

THE IMPACT OF CASUAL OBSERVATION ON
ENVIRONMENTAL APPRECIATION AND
PERSONAL WELLBEING

by

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A THESIS

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Spending time in nature fosters pro-environmental attitudes and behaviors, which are essential for achieving ecological resilience in the face of climate change. Spending time outdoors is additionally associated with several physiological and psychological benefits, including decreased pulse rate, improved attention regulation, and increased happiness. In this thesis, I consider my experience practicing casual observation in Eugene, Oregon's Alton Baker Park and examine the impact of casual observation on environmental appreciation and personal wellbeing. Casual observation is defined in this research as the practice of intentionally observing and considering one's outdoor surroundings without any predetermined length of time, strict methodology, or anticipated result. Species identifications, observations, and reflections were recorded during each of fourteen visits to the field site, which were compiled and uploaded onto a [website](#). Casual observation was found to enhance appreciation for species encountered at the field site, as well as foster feelings of happiness and relaxation. Thus, casual observation should be considered a useful tool when addressing issues of ecological and personal resiliency.

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Website: Casual Observation. <https://warnerncalvin.wixsite.com/casual-observation>

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Introduction

Spending time outdoors has numerous positive implications for human wellbeing. Spending time outdoors is associated with decreased pulse rate, improved balance, and improved attention regulation, which is especially helpful for individuals who struggle with attention deficit and hyperactivity disorder, or ADHD (Anderson and Ewert 2018). A study conducted in Austria during the COVID-19 pandemic found that happiness was positively correlated with spending time outdoors and negatively correlated with screen time, which was also associated with greater feelings of loneliness (Stieger *et al.* 2021). Access to freshwater blue space — which includes lakes, ponds, and rivers — is correlated with decreased prevalence of mood and anxiety disorders (de Bell *et al.* 2017). Research on the relationship between outdoor recreation and wellbeing can influence public policy. In its 2017 marine planning database, the UK's Marine Management Organisation noted the relationship between leisure, recreation, and health and wellbeing, and the UK has cited wellbeing as an increasingly important factor for consideration in marine and coastal management decisions (Kelly 2018).

While wellbeing means different things to different people, Professor Catherine Kelly at the University of Bristol describes wellbeing as “the status of an individual or population where there is an absence of illness, and concurrently implies proactive strategies for staying physically, psychologically and/or spiritually ‘well’.” Personal wellbeing, or subjective wellbeing, can be inferred by asking people how they think about their own wellbeing, and can include factors such as life satisfaction, meaning, and positive emotions (Kelly 2018). The United Kingdom's New Economics Foundation developed a comprehensive approach to achieving wellbeing through five methods: 1. Connect; 2. Be active; 3. Take notice; 4. Keep learning; and 5. Give (Aked and Thompson 2011). ‘Connect’ has to do with spending time with

others, while ‘Be active’ refers mostly to physical exercise, such as going for a walk or bike ride. ‘Take notice’ encourages people to “savour the moment” by becoming aware of and reflecting on one’s surroundings and internal feelings. ‘Keep learning’ explains the positive impact of acquiring new skills, knowledge, and interests, while ‘Give’ focuses on investing in relationships (Aked and Thompson 2011).

Most environmental learning is not acquired in school, but through self-initiated outdoor activities (Falk 2005). Environmental psychology emphasizes the potential for experiences in nature to promote environmental connectedness and sense of place, leading to pro-environmental attitudes and behaviors (Kelly 2018, DeVille *et al.* 2021, Masterson *et al.* 2017). Sense of place is defined as the meanings and attachment to a setting held by an individual or group (Tuan 1977) and enables people to recognize ecological degradation in spaces that are meaningful to them (Masterson *et al.* 2017). Developing the public’s sense of place is crucial to minimizing the catastrophic effects of climate change because of its potential to promote ecological resilience. Yet, compared to previous generations, children and young adults are spending more time using technology indoors and consequently spending less time outside, (DeVille *et al.* 2021) limiting opportunities for self-guided environmental education and environmental connectedness. If today’s younger generations are not spending time outside, then they are less likely to hold beliefs or harbor the skills to ensure a positive environmental future. It is therefore necessary that individuals and researchers alike develop new relationships with the outdoors which emphasize environmental appreciation and subjective wellbeing. Such a relationship may be created by mimicking the practices of early naturalists, most notably, observation.

The practice of observation is rooted in natural history, which can be described as “more than ecology,” as it is not only scientific but draws on literature, art and philosophy (Sagarin and

Pauchard 2012). Early naturalists like Henry David Thoreau used simile, metaphor, and personification in their writings to make their biological observations “relate broadly to familiar ideas” (Sagarin and Pauchard 2012), simultaneously producing both timeless literature and ecological knowledge. Over time, ecologists developed tools to make their research more systematic, lessening the role of observation (MacGregor 2018). Experimental studies “often bear little resemblance to what is going on in the larger world,” and thus, ecologists need to readopt traditional research methods, such as observation (Sagarin and Pauchard 2012).

Observation is an essential tool in ecological research because it uniquely allows individuals to study ecological phenomena across spatial and time scales, which experimental designs intentionally aim to control and eliminate. Observational studies are also often exploratory, leading to unanticipated but valuable results (Sagarin and Pauchard 2012).

Observation is directly tied to the use of field notebooks, a tradition which began in field biology. During the era of European exploration, naturalists coming from far-away expeditions published their field notebooks, many of them becoming bestsellers. This tradition continued for over a hundred years, as writings by Charles Darwin, Henry David Thoreau, and others became influential and provided data that could be used to compare modern distributions of flora and fauna. Passionate naturalists have inspired public enthusiasm for animals by translating their observations into popular works. Henry David Thoreau kept a field notebook while living in his cabin on Walden Pond in Concord, Massachusetts, in which he documented plant species, flowering times, and social commentary. Once compiled, his field writings became his most famous work, *Walden*. His species observations also provided a valuable snapshot of plant distribution and abundance in the region which have been used to compare the results of modern regional surveys. Due to Thoreau’s diligent documentation, researchers were able to determine

that 70 percent of his recorded species populations have either declined significantly or have disappeared (Canfield *et al.* 2017).

Just like observation, field notebooks are becoming increasingly less popular among modern researchers. However, they are still valuable tools in the field, as they improve the observational skills of their authors. Additionally, they can serve as a source for new projects and provide pleasure by reminding the author of their meaningful experiences in nature. For example, Schaller cites the “intimate pleasure” of observation, noting moments in which he witnessed Tibetan antelopes dancing as part of their mating ritual and later giving birth. Observing animals leads the observer to feel sympathy for them, and the knowledge and concern developed from observation can become a powerful tool for conservation (Schaller 2011).

To help his students recognize the importance of field notebooks, Biology Professor Erick Greene assigned his ecology class at the University of Montana to observe one “thing” carefully for the entire semester. One of his students, Carrie Douglas, who observed a box elder tree, explained that “this assignment gave me an opportunity to ask questions and find answers about trees that I have never thought about before.” The project also helped her learn that she enjoys writing creatively and casually about nature, and that the process helped her forget her worries. Finally, she explained that she became more appreciative of “the beautiful area we live in” and that she would “never look at that box elder tree the same way.” These excerpts highlight the potential for field notes to make observers more appreciative of their environments, as well as improve their wellbeing through learning and relaxation (Greene 2011).

Philosophers like David Abram have criticized common methods of ecological research, claiming that they promote an ideological separation between people and nature. In his book, *The Spell of the Sensuous*, Abram critiques the common perception of science as objective and

personal experience as subjective, and therefore insufficient, in describing reality. Abram argues that science is not only dependent on observations based on our senses, but our modern focus on scientific reason and logical, unbiased conclusions have kept us from truly seeing, sensing, participating in, and understanding the world. Thus, Abram encourages readers and scientists alike to participate in their surroundings rather than act as an objective outsider, claiming that when people and nature are considered equal, people are more likely to regard nature as having intrinsic value and protect it. Abram's environmental philosophy thus encourages observation-based rather than measurement- and calculation-based studies (Abram 1997).

One may relate Abram's participatory observation model to community science — a form of community-based participatory research. Many community science projects have low barriers to entry and lack formal survey procedures, making them accessible to the public (Di Cecco *et al.* 2021). Community science is an increasingly valued and accepted scientific approach because it can produce mass amounts of data at low cost and encourages social learning (Walker *et al.* 2021). Community science projects typically employ accessible tools and methodology so that people of many social and professional backgrounds can participate. MacGregor noted the importance of accessibility, explaining that birding became more common among the general public after World War I stimulated the development of binoculars, making them less expensive (2018). The accessibility and popularity of binoculars and birding, respectively, enabled the development and success of eBird, a community science platform that birders use to report their observations and species identifications. Collaboratively launched by the Cornell Lab of Ornithology (CLO) and National Audubon Society, eBird is a tool for birders, science, and conservation alike, allowing birders to track their observations while gathering data on species distribution and abundance (Sullivan *et al.* 2009). CLO started another app called

Merlin Bird ID which uses eBird data to help birders identify species they don't know. The app asks birders five questions related to the unknown bird's location, date, size, coloration, and activity to narrow down options and present the most likely species (Campbell 2022). Another popular community science platform is iNaturalist, jointly initiated by the California Academy of Sciences and the National Geographic Society. iNaturalist users upload images or sound recordings of their observations, identify the species or accept identifications from other users. These observations have useful applications for biodiversity monitoring, as submissions have been used to track threatened and invasive species. At the time of writing, iNaturalist contains over 130 million observations that contribute valuable data to a variety of ecological research (Di Cecco *et al.* 2021). iNaturalist creators have also made Seek for speedy identification help. The Seek app includes a camera that attempts to identify what's in frame by referencing observations on iNaturalist, often but not always getting down to the species level (Iwane 2019).

Community science projects and platforms have many associated benefits for science, participants, and society as a whole. These real and perceived benefits include raising awareness and interest; democratization of science; social learning; incorporation of local, traditional, or indigenous knowledge in science; empowerment; behavior change; improved environment; and improved health (Walker *et al.* 2021). However, there are some potential negative impacts of community science as well, such as overburdening the public, especially individuals from low-income areas or households. The use of relatively inaccessible technology in data collection, such as smartphones, excludes certain groups such as aged and poor people (Walker *et al.* 2021). Finally, community science projects are often subject to additional biases in data collection due to their dependence on unstructured observations (Di Cecco *et al.* 2021).

Casual observation in outdoor settings, as defined in this research (the practice of intentionally observing and considering one's outdoor surroundings without any predetermined length of time, strict methodology, or anticipated result), would involve taking notice of the flora, fauna, and abiotic components around them. One who observes their environment is likely to take in new information, ask questions, and search for answers, which may involve the use of community science platforms such as Seek and iNaturalist. The individual may also be active depending on their chosen mode of transportation, such as by walking or biking rather than driving a car. In these ways, casual observation is expected to improve wellbeing according to the pillars outlined by the New Economics Foundation (Aked and Thompson 2011). In this research, I attempt to build upon existing literature by providing an experimental framework to understand the impact of casual observation on environmental appreciation and wellbeing on a personal level. This conceptual structure aims to make opportunities for sense of place development, appreciation for surrounding environments, and positive emotions more accessible to the general public. These goals, if achieved on a large scale, can contribute to enhanced ecological and human resiliency.

Methods

To answer my research question, I repeatedly visited a site at Alton Baker Park along the Willamette River to conduct my study. Alton Baker Park features a variety of native trees and shrubs, the Willamette River, woodland birds, and waterfowl, and therefore has the capacity to inspire environmental appreciation. The park is accessible by walking, biking, and driving.

The specific site I chose within Alton Baker Park is $44^{\circ}3'9''\text{N}$ $123^{\circ}4'32''\text{W}$ at 410' elevation (Figure 1). I selected this site because it is on the river and thus offers potential viewing of aquatic organisms. The site also features a large fallen tree, which lays across the bank and extends into the river (Figure 2). The downed tree contributes to the attractiveness of the research location for several reasons. (I) The tree contributes to a more dynamic and interesting terrain; (II) it offers an ideal sit spot for viewing the river; (III) coarse woody debris provides habitat for a variety of insects and decomposers, potentially increasing the number and diversity of species in the field site. The site is accessible by walking down a steep and narrow path, which makes the location less attractive to general park users than other locations along the river, reducing chances of the site being occupied during site visits.



Figure 1: Field Site Location.



Figure 2: Fallen Tree.

I began each field visit with photopoint monitoring (Figure 3) to document the general appearance of the site and track changes in vegetative growth. I identified species both within and visible from the field site using field guides or apps such as Seek, iNaturalist, and Merlin Bird ID. Binoculars helped me obtain clear images of birds, which allowed me to identify them on Merlin Bird ID. I recorded species identifications, observations, and questions in a Rite in the Rain notebook and illustrated some species and characteristics of the field site in a sketchbook. I used another journal to reflect on observations in the field notebook and on personal wellbeing during the visit. Following visits to the field site, I searched online for answers to questions I asked in the field notebook to enrich my understanding of the experience and uploaded the products of each field visit onto a [website](#) to share with a public audience.



Figure 3: Photopoints. The original photo, taken December 3, 2022. This image was captured at the start of each field visit.

Results

Summary

In total, I visited the field site fourteen times for approximately one hour each. I wrote 23 pages in my field notebook, 25 pages in my journal, and did eight sketches. I responded to 15 questions between my field notebook and journal and created 18 web pages. While at the field site, I identified 48 species, which included 20 plants, 20 birds, seven fungi, and one insect (Table 1).

Common Name	Latin Name
Common Snowberry	<i>Symphoricarpos albus</i>
European Holly	<i>Ilex aquifolium</i>
English Ivy	<i>Hedera helix</i>
Portuguese Laurel	<i>Prunus lusitanica</i>
Western Sword Fern	<i>Polystichum munitum</i>
Black Cottonwood	<i>Populus trichocarpa</i>
Oregon Grape	<i>Berberis aquifolium</i>
Bigleaf Maple	<i>Acer macrophyllum</i>
Slough Sedge	<i>Carex obnupta</i>
Common Hazel	<i>Corylus avellana</i>
Common Hawthorn	<i>Crataegus monogyna</i>
Himalayan Blackberry	<i>Rubus armeniacus</i>
Trailing Blackberry	<i>Rubus ursinus</i>
Osoberry	<i>Oemleria cerasiformis</i>

Pacific Ninebark	<i>Physocarpus capitatus</i>
Apples	<i>Malus sp.</i>
Bird Cherry	<i>Prunus padus</i>
Catchweed Bedstraw	<i>Corylus avellana</i>
Pennsylvania Bittercress	<i>Cardamine pensylvanica</i>
Lyell's Bristle-Moss	<i>Orthotrichum lyellii</i>
Whitewash Lichen	<i>Phlyctis argena</i>
Farinose Cartilage Lichen	<i>Ramalina farinacea</i>
Common Sunburst Lichen	<i>Xanthoria parietina</i>
Crystal Brain Fungus	<i>Myxarium nucleatum</i>
Bristly Beard Lichen	<i>Usnea hirta</i>
Shield Lichen	<i>Parmelia sulcata</i>
Rosette Lichen	<i>Physcia sp.</i>
Yellow-Faced Bumblebee	<i>Bombus vosnesenskii</i>
Double-Crested Cormorant	<i>Phalacrocorax auritus</i>
Canada Goose	<i>Branta canadensis</i>
Bufflehead	<i>Bucephala albeola</i>
Mallard	<i>Anas platyrhynchos</i>
Lesser Scaup	<i>Aythya affinis</i>
Hooded Merganser	<i>Lophodytes cucullatus</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Crow	<i>Corvus sp.</i>
Brown Creeper	<i>Certhia americana</i>

Turkey Vulture	<i>Cathartes aura</i>
Anna's Hummingbird	<i>Calypte anna</i>
Bushtit	<i>Psaltriparus minimus</i>
Song Sparrow	<i>Melospiza melodia</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Dark-Eyed Junco	<i>Junco hyemalis</i>
Common Merganser	<i>Mergus merganser</i>
Common Goldeneye	<i>Bucephala clangula</i>
Bewick's Wren	<i>Mergus merganser</i>
American Robin	<i>Turdus migratorius</i>

Table 1: Identified Species. These species were observed at least once within or around the field site.

To identify the species I encountered in the field site, I had to pay close attention to their unique features and behaviors, which helped me become more familiar with the species and more likely to recognize them during the next encounter. Sketching similarly helped me notice fine details that helped with identifications. A few times, the birds I observed did not show up as identification options on Merlin Bird ID which led me to find the species online elsewhere. Seek also had a hard time identifying some kinds of plants, encouraging me to think creatively about the plant's unique features that could help the app distinguish it from look-alikes. I felt satisfied whenever I was able to find the correct species name. Being able to put a name to the plants and animals I encountered made me more excited to see them again.

During visits when I wasn't identifying many species and was writing more casually in my journal, I incorporated memories, beliefs, and discussions of my previous coursework into

my journal entries. For example, I brought an old package of prosciutto on one field visit and used it to fish for crawdads. This was my most joyful visit, even though my search was fruitless. I reflected in my journal about memories I had fishing for crawdads with my brother and grandparents, as well as catching crawdads with my invertebrate zoology classmates last summer. Both memories evoked feelings of nostalgia. During another visit, I spotted a singular orange leaf in a mat of green English ivy. I initially thought that something had to be wrong with the leaf, and then criticized myself for labeling it as “wrong” rather than accepting its difference. I then wrote about Ralph Waldo Emerson’s essay, “The Poet” which I had read for a class and then wrote a poem of my own about the English ivy leaf.

After most visits to the field site, I reflected on feeling positive emotions such as relaxation, excitement, satisfaction, and joyfulness. In some entries, I mentioned that I had previously felt tense or anxious at the start of the visit, and that those feelings were either significantly reduced or eliminated by the end of the visit. I cited successful species identifications, improved illustrative skills, and unique observations for my positive emotions, while time outside, sunlight, and scenic views also contributed to improved wellbeing. In entries where I didn’t explicitly reflect on emotions, I indicated feeling excited or accomplished in response to a siting or identification during the visit.

Field Notes

NOVEMBER 13, 2022: 11:00 AM, 38°F, SLIGHTLY FOGGY, CLOUDY

Today is the day I finally chose my observation site. I was walking a path at Alton Baker Park along the Willamette River and had passed a boat ramp. Shortly after, I found a discrete and

narrow path down the slope to the riverbank. I peered down and spotted a large fallen tree. Its roots exposed, covered in soil, were not exactly facing me from the trail start. They were angled to my left but still obvious, nonetheless. It doesn't appear to have fallen recently, but I can't be sure. The length of its trunk lies at an angle along the bank, its top half laying in the water.

As I sit atop the fallen tree, birds catch my eye. First, a group of five to ten ducks, accompanied by a few geese. They mostly crowd on the west side of a small island. I know that a few of them are mallards, but some appear to be of another species. Two geese just flew across the river, southeast, from my right side, disappearing behind the trees across the river. A group of buffleheads has also sparked my intrigue. They are quite playful and fun to watch, seeming to chase each other. Routinely, they lift themselves slightly by flapping their wings but still skimming the water's surface. Other times, it does not appear that they are chasing anyone, but that they are lifting-and-skimming individually for the fun of it, as if they are playing a game. Sometimes, other buffleheads follow behind suddenly. I look up from my writing and see that they have all taken off in a flock at once, first flying south as they gain elevation, curving west, looping back around toward north before finally leaving eastward behind the island. They were too far for me to be sure, but I thought they were mostly, if not all, males.

A female mallard waded toward the base of the riverbank in front of me. A motorboat, which made a loud humming noise, drove East against the current and disappeared behind the island. As it did so, the mallard flew hurriedly away, clearly disturbed by the noise and quick movement.

For whatever reason, it was difficult for me to get started on this project. But now that I have selected my spot and spent almost an hour taking my first field notes, reflecting on the things I have seen and making my first sketch, it feels like I am right where I'm supposed to be. I

feel happy, calm, at peace, and excited. Despite the chilling air, I have had fun here today and am looking forward to coming back soon. Additionally, I was happy to make progress on the sketch I started today. It was difficult to get the proportions and perspective right at first, but I made corrections and improved. I'm looking forward to seeing how my illustrative skills progress throughout this project.

NOVEMBER 20, 2022: 12:16 PM 44°F, SUNNY

Today feels much warmer than last week. I suppose that is to be expected since it is later in the day. The sun seems to be looking right at me, its glare reflecting off the water in almost precisely my direction. It is blinding, the paper I'm writing on is beaming up at me, and the dry brown leaves below appear bright as well. As I descended the slope off the paved path to get to the fallen tree, I felt the leaves crunch beneath my feet. The floor is littered with them. They appear to be all the same kind. It's funny that leaves fall at different times. I observed this past week that many trees on campus had already shed their leaves when I noticed that one part of campus was littered with ginkgo leaves, yellow and fresh from the branches. In fact, they were still falling thick like rain, in an abrupt downpour. I wonder when and for how long the leaves here start falling. How long did it take for the leaves to turn from fresh and flexible to crunchy? Did they begin drying out on the tree before they fell, or did they fall fresh? When I look up at the tree now, it is very sparse with remaining leaves, which all appear to be dry too. I wonder what kind of tree it is. Looking at it, it appears to have 10-20% moss covering, its lower half wrapped with English ivy, a non-native species, as one might deduce from the name. The adjacent trees are also colonized with English ivy. Funny that I just thought to describe the ivy's

occupation of the tree with the word “colonized,” since the English have historically been, and continue to be, a powerful force of colonialism. And I don’t mean powerful in a good way.

Ivy, too, is a powerful force of colonialism. Not only does it cover many trees in Alton Baker Park, but it also grows thick on either side of the narrow trail that leads to the fallen tree on the riverbank. It’s funny to think that someone cut a path through the ivy that shouldn’t be here at all. It’s quite ironic. An intentional absence of unintentional vegetation. Although perhaps “unintentional” isn’t an appropriate word in this matter. Intentional or unintentional to whom? For people, naturalists, or environmentalists, the ivy may not be intentional, but does ivy have intentions? Can one say certainly that ivy lacks intention? And who has the authority to determine such a thing? I don’t think it would be appropriate to claim knowledge on other peoples’ identities, values, or capacity to hold values without letting those individuals speak for themselves. By that notion, perhaps I should let the ivy speak for itself. Too bad it doesn’t speak English.

I had both a good and difficult time illustrating English ivy. Illustrating it helped me focus on the little details, like the venation of the leaves. Some veins are very distinct while others are quite faint, and mimicking that with a pencil is quite a task. Also, when you look very closely at the fine details, you miss the big picture; how the vines curve, tangle, and wrap around the trunk. Many of the leaves closer to the base of the tree are bigger with more distinct sections and points. As I drew the leaves, I noticed that their veins resembled lightning, as they have many forks. I wonder if this pattern appears in other places in nature, like fluvial channels.¹

¹ Lightning bolts are a fractal pattern, which can also be found in river deltas, tree branches, and coastlines. *Fractal patterns*. Exploratorium. (2023, March 8). Retrieved April 30, 2023, from <https://www.exploratorium.edu/snacks/fractal-patterns>

Today, I feel curious and inspired. Perhaps it was the sun or the warmth (I suppose they go hand in hand), but something got the gears turning in my brain. I have many questions and few answers. Rather than feeling unsettled, I am energized.

DECEMBER 3, 2022: 9:29 AM 45 °F, SUNNY

I am viewing something rather spectacular. There appears to be about six birds on the island, their bodies obscured due to the blinding reflection of the sun on the water just beside them. They may be geese, or double crested cormorants. (Do double crested cormorants congregate in groups?)² Two of them appeared to have their wings outstretched. Are they basking in the sun? Drying off, or getting warm? Trying to impress a potential mate? Is this a mating ritual?³ One by one they are entering the water from the edge of the island. I wish I could observe more, but the sun is harsh on my eyes.

I've spotted a woodpecker! I first noticed its low-pitched tapping noise — the sound of someone knocking gently on hollow wood. I didn't get much time to look at it before it moved on to another tree. Whenever I heard woodpeckers at my parents' home in California, it was a faster paced, louder, higher pitch drilling noise. I wonder if different trees or different woodpeckers make different sounds.⁴

² Double crested cormorants are very social and are often found in groups during the winter and while breeding. They also feed in large flocks.

Ward, E., and Kirschbaum, K. (n.d.). *Critter Catalog*. BioKIDS. Retrieved April 30, 2023, from http://www.biokids.umich.edu/critters/Phalacrocorax_auritus/#:~:text=Double%2Dcrested%20cormorants%20are%20very,also%20migrate%20in%20large%20groups.

³ They are drying off! This behavior is very common in double crested cormorants since their feathers get easily waterlogged, which allows them to dive deeper.

Thompson, M. (2013, August 8). *Double-crested cormorant dries its feathers*. Bird Academy • The Cornell Lab. Retrieved April 30, 2023, from <https://academy.allaboutbirds.org/double-crested-cormorant-dries-its-feathers/>

⁴ Different species of woodpeckers make different sounds at different speeds (Sundstrom 2023). Additionally, woodpeckers don't drum against trees exclusively to find food, they use their unique sounds to communicate territorial information to other woodpeckers (Buehler 2022).

Photopoint Documentation: Began photopoint 12/3/22 at end of visit, 10:40 am, standing next to fallen tree at point furthest North. Facing 2:40 degrees SW with left leg touching tree point, feet together.

Sketching was the primary activity of my visit today. Last time I had sketched English ivy I wasn't particularly satisfied with the outcome. My scale had encompassed too many leaves, so instead of conveying detail in my drawing, I had drawn broad, messy outlines. Today, however, I did a new drawing composed of a single ivy leaf. I also used a mechanical pencil rather than a semi dull wooden one, which I think helped make my lines thinner and more precise. I also took care to illustrate the venation and how two veins often come together to form subsections of the leaf. Ultimately, I felt that this drawing was much more accurate than the last. Further, I drew a sapling (not sure if this is the proper stage), which Seek quickly identified as introduced Portuguese Laurel. I was also satisfied with how this drawing turned out. Next time I visit, I would like to identify as many of the plants in the area as I can so I can refer to them properly in my writings.

DECEMBER 5, 2022: 1:46 PM 37°F, FOGGY

Species Identifications in field site per Seek by iNaturalist

Common Snowberry: *Symphoricarpos albus*

Whitewash Lichen: *Phlyctis argena*

English Ivy: *Hedera helix*

Buehler, J. (2022, September 21). *Woodpecker brains process their own tree-drumming as if it's birdsong*. New Scientist. Retrieved April 30, 2023, from <https://www.newscientist.com/article/2338640-woodpecker-brains-process-their-own-tree-drumming-as-if-its-birdsong/>

Sundstrom, B. (2023, February 21). *Hear the differing drumbeats of woodpeckers*. Audubon. Retrieved April 30, 2023, from <https://www.audubon.org/news/hear-differing-drumbeats-woodpeckers>

Portuguese Laurel: *Prunus lusitanica*

Western Sword Fern: *Polystichum munitum*

Black Cottonwood: *Populus trichocarpa*

Oregon Grape: *Berberis aquifolium*

European Holly: *Ilex aquifolium*

Bigleaf Maple: *Acer macrophyllum*

Slough Sedge: *Carex obnupta*

Himalayan blackberry: *Rubus armeniacus*

Common Hawthorne: *Crataegus monogyna*

Common Hazel: *Corylus avellana*

I dedicated today's visit to identifying the plant species at the field site using Seek by iNaturalist. Some species were easy to identify while others, such as lichens and grasses, Seek could not identify, likely because they need to be inspected under a microscope or lack identifying features in the winter. I was surprised that Seek did not immediately identify Himalayan blackberry. Rather, it identified only its genus, *Bramble*. I used my background knowledge, knowing Himalayan blackberries are abundant and highly invasive here, to identify its species. I was nervous about identifying the trees because most of their leaves have fallen. However, Seek quickly identified them based on the dried leaves that I picked up from the ground. It seems that black cottonwood, big leaf maple, and common hazelnut are common here. I was happy to see these species because I learned about them in my Forest Biology class and felt that I could trust these identifications. I am only slightly unsure about the common hazelnut, as its Latin name came up as *Corylus avellana* while the one I learned about in class was *Corylus*

cornuta. I may have to double check this one with a field guide.⁵ Overall, I found the process of approaching, inspecting, photographing, and identifying each species quite relaxing, each one a puzzle to solve with no negative consequences of being incorrect, only rewarding to learn. I made a point of looking at whether the species were native or introduced and found plenty of both. I hope that as the weeks go by, I will be able to identify and document more species and become more familiar with them along the way. It will be interesting to see how they change over the seasons, as many are currently bare and brown. I will likely have to wait a while for them to form new growth, which will likely occur in the Spring. Although it is quite chilly and gloomy out today. I found this visit to be quite soothing, considering I arrived feeling tense and overwhelmed with thoughts of what I will do after graduation and when I need to start applying for jobs. I did not think of any of these worries while on my plant identification quest.

JANUARY 7, 2023: 9:45 AM, 47°F, CLOUDY

It's been about a month since I've been here since I traveled home for winter break. Immediately upon my arrival at the field site today, I noticed the vividness of colors; the ivy is bright green instead of the dull shade it was before. The moisture of the damp ground brings out the red hues of fallen leaves. I attribute this change to the persistent rain brought by winter. Even the river seems to be flowing with more rigor. Referencing a sketch I did of the fallen tree during one of my first visits, I see that the water level has risen significantly. In November, the entire length of the tree was visible. Now, a portion of it, about $\frac{3}{5}$ to $\frac{3}{4}$ down, is submerged. Sticks and

⁵ After checking nearby entries on iNaturalist, it seems most likely that the species I observed was indeed *Corylus avellana*, as there were zero entries for *Corylus cornuta*.

woody debris have accumulated on the section of the tree past the submerged area, appearing almost like a part of a beaver's dam. Do beavers roam this section of the Willamette River?⁶

Shortly after my arrival today, I heard the train approaching. Its tracks follow the river, just on the other side. At the same time, a couple of geese at the edge of the island started squawking hastily at each other, as if they were having a pressing conversation. I also noticed two American Coots, but I'm not sure if they were making any noise. I wonder what kind of impact human activity has on these animals, even if it is only noise that disturbs them, as I am thinking back to the boat that drove past many weeks ago, also disturbing the birds with its engine and impact on the water's current. Before industrialization, what kinds of loud, abrupt noises would these animals hear? Trees falling, perhaps, like the one I'm sitting on now, and the occasional thunderstorm.⁷ What else could cause such loud noises? Howling coyotes, maybe. Do coyotes howl, or just wolves?⁸ It is interesting to ponder the sounds of pre industrialization. Peaceful, I bet. Maybe I wouldn't feel the need or desire to visit a place like the Willamette River if I could more easily encounter the sounds of nature elsewhere, like in my backyard. But if this were pre-industrialization, I would likely have to gather at least some of my own food, maybe by fishing in the Willamette. Back then, the river wouldn't have been as polluted as it is now, and

⁶ Several iNaturalist users have reported evidence of American beaver (*Castor canadensis*) activity in the area, such as gnawed logs and tree trunks.

Observations. iNaturalist. (n.d.). Retrieved May 1, 2023, from https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=870764

⁷ The loudest sound in recorded history is that of the Krakatoa volcanic eruption on August 27, 1883 (Krakatoa Eruption). Additionally, meteor impacts and earthquakes. Some of the loudest animals on earth include whales, tiger pistol shrimp, greater bulldog bats, and green grocer cicadas (Hsiao 2023).

Hsiao, P. (2023, February 15). The 10 loudest animals on Earth. Australian Geographic. Retrieved April 30, 2023, from <https://www.australiangeographic.com.au/topics/wildlife/2012/08/the-10-loudest-animals-on-earth/>

Knowledge. Krakatoa Eruption - The Loudest Sound | Brüel & Kjær. (n.d.). Retrieved April 30, 2023, from <https://www.bksv.com/en/knowledge/blog/perspectives/krakatoa-eruption-sound#:~:text=loudest%20sound%2C%20naturally->

,The%20Loudest%20Sound%2C%20Naturally,far%20away%20as%20South%20Africa.

⁸ Coyotes also howl to bring their pack together or announce their territory to other packs.

Fergus, C. (2007, January 14). Probing question: Why do coyotes howl? Penn State University. Retrieved April 30, 2023, from <https://www.psu.edu/news/research/story/probing-question-why-do-coyotes-howl/>

the fish would be safe to eat. The ways people would have used the river would be quite different. For me at this time, the river is designated as a source of pretty views, time outside, and a research field site.

JANUARY 19, 2023: 8:30 AM 38°F, FOG

I am looking at an orange ivy leaf. I don't know if I've ever seen one this vibrant before. I'm not sure if it is dying, diseased, or mutated. I would think, however, that any ailment that affected one leaf would affect the others. But it is just one that is so orange, with one yellowed leaf close by. This is odd to think that the ivy leaf might be unhealthy, because I consider ivy to be rebelliously resilient. It is everywhere and it seems it will always be everywhere. Only when one puts in extreme effort to eradicate it will its local population diminish. Then again, I only assumed that the orange leaf indicates illness, but this is not certain. It is interesting that I have been socially conditioned to assume that difference equals wrong. I should know better since I have felt wrongly judged for my differences in many social circles. The ivy leaf may be ill, but it may just be orange, which is pretty cool.

I am currently taking a class about two American geniuses — Emerson and Einstein — taught by Professor Mossberg of the Clark Honors College. Last week, the class was divided into six groups, and each was to teach the class about one of Emerson's essays. My group taught *The Poet*, which described the poet as one who holds the great responsibility of translating nature to humanity through artful language without misconstruing it — a difficult feat. As I look at this bright orange Ivy leaf, I feel Emerson pulling me to write poetry.

An orange eye floating in a green sea
Like a patch of skin on a chameleon's back
That missed the signal
Revealing its secrets.

One black sheep in a field of white
The ugly duckling in the almost homogenous family
Appears a crime, its only sin
Is standing out.

This orange ivy leaf appears to be watching
Lurking, prodding, questioning, compelling
A thoughtful answer
What's wrong with being different?

I am very pleased with this poem I wrote. Typically, when I try to write poetry, it takes a long time for me to write down any thought. I think too much and produce too little. This time, though, it was easy and quick without being rushed (granted, I didn't try to rhyme it). Perhaps I felt more compelled by the topic, or it was helpful to have a visual to inspire my writing. Whatever it is, I'm glad for it. I may try to do this again, writing poetry, in my later visits here. It's a fun experiment to see what comes out when writing in different forms, whether it's scientific, reflective, or creative. I leave now feeling energized, ready for the day, and ready for breakfast.

JANUARY 21, 2023: 8:30 AM 33°F, MOSTLY CLOUDY

The water feels quite calm this morning. I love water quite a lot. We are very well acquainted with water, and it is well acquainted with us. It flows through our bodies. We depend on it for survival, but it also gives us pleasure (those ice-cold gulps on a hot, sweaty day), as if it is a good friend, there for us when we need them, and making life better even if we don't. It also causes destruction — hurricanes, flooding like we have in California right now, and tsunamis. We are so close to water that it sometimes kills us. People get sick from drinking it, people drown from swimming in it. Water gives us everything — life, death, pleasure, and destruction. But water has never held a bias or a grudge. Water is fair, and I think that's why I like it. Water does not intend to kill anyone. It does not choose to give pleasure to some and pain to others. The option, to an extent, is up to us. Maybe not to us lowly individuals, but to political and hierarchical structures which make decisions about water that impact different groups in different ways. Other times, it comes down to the forces of nature which act objectively.

I like coming to the river because I find water to be predictably enjoyable here. It flows constantly. Outdoors, whether in a city, a park, or a nature preserve, everything is changing. A few days ago, a construction crew demolished Caspian's, the Mediterranean restaurant drunk college students routinely visited late at night. Not too far away, more apartment complexes are going up. Vehicles arrive and exit the Alton Baker parking lot. Trees are changing color, dropping their leaves, and growing new ones every year. The wind moves fast one day and is nearly silent the next. Change is constant and dependable, but the river is still here even as trees fall into it, reminding us that life goes on.

FEBRUARY 10, 2023: 8:15 AM 43 °F, CLOUDY

Twenty-five double crested cormorants sit on the edge of the island facing SW. Many take off in that direction. Fourteen stay.

One goose nearby (there are about seven total) is injured. It is favoring its left foot.

One cormorant seems particularly interested in sticks. Occasionally, it picks up a stick, drops it, picks it up again, and twirls it around in its bill. It wandered away from the group at one point, toward the resting injured goose. The cormorant got so close that it disturbed the goose, who stood up and hobbled a few steps away. Shortly after, the cormorant picked up a nearby stick and walked it back over to the other cormorants.

I heard the cormorants make a sound I hadn't heard before. It sounded like a guttural purr. Through my binoculars, I saw that two of them were facing each other with their heads and necks crossed and alternating sides as they purred. It appeared a display of courtship, or perhaps dominance.⁹

At the same time, the entire group of cormorants turned to face North. I don't know if this was in response to the guttural sounds or something else. About a minute later, the same two cormorants continued their song and dance, and the rest of the group remained North-facing.

Today I have enjoyed observing the cormorants on the island. I particularly enjoyed watching one with an obvious fascination for sticks while the others remained uninterested. It seems entirely possible that cormorants have personalities. Could picking up sticks be considered a hobby? A form of entertainment? A passion, even? How many other cormorants like sticks?

⁹ When a cormorant encroaches on another's space, they will face off with their necks stretched and mouths open while shaking their heads and hissing at each other.

Double-crested cormorant life history, all about birds, Cornell Lab of Ornithology. All About Birds, Cornell Lab of Ornithology. (n.d.). Retrieved May 1, 2023, from https://www.allaboutbirds.org/guide/Double-crested_Cormorant/lifehistory

Do others like to pick up other things, like leaves or pebbles?¹⁰ Do they converse with each other over these materials? If other people saw the stick-appreciating cormorant like I did, would they be more interested in these birds, or in birds in general? I have liked cormorants for over a year now, mostly for their appearance and chill vibe. But witnessing the one with the sticks made me like them even more because I could relate to it. The bird displayed a behavior that I, myself, can do and have done. I cannot perceive the meaning of their sounds, I cannot fly, dive, or swim like them, but I can pick up sticks.

I also enjoyed sketching another cormorant. It elegantly stood on the end of a weathered metal pipe jutting out of the southwest side of the island. Although it turned its head often, it was still enough for me to sketch with relative ease. This process helped me become more familiar and attentive to its markings. Unlike I had previously believed, I realized that the cormorants' feet are not orange like its bill, but black. Also, only the base of its bill is bright orange, while the top and tip is a more muted gray. I noticed the areas where its body is dappled gray, and then observed that some of the other individuals had less gray on their necks and chest. I wonder if this feature is an indicator of age, health, or genetics.¹¹ Also, why do some individuals have bright orange bills while others are yellow? I know that in mallards, the bright orange bills are sexually selected over duller ones. Is this also the case in cormorants? If so, why?

I leave now, feeling intrigued, energized, and accomplished.

¹⁰ Double-crested cormorants make their nests out of sticks and other materials. Although this specific individual may not have been actively building a nest, picking up and transporting sticks is common among these birds. U.S. Department of the Interior. (2021, May 21). Double-crested cormorant (U.S. National Park Service). National Parks Service. Retrieved April 30, 2023, from <https://www.nps.gov/places/000/double-crested-cormorant.htm>

¹¹ Juvenile cormorants have paler necks and breasts.

Double-crested cormorant life history, all about birds, Cornell Lab of Ornithology. All About Birds, Cornell Lab of Ornithology. (n.d.). Retrieved May 1, 2023, from https://www.allaboutbirds.org/guide/Double-crested_Cormorant/lifehistory

FEBRUARY 17, 2023: 8:45 AM 31°F, SUNNY

I just arrived at my research site, the sun greeting me warmly. I was wandering the site, looking for any notable changes since my last visit when I saw a small bird on a tree. It looked like a sparrow, but this bird was climbing up the tree and pecking at it almost like a woodpecker. I had never seen sparrows do that before, so Merlin's Bird ID to find out what it was. After looking at a couple of pictures of sparrows, I quickly deduced that this was not one. The bird I saw had a longer, more narrow, curved bill rather than a short stubby one. Also, the bird I saw had a white underside, whereas song sparrows were more speckled.

The bird appeared again on another tree, scouring its length on the underside of a branch, hanging upside down. It seemed to be latching onto the lichen with its feet and pecking into the lichen as well. I wonder if the lichen provides habitat for insects, and perhaps the brown creeper is searching for them there.

There is a group of about seven Lesser Scaup in the river. Several times, I've watched them dive into the river, three or four of them at once. It hardly seems like a coincidence. I believe they may be working in teams to catch prey, like when humpback whales circle a school of fish, working together to enclose them in a ring of bubbles. Of course, I don't expect that these ducks are making bubbles, but I wouldn't be surprised if there is some purpose or strategy in diving all at once.

I saw a few new sightings today.

1. I spotted a turkey vulture flying across the river, marked by its black body and small red head.
2. About 50 feet away from where I'm sitting, an Anna's hummingbird hovered curiously near some ivy and bear twigs. As far as I can tell, there are no flowers for it to forage from.
3. A single pied-billed grebe! It was easy to spot because of its short, thick bill.

I am very happy about today's visit! I observed four new species today! I am especially happy with having found the brown creeper because I was previously unfamiliar with the species. I had believed it was a song sparrow, but because I was attentive to its unique appearance and behavior, I was able to identify it correctly. I don't think I will forget this species. I will remember it for a long time because of its notable behavior and accurate name.

There are other observations, such as synchronized diving, that stuck out to me today. I think I will look these up at home to see if others have observed similar behaviors.¹²

FEBRUARY 19, 2023: 12:15 PM, 53°F, PARTLY CLOUDY

Today I feel happy, calm, and peaceful. I arrived at the field site later than I typically do. It is the afternoon, and it does not hide itself. The sun has made everything bright and warm, including my spirit.

I arrived today and sat in a place I don't typically sit. Rather than perching at the base of the tree, I am about 50 feet down, hovered right over the water's edge. It's amazing what a change in perspective can accomplish.

Rather than plants and birds, water is occupying my thoughts. From the tree's base, there are several feet of rock, soil, and vegetation before the river. The fallen tree is typically at the forefront of my vision, and thus, I find it challenging to concentrate on the water just behind it.

Now, just a few feet away from that spot, the river clutches my consciousness. It smells of summer. I wonder if, sitting here, I could fish for crawdads using prosciutto on a string. The

¹² I couldn't find any website entries about synchronized diving by lesser scaups, but I did find some videos of other flocks of birds diving from the air at the same time. It also reminded me of chimney swifts entering the chimney all at once. I've seen this twice at an abandoned chimney on the UO campus. They are very fun to watch.

thought takes me back to my childhood, using bacon to lure the crustaceans out of the rocks and into the bucket I shared with my grandparents and older brother. I think back to last summer, when our invertebrate zoology class took a field trip to look for crayfish in the Millicoma river, when we found an old rope swing and plunged into the crisp cold water, when our professor smiled at us from a distance, unbothered by our disengagement with the coursework but pleased to see us experience a similar joyfulness that he had discovered in the outdoors during his youth.

The river draws these thoughts from me, ones of nostalgia, friendship, and connection. Sitting here reminds me why I chose this project in the first place, and the future I could have if I let the river run through it.

I am reminded that the river makes me feel whole. Being here doesn't feel like work, it feels like liberation. I remember my previous goal to work on a river through a career in restoration. I realize I need to try harder to make that vision a reality.

On another note, I saw a black-capped chickadee. There was also a squirrel, but I am hardly motivated to identify it, as I would be shocked if such an attempt were fruitful. I have spotted many more insects flying about. I believe they will be even more active as spring approaches. I am looking forward to more warmth and sunshine like I have encountered today.

FEBRUARY 25, 2023: 10:30 AM, 32°F, SUNNY

Today, I brought some expired prosciutto to the river, along with a string. I wanted to see if I could catch, or at least find, a crayfish. I tied the string around the prosciutto and put it in the water, holding onto the other end. I watched the prosciutto float on the surface of the water and quickly determined that I needed a weight to help it sink. For a short time, I wandered my research site looking for a small rock I could tie my string to but thought it would be difficult to

do so. So, I decided to use the key to my bike lock. Removing it from my key ring, I tied it to the end of my string, next to the prosciutto. I figured it was the least important key I had (I have a spare), and so if it got lost in the Willamette, it wouldn't be a big deal.

Unfortunately, I didn't spot any crayfish, or fish for that matter. Nothing approached my tasty treat. I tried a couple of different spots, one being deeper and murkier, another clear, shallow, and among the rocks. Neither revealed any life beyond the algae that coated the river bottom. I figure this part of the river may be moving too fast and does not have enough rocks for crayfish to hide in. I'm sure in other areas of the river beyond my field site I would have more success.

I was blessed with the presence of three new bird species today. About six bushtits scoured the trees in my field site, flying swiftly from one to the other, chirping all the while. The bushtits moved on and then right in front of me, a song sparrow landed on a twig. It flew down the length of the fallen tree, perching on a branch close to the water. It began pecking at its base as if searching for insects. Then I spotted another bird on a different branch. In my binoculars, I quickly spotted a red patch of feathers on the back of the bird's head. It was a male downy woodpecker pecking at the dead branch, searching for insects. As I write this, I have just spotted a female downy, characterized by its absence of red feathers, pecking at another tree in my field site. I was also thrilled to spot an insect earlier. It seems that spring is upon us. I'm looking forward to more new sightings.

MARCH 11, 2023: 8:45 AM, 42°F, PARTLY CLOUDY

I have found a bird I'm struggling to identify. It has a gray body, white underside, yellow legs and feet and a narrow, medium length, pointed beak. It is walking along the branches at the

top of the fallen tree, near the water. As it walks, it bobs up and down, its tail bouncing. I have not been able to identify the species with Merlin ID. Just as I was about to start sketching it, it disappeared.¹³

I was happy to spot a female common merganser swimming and diving for food, as well as many dark-eyed juncos in the trees of my research site. They were quite chatty when I arrived this morning, and the sun was shining. I wonder if birds like spring as much as humans do. I suppose they would since it would be warmer, there is more food available, and because it's mating season.

There are 20 Double Crested Cormorants on the island today. Some of them had their wings outstretched. I'm getting the sense that these birds are quite social since I see them in large groups almost every time I am here.

Today's visit was relaxing. Most days when I come here, I try to write as much as possible, immediately grabbing my journal and looking for things to write about. But today, I let myself sit and absorb for a while longer before I began writing. It felt much better. I think the pressure of doing this project for my thesis detracts from the project itself — instead of casually observing like I intend to do and letting my brain wander and eyes gravitate to whatever they arrive at most naturally, I feel myself seeking. I think that outdoor spaces can feel less exciting when you enter them with high expectations, and my expectation to have interesting things to write about each time makes my experience in the field site more forced, less fun, and more stressful. It is thus amazing that many times when I come here, I still feel calm or relaxed at the end of it. Perhaps this is my criticism of academia, that the process of learning and discovery is

¹³ I believe it was a spotted sandpiper, *Actitis macularius*. According to the Cornell Lab of Ornithology, they are commonly seen near freshwater.

Spotted sandpiper identification, all about birds, Cornell Lab of Ornithology. All About Birds, Cornell Lab of Ornithology. (n.d.). Retrieved May 1, 2023, from https://www.allaboutbirds.org/guide/Spotted_Sandpiper/id

so manipulated that the process of learning can inhibit the learning itself. I no longer come to the river to simply relax and enjoy the water and the trees and the sky — I come to “do my thesis.” I no longer look at this river as a place to find peace but as an obligation, something to interrogate for information so I can fill a page and graduate with honors. But the river is so much more than that. It’s a shame that this thesis has tainted my fondness for the place. I hope to undo that. How can I bring back the joy that I once found at the river? To make it a place of rest and recovery rather than a place of work? I think my last visit, fishing for crawdads was a start. It was something I knew I liked to do and wanted to try. Perhaps instead of observing the river, I need to live with the river. It’s like something David Abram discussed; scientists are trained to probe and prod subjects for answers, making them just that: subjects. But perception should not go one way. Not only do we observe the river, but the river observes us. From now on, I don’t want to simply perceive the river, I want to participate in the river. I’m not sure what exactly this will look like, but I think it will be fun.

MARCH 17, 2023: 9:45 AM, 42°F, SUNNY

It’s a gorgeous morning. Two Canada geese are perched on the fallen tree. It makes me happy to see other animals also like the tree, as I myself have appreciated it for perching and viewing the river.

Soon after settling into my spot, I realized there were another two geese, one to my left perched on the tree’s thick root ball and one down below on the riverbank. The second has a

patchy white face. I wonder if it is young or old.¹⁴ I have now seen three out of four of the birds defecate.

I've spotted two birds of a new species! Both individuals are male common goldeneyes. Common goldeneye did not show up in the Merlin Bird ID results, so I did a quick Google search of ducks with distinct white facial markings. The website that helped me identify them was about ducks in Michigan. I wonder what their range is and if they are migratory.¹⁵

I heard some crackling noises around me as I was writing. When I looked around, I noticed two small birds. They were about the size of a sparrow, had white eyebrows, brown and gray bodies with a tail that stuck upward. They were in the trees and ivy, and Merlin helped me identify them as Bewick's wrens! I've been having a lot of fun identifying bird species because many of the names are familiar to me, I just don't know what they look like. Now I'm learning!

I have also just realized that the snowberry is beginning to regrow its leaves! I have also spotted black capped chickadees and a Steller's jay way up high in a tree. There are also American robins in the trees directly behind my field site.

There was not a dull moment at the river today. Birds were popping up here and there and I identified many of them. It's so exciting to see my list of species grow! It's nice to know there is a community of river and tree lovers I can spend my time with here.

The two geese that were on the fallen tree have stayed throughout my entire visit. They look very peaceful, content in each other's company. They, too, face the river. I wonder what

¹⁴ After referencing a photo of the second goose, I noticed that it has bright orange feet, unlike other Canada geese. I believe that this goose is a Canada goose x greater white-fronted goose hybrid. Confusing domestic geese. (n.d.). Retrieved April 30, 2023, from <https://www.birds.cornell.edu/crows/domgeese.htm>

¹⁵ Common goldeneyes are migratory birds. They breed in many parts of Canada and Alaska and migrate south in late fall and can be found in most parts of the US during the nonbreeding season. *Common goldeneye range map, all about birds, Cornell Lab of Ornithology*. All About Birds, Cornell Lab of Ornithology. (n.d.). Retrieved May 1, 2023, from https://www.allaboutbirds.org/guide/Common_Goldeneye/maps-range

they observe from their position — what kinds of things do they notice and ponder, and how is it similar or different from mine? Well, that's it for today. Time for breakfast.

APRIL 29, 2023: 8:42 AM, 58°F, MOSTLY SUNNY

Today is my first trip back to the field site since it became spring. The river is high, and the bank is flooded both here and on the island where I typically see geese and cormorants. The water is moving fast. There aren't as many birds in the water, possibly because it's hard to resist its current. I anticipate this may be my last day at the field site, so I'm trying to identify as many species as I can now that things are green again. Here is what I've found.

Yellow-faced bumblebee: *Bombus vosnesenskii*

Osoberry: *Oemleria cerasiformis*

Pacific ninebark: *Physocarpus capitatus*

Pennsylvania bittercress: *Cardamine pensylvanica*

Bird cherry: *Prunus padus*

Trailing blackberry: *Rubus ursinus*

Catchweed bedstraw: *Galium aparine*

Apples: *Malus*

For a while, I saw the bumble bee fly over the mats of ivy. I wondered if it was looking for flowers or if its nest is somewhere nearby. Finally, I just saw it land on the apple tree, which is one of the few plants currently in bloom. (Some slough sedges, which I identified in one of my earliest visits, are in bloom too!) Its flowers are very pretty. The unopened flowers are pink like the color of cherry blossoms. The opened flowers look like cherry blossoms but are white. They

are cupped like tulips, so I believe they may not be fully opened yet. I also saw a spider on one of the apple flowers and tried to identify it using Seek, but the spider was too small to capture properly with the camera.

The leaves of the pacific ninebark reminded me of red flowering currant, *Ribes sanguineum*, which is in bloom right now. I struggled to identify pacific ninebark on Seek when I only pointed the camera at the leaves. Once I included the bark as well, Seek quickly identified the species. I believe the bark's peeled texture is an identifying feature, like pacific madrone trees.

I was surprised that more plants weren't in bloom. I've heard from several sources recently that the wildflowers are late due to the cold start to the season. Regardless, I was shocked by how many more plants I was able to identify with the change of seasons. The process was made even more enjoyable with the shining sun and warmer temperatures — I didn't even need a jacket! I'm excited to add these to my species list on the website and comb through all the photos I took. I got some great ones!

As I leave the field site knowing I may not return, I feel a bit nostalgic. The field site provided a space of both consistency and change which awarded me comfort and intrigue. The fallen tree, geese, and cormorants never failed to greet me while bird species I hadn't seen before made quick appearances. I have no doubt that this project, if only for spending time next to the river, taught me a lot. As I leave, I say thank you and goodbye to the fallen tree.

Discussion

Many of the 48 species I identified I had not previously known existed, and many others I had heard of but was unable to recognize at the start of the project. Casual observation motivated me to become more familiar with the species that appeared in and around the field site, thus prompting me to learn their names, characteristics, and behaviors. For example, I had encountered English ivy many times prior to this project, but never paid much attention to its venation until drawing it in the field site. Although I had previously been able to identify double-crested cormorants, their regular occupation of the island gave me insight into behaviors I hadn't been aware of previously. I now easily recognize Bewick's wren, brown creeper, and common goldeneye, because I noted their distinct features and behaviors in my attempts to identify them. My observations of identified species often prompted questions which led to further knowledge seeking. I found answers to many of the questions I wrote in my field notebook, which improved my understanding of the plants, animals, and phenomena I encountered in the field. In my experience, practicing casual observation encouraged learning and improved personal wellbeing, supporting one of Aked and Thompson's five ways to wellbeing (2011).

Although I already enjoyed being outdoors, practicing casual observation helped me feel a greater sense of place at the Willamette River and Alton Baker Park. Having frequently visited the field site over six months, I grew to understand the riverbank as not stagnant but something that is alive and constantly changing. Before, I thought of Alton Baker Park as a space primarily for human recreation, but documenting the species present at the field site highlighted the diverse array of flora and fauna that inhabit the area and depend on it for survival. My observations thus have awarded me new meanings that I associate with the park and the river, and my newfound familiarity with the field site would enable me to more easily recognize any degradation that

occurred there. My experience at the field site made me feel more protective of the Willamette River, Alton Baker Park, and its biodiversity. Although I didn't express it in my field journal, I considered several times removing the English ivy from the trees but opted not to because I wanted to see how the field site changed in the absence of direct human intervention.

Casual observation helped me empathize with nature as I recognized parts of myself in the species I saw around me. The most impactful of these experiences occurred when I observed the orange English ivy leaf and wondered why it was orange instead of green. I assumed it was sick or that something was "wrong" with it. I thought about times when I had appeared different in a crowd, and that I'd rather people recognize and be open-minded about my difference rather than making assumptions about me or believing that "different" was inherently bad. I applied my personal experiences to the ivy leaf and became much more sympathetic to it. I similarly became more appreciative of lichens after I observed and identified many species on a single stick. I was amazed by the drastic differences between them, and reading their names on Seek further increased the value I held for them. Additionally, I became fonder of double-crested cormorants when I observed them drying their wings in the sun, playing with sticks, and hissing at each other. In my writings, I referred to them as having personalities and considered the ways in which our experiences were similar and different. I saw parts of myself in them, especially the one that walked around the island picking up and swinging sticks while the other cormorants remained uninterested. Watching the cormorant reminded me of my own hyperactivity and odd fixations, which made me immediately fond of it. During my second to last field visit, two Canada geese sat on the fallen tree, looking over the river, just like me.

During field visits, I related my observations to personal memories and beliefs, and thus "scientific" observations and reflections were difficult to separate between my field notebook

and my journal. As observations inherently led to ideas and vice versa, there lacked a clear distinction between them and the two became intertwined. This experience compliments David Abram's environmental ethic, in which he argued that science cannot be independent of our senses and biased experiences (1997). The freedom of casual observation allowed me to adopt a kind of playfulness, which led to creative writing such as poetry and language experimentation, sometimes making me smile and laugh. I also exhibited playfulness in my attempt to fish for crawdads using prosciutto and captured the scenic views and diversity of flora and fauna through photography and drawing, which were both previous passions of mine. I felt satisfied when my sketches and photographs successfully represented my observations. These moments were joyful because I felt freedom to personalize my experience at the field site rather than follow a strict methodology. Thus, the inherent flexibility in casual observation contributed significantly to my enhanced wellbeing. However, because I was practicing casual observation for my thesis and needed to fit my observations into a structured academic paper, my freedom at the field site was somewhat limited. There were moments in the field when I reflected on feelings of frustration and stress, which stemmed from the pressure of doing casual observation for an academic project. These comments highlighted the negative relationship between academic rigor and creative pursuits that I have found throughout my undergraduate studies.

Next time I practice casual observation, I will do it purely for personal enjoyment rather than for an academic project. This will minimize pressure and allow for more creativity in the field, which will likely further improve wellbeing. I would also like to spread my observations out over a longer period to observe changes across all four seasons, and incorporate a greater variety of activities, such as painting, napping, swimming, and fishing. I would also make more attempts to find and document a more diverse array of species, including reptiles and

amphibians. I would work to remove invasive species and observe how these changes impact the biodiversity there. Further, I think it would be worthwhile to observe a few sites at the same time to understand the differences between them and what might cause those differences, which would enhance ecological knowledge and environmental appreciation.

Conclusion

The practice of casual observation can encourage the development of intimate relationships with living and nonliving systems that might otherwise remain unfamiliar. Researchers of ecology and social sciences assert that these relationships enhance one's appreciation for the environment around them, and this experiment in casual observation supports their findings. Strengthening the public's appreciation for ecologically diverse spaces is essential to their protection, which is becoming increasingly imperative in a climate-altered present and future. Additionally, casual observation can enhance participants' wellbeing, which presents an opportunity for recovering morale in the aftermath of the coronavirus pandemic. Individuals, communities, and educational institutions should consider implementing casual observation when tackling issues of ecological and personal resiliency.

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