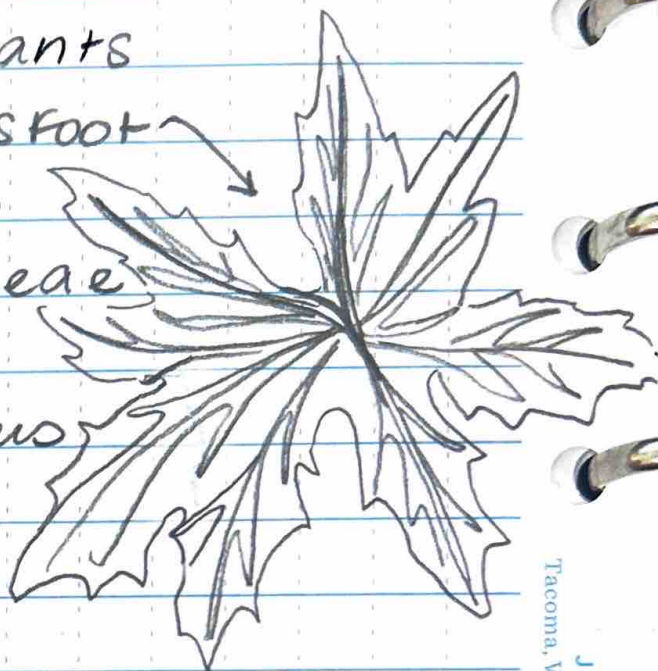
- Arctic sweet coltsfoot

order: Asterales

Family: Asteraceae

Genus: Petasites

Species: P. frigidus



- Pacific Trillium

Clade: Monocots

order: Liliales

Family: Melanthiaceae

Genus: Trillium

Species: T. ovatum

- Salal (a species of Snowberries)

Gaultheria shallon

(Most common ground cover in this area)

Tacoma, WA, USA • RiteintheRain.com

JL DARLING LLC

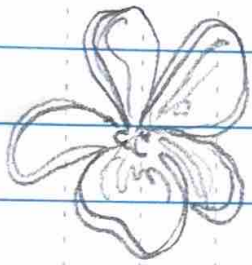
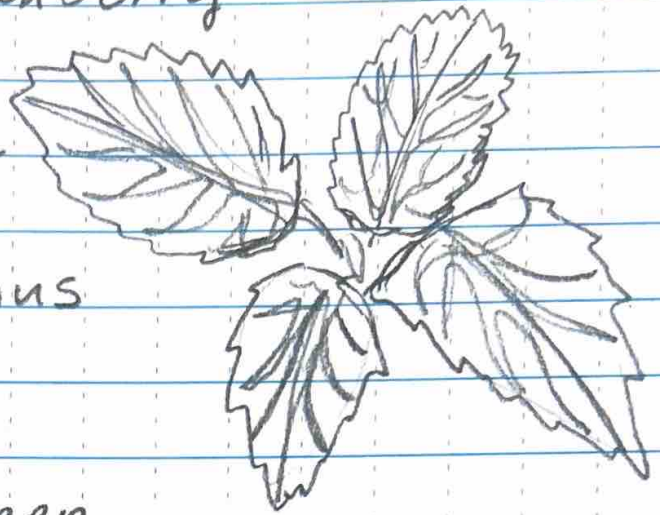
- California Blackberry

order: Rosales

Family: Rosaceae

Genus: Rubus

Species: *R. ursinus*



- Evergreen

Violet

Clade: Rosids

order: Malpighiales

Family: Violaceae

Genus: *Viola*

Species: *V. sempervirens*

- Thimbleberry (Species of
brambles)

Clade: Rosids

order: Rosales

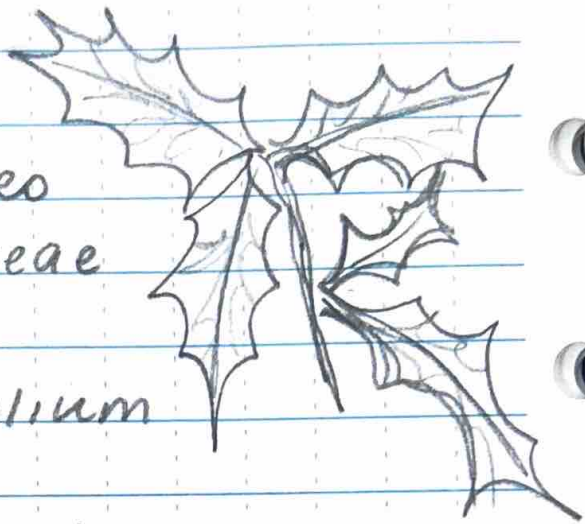
Family: Rosaceae

Genus: *Rubus*

Species: *R. parviflorus*

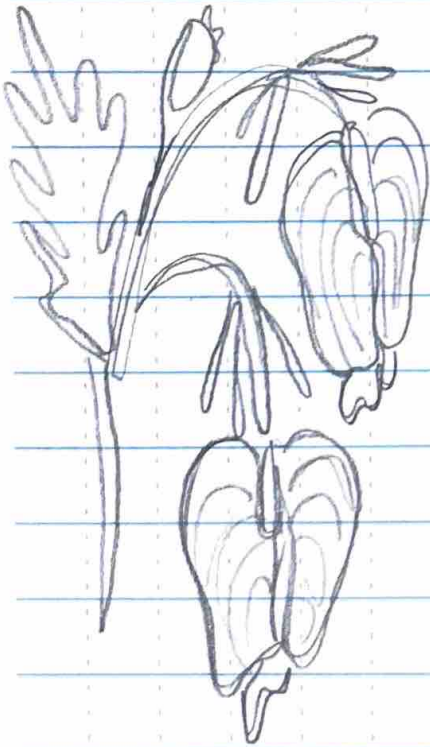
(has toothed leaves, similar to
blackberry.)

- Common Holly
- clade: Asterids
- order: Aquifoliales
- Family: Aquifoliaceae
- Genus: *Ilex*
- Species: *I. aquifolium*



- Pacific Bleeding Heart

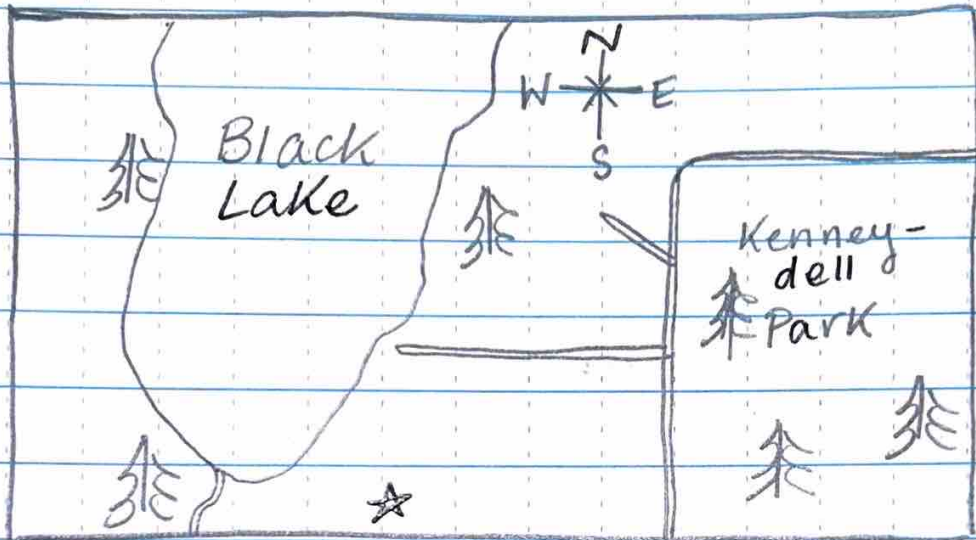
clade: Eudicots
 order: Ranunculales
 Family: Papaveraceae
 Genus: *Dicentra*
 Species: *D. formosa*



At 12:00 pm, the wind picked up and I concluded my observations.

14 May 2023

Andrus 17

Black Lake - surrounding
Forest.

★
↑ Area of Observation

Location: $46.97395^{\circ}N$
 $122.97939^{\circ}W$

Beaufort 2

Sky conditions

11:30 AM 84°F

Biodiversity Skills Part 2

Transect Plant Survey

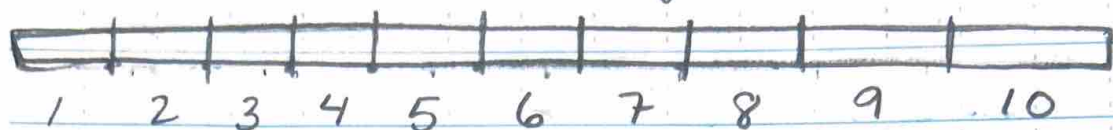
(ground cover sample
50 cm above ground)

Survey taken near a pond.

Scale: 1 square = _____

Andruss 18

Transect over 10 meters at
50 cm above ground



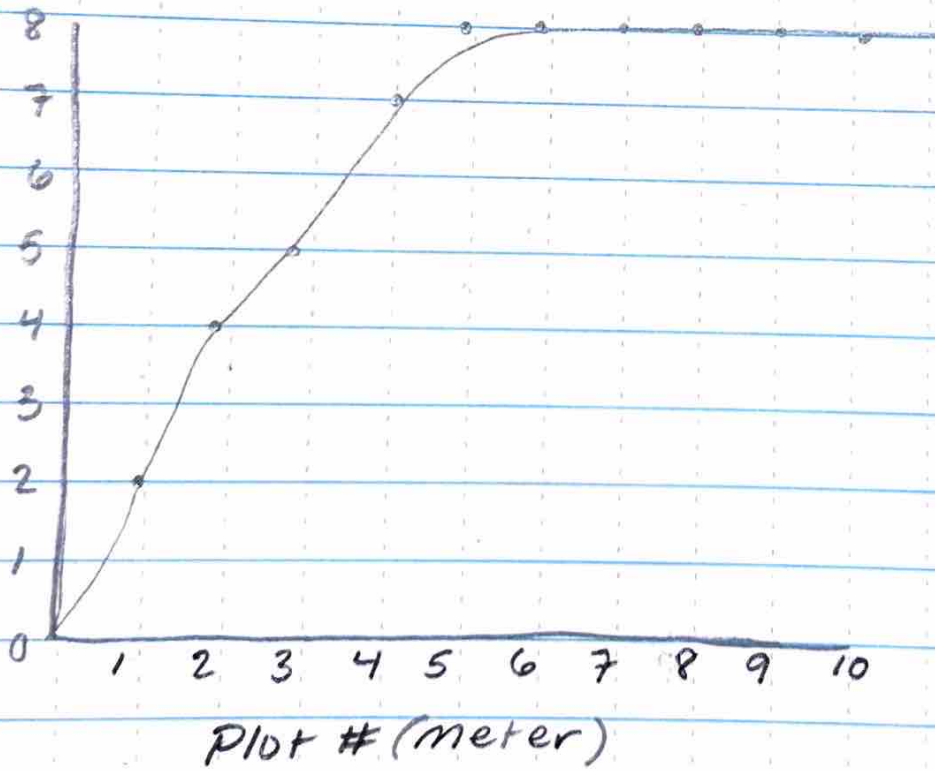
- 1) Snakeberry, doug-fir branches
- 2) Snakeberry, salal,
oregon grape
- 3) salal, Western Sword Fern
- 4) salal, evergreen violet
- 5) Snakeberry, California
Blackberry
- 6) Western Sword Fern,
California Blackberry
- 7) doug-fir branches, salal,
thimbleberry
- 8) Snakeberry, salal, Western
Sword Fern
- 9) Western Sword Fern, salal,
doug-fir branches
- 10) oregon grape, salal,
California Blackberry

Andrusso 19

Snakeberry	3
doug-fir branches	3
salal	7
oregon grape	2
Western Sword Fern	4
Evergreen Violet	1
California Blackberry	3
Thumble berry	1

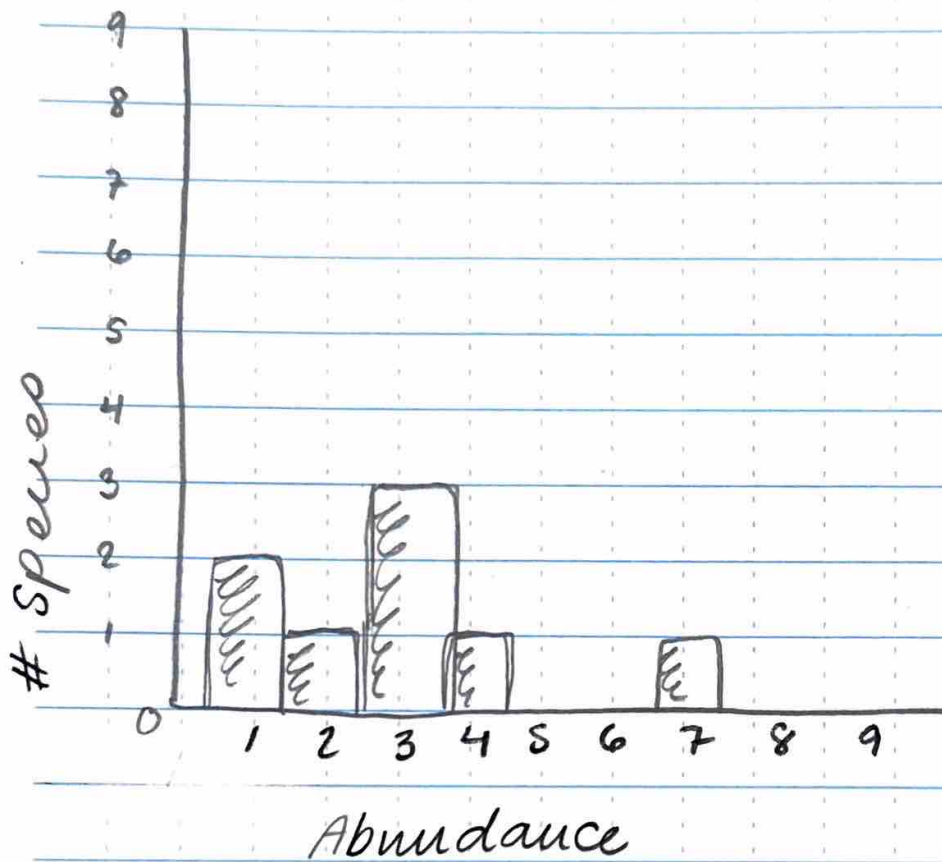
Species Accumulation

Cumulative



Plot in the Rain

Richness Abundance Plot



By 12:00 pm, the wind picked up and moved more doug-fir branches onto the transect, which would have made them the dominating species of the 10 meters (if we were to count them as plants in this survey)