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Deception Pass State Park Beach Naturalist Intern

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COLLEGE OF THE ENVIRONMENT



Internship Title: Beach Naturalist

Organization Worked For: Deception Pass State Park

Student Name: Mikaela Silva

Internship Dates: 6/21/24 9/5/2024

Faculty Advisor Name Manuel Montaña

Department ESCI

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STUDENT SIGNATURE Mikaela Silva

DATE: 9/5/2024

Beach Naturalist Internship, Deception Pass, Oak Harbor, Washington

June 21st, 2024 - September 5th, 2024

Mikaela Silva

Introduction

Deception Pass State Park in Oak Harbor, Washington, spans over 4,000 acres on two islands – Fidalgo to the north and Whidbey to the south (Deception Pass State Park, 2024). Originally, in 1866 the land around the pass was set aside to be a military reservation by the United States government (Deception Pass State Park, 2024). In 1922 the property was then designated by a Congressional Act for public recreation, creating Deception Pass State Park (Deception Pass State Park, 2024). The bridge that connects the two islands is a major tourist attraction along with the rugged cliffs, old-growth forest, historical significance, spectacular tide pools, and endless activities found in the park. As Washington’s most visited state park, Deception Pass receives over three million annual visitors and is the perfect place for visitors to connect with the natural world.

Humans have been connected to the land and beaches of Deception Pass and more specifically Rosario Beach for its natural resources for many years. Rosario Head and the rocky intertidal zones have been historically important to Native American groups such as the Samish and Swinomish for various practices (Deception Pass State Park, 2024). A story pole of the Maiden of Deception Pass was placed on Rosario Head in 1983 by the Samish people to commemorate and remember the Samish people who lived on Fidalgo Island (Deception Pass State Park, 2024). The maiden of Deception Pass continues to guard Sharpe Cove and educate visitors about the story of Ko-kwal-alwoot, who married the king of sea creatures to ensure the bay would be forever filled with life (Deception Pass State Park, 2024).

However, with increased visitation, as in many parks, resource protection issues were created and unfortunately, the easily accessible tide pools were not spared. Measures to further protect and educate visitors on the Rosario tide pools began after over 1,200 school kids decimated the marine life and ecosystem during low tide in May of 1995 (Beach Naturalists, 2022). The Deception Pass State Park Foundation was founded in 2006 by concerned neighbors of the pass who had worries about the funding and completion of projects going on in the park (Beach Naturalist, 2022). This 501(c)(3) nonprofit

corporation works to support Deception Pass State Park and provide valuable facilities and opportunities for visitors (Beach Naturalists, 2022). The Beach Naturalist program and designation of the tide pool area as an active restoration zone were also formally adapted as part of the park foundation (Beach Naturalists, 2022). As a Beach Naturalist, it was my duty to promote conservation and interpretation at the tide pools, discovery center, and education table. Each role of a Beach Naturalist requires a different set of skills to adequately support guests' learning and understanding of our unique park.

Internship Goals

My goals for this internship have been to apply the knowledge I have gained with my four years at Western Washington University and my years of customer service to help educate and protect the animals and visitors of Deception Pass State Park. I accepted this internship as I knew I would be a good addition to the team and learn more about marine and coastal life in our Salish Sea. Furthermore, I hoped to gain valuable experience communicating with various people and communities with different backgrounds which would greatly expand my understanding of community knowledge and awareness.

Internship Activities

Before starting work in the park, training was completed with my supervisors and co-interns to prepare us for the daily operations of our duties, provide information on marine life, and give interpretive skills to use. Each day in the park was different, and we needed to ensure our confidence in assessing every obstacle and interaction by completing mock scenarios to help us prepare for those situations. We were also taught about the history of Deception Pass and Rosario Beach, as it was important to have a foundation to build on and answer any future questions.

Tide Pools

The tide pools of Rosario Beach are a large attraction bringing in hundreds of people through the summertime, making this the internship's main focus. As stated previously, the tide pools are an area of active reconstruction and have established a rope trail to help guide guests safely through the tide pools.

Every year the rope trail is placed in the same spot as they are attached to metal bolts drilled into the rocky shore. This helps promote the natural reestablishment and reconstruction of certain areas. This year I was in charge of replacing the ropes halfway through the summer due to their lack of color and durability which was causing visitors confusion.

When first arriving at the tide pools it is my job to walk through the pools and identify any organisms I see by placing an orange identification cone near them for visitors to learn about and find more easily (Image 1). These cones allow visitors to explore the tide pools on their own or ask me questions about what they have found. Additional ropes and signs indicating the guidelines for the tide pools are placed near the tide pool shoreline. Guidelines include: staying on the rope trail, and not touching organisms or flipping rocks over. Such guidelines help our guests practice environmental stewardship by limiting the interaction with the tide pools' organisms allowing other guests to enjoy them too by preserving their ecosystem.



Image 1. Rosario Beach tide pools are shown with a yellow rope trail and orange identification cones.



Image 2. A black Katy chiton, *Katharina tunicata*, was found in our tide pools and was indicated by the orange cone and sign to help visitors identify the strange creature.

Rosario Beach tide pools are a great learning opportunity not only for our out-of-state visitors but for the locals and me as well. Every day is different from the last and the visitors who come always bring questions which help expand my knowledge. My days were filled with roving the tide pools, answering questions, aiding in species identification, as well as encouraging visitors to practice environmental stewardship. If there was ever something I did not have the answer to I would make sure to do my research when I arrived home to become more equipped for the next round of visitors. Common organisms asked amount were the tide pool sculpin, purple shore crab, mossy chiton, and anemones, which I have become well accustomed to as they were always present. Many guests would ask about finding sea stars which would lead me to talk about the lack of sea stars in this area due to the 2013 Sea Star Wasting Disease that we are still seeing the effects of (Sea Star Wasting Syndrome, 2014). The Sea Star Wasting disease is not well understood as it is a complex issue, but it is known to affect more than 20 species of sea stars spanning from California to Alaska (Sea Star Wasting Syndrome, 2014). This disease has made sea stars' appearances in the tide pools a rare experience and a sad conclusion for many guests.



Image 3. The only six-rayed star, *Leptasterias hexactis*, I found in the tide pools during early August 2024. Other sea stars like the blood star (*Henricia leviuscula*) have been spotted over the summer though this was the only star I saw in person.

Education Table

On days when the tide pools are covered, or there are plenty of volunteers, we will set up our education table which showcases many of the tide pool organisms found in Washington state. The organisms were all found deceased somewhere in Washington and were given a second life to help educate guests with an informal interpretation of the dried specimens. Similar to the tide pools, the education table was a place for me to spread my knowledge on the organisms of the tide pools, provide information on park programs, educate guests on how tides work, and make great connections with the guests. It was important to me to make the learning experience fun and engaging, not something people had to sit through. A great part about the education table is that I was able to tailor the table to the organisms I felt was an expert on. This allowed visitors to walk away with a plethora of knowledge to share with their friends and family. The education table is also a great place to look at organisms more

closely, as you can pick up and inspect many of our dried organisms. Visitors brought questions and knowledge to me, some people were from landlocked states and had never seen any of these organisms before whereas others were scientists helping me learn even more about marine ecology.

Discovery Center

The discovery center is a unique building only open in the summer on the weekends and is fully run by us interns, whereas the tide pools and education table may have volunteers alongside the interns. Inside the discovery center, you will find native otter pelts, whale bones, algae/kelp presses, more dried tide pool organisms on display, as well as crafts and books for the kids. Our otter pelts were the most popular display by far as you could feel and see the differences between the river otter (*Lontra canadensis*) and the sea otter (*Enhydra lutris*). This was also my favorite display to talk about as I had previously written a research paper on the river otter for a class and knew a lot about the animal. The whale bones were also fun to talk about and educate guests on as they tried to guess where they belonged in the body.

Children loved hanging out in the discovery center and playing with our interactive food chain and intertidal zone games, making their own crafted tide pool, viewing phytoplankton and zooplankton under the microscope, and looking at the algae samples. Phytoplankton and zooplankton were caught by dragging a fine mesh net and a large plastic bottle through the water off of Sharpe Cove's boat dock. Samples were transported from the collection bottle into a Petri dish and viewed under a dissecting microscope (Image 4). I was able to help teach the other interns how to catch plankton as a previous lab at WWU had taught me. This was always an amazing experience for guests of all ages to learn from as not many people have the opportunity to see the smallest organisms of our ocean up close and learn about their importance to the food chain. I thoroughly enjoyed helping the kids learn about the tide pools and the marine environment through our crafts and activities.



Image 4. Picture of phytoplankton and zooplankton samples under a dissecting microscope, exact species are unknown.

Learning Objectives

As a Beach Naturalist intern, I have applied much of my knowledge gained from university courses as well as continued to grow and learn as an environmentalist in Deception Pass. I am walking away with this internship satisfied in my duties and with much more knowledge than I came in with. The hands-on experience has adequately equipped me with practical skills I will be able to apply to real-world scenarios. My communication skills have enhanced tremendously throughout this internship through the daily conversations with lay and professional audiences. I thoroughly enjoyed talking with people about marine processes, the reasoning behind the location of some organisms, and how everything is connected. Helping educate children on simple marine topics such as the food chain and different types of organisms was also very rewarding.

My time outside of this internship was spent furthering my understanding of tide pool organisms, ocean tides, physiochemical interactions in the tide pools, and the sociology of the organisms. Much of

what I would research was built upon the knowledge I gained in my school courses. Significant knowledge was accumulated surrounding tides, marine food chain dynamics, species identification, cultural and historical insight, and environmental stewardship. Deception Pass has also provided me insight into a greater understanding of human impacts on marine ecosystems as well as mitigation strategies and has greatly enhanced my understanding of ecological processes and challenges. Overall, this internship has helped me realize I want to better understand biological processes and help support their function in the future.

Conclusion

Overall, I have gained more knowledge and experience from this internship than I had previously thought. The positive environment and kind-hearted volunteers and fellow interns made this internship easy and memorable. The internship was different than I expected but I have become well-versed in marine ecology and the function of intertidal zones. My time here has helped me be more confident in interpretive skills and knowledge which will be applied in my future in environmental science.

Appendix

Table 1. Internship hours, date, and day on the left with the number of hours completed that day on the right

2024 Intern Schedule		Mikaela (Fri.Sat.Sun)
20-Jun	Thursday	2.5
21-Jun	Friday	7
22-Jun	Saturday	5
23-Jun	Sunday	5
24-Jun	Monday	
25-Jun	Tuesday	
26-Jun	Wednesday	

27-Jun	Thursday	
28-Jun	Friday	5
29-Jun	Saturday	5
30-Jun	Sunday	5
1-Jul	Monday	
2-Jul	Tuesday	
3-Jul	Wednesday	
4-Jul	Thursday	
5-Jul	Friday	5
6-Jul	Saturday	5
7-Jul	Sunday	5
8-Jul	Monday	
9-Jul	Tuesday	
10-Jul	Wednesday	
11-Jul	Thursday	
12-Jul	Friday	5
13-Jul	Saturday	5
14-Jul	Sunday	5
15-Jul	Monday	
16-Jul	Tuesday	
17-Jul	Wednesday	
18-Jul	Thursday	
19-Jul	Friday	Request OFF
20-Jul	Saturday	Request OFF
21-Jul	Sunday	Request OFF
22-Jul	Monday	
23-Jul	Tuesday	
24-Jul	Wednesday	
25-Jul	Thursday	

26-Jul	Friday	5
27-Jul	Saturday	5
28-Jul	Sunday	5
29-Jul	Monday	
30-Jul	Tuesday	
31-Jul	Wednesday	
1-Aug	Thursday	
2-Aug	Friday	5
3-Aug	Saturday	5
4-Aug	Sunday	5
5-Aug	Monday	
6-Aug	Tuesday	
7-Aug	Wednesday	
8-Aug	Thursday	
9-Aug	Friday	5
10-Aug	Saturday	5
11-Aug	Sunday	5
12-Aug	Monday	
13-Aug	Tuesday	
14-Aug	Wednesday	
15-Aug	Thursday	
16-Aug	Friday	Sick
17-Aug	Saturday	Sick
18-Aug	Sunday	Sick
19-Aug	Monday	
20-Aug	Tuesday	
21-Aug	Wednesday	
22-Aug	Thursday	5
23-Aug	Friday	5

24-Aug	Saturday	5
25-Aug	Sunday	5
26-Aug	Monday	
27-Aug	Tuesday	
28-Aug	Wednesday	5
29-Aug	Thursday	5
30-Aug	Friday	5
31-Aug	Saturday	5
1-Sep	Sunday	5
2-Sep	Monday	
3-Sep	Tuesday	
4-Sep	Wednesday	
5-Sep	Thursday	2
6-Sep	Friday	
Total Hours		156.5

Sources

About The Foundation. 2024. Deception Pass Foundation. <https://deceptionpassfoundation.org/about-the-foundation/>

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