**The Evergreen State College**

**Graduate Program on the Environment**

### Thesis Prospectus

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**STUDENT AGREEMENT:**

**SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**FACULTY READER APPROVAL:**

**SIGNATURE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MES DIRECTOR APPROVAL:**

**SIGNATURE:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Provide the working title of your thesis[[1]](#endnote-1).**

Reintroduction of gray wolves *(Canis lupus)* to Olympic National Park

1. **In 250 words or less, summarize the key background information needed to understand your research problem and question.**

In the 18th and 19th centuries, European settlers colonized the Pacific Northwest and purposefully hunted gray wolves (*Canis lupus*) to the brink of extinction. Settlers removed the wolves out of fear, without considering their ecological importance as a keystone species. In the Olympic Mountains, the last recorded gray wolf was killed in the 1920’s. The lack of a primary predator on the Peninsula profoundly changed predator/prey dynamics. Ungulates such as elk and deer have had free range to degrade critical ecosystems by over-grazing and causing erosion (Carroll et al., 2006). Coyotes *(Canis latrans)* filled the ecological niche that the wolves once occupied; unfortunately, coyotes prefer smaller game, so the endemic Olympic Marmot populations have suffered.

Researchers and environmentalists in the second half of the 20th century began to recognize the vital role that gray wolves contributed to the landscape. After wolves were reintroduced to Yellowstone in 1995, they began to heavily influence interspecific competition within forest and riparian ecosystems in ways that significantly effected forest growth and composition (Carroll et al., 2006). Fortunately for the wolves, they are currently protected under the Endangered Species Act (ESA) of 1973 (Carrol et al. 2006) and by Washington State law in 1980 (WAC 220-610-010; RCW 77.15.120). This legal status allows wolves to naturally recolonize parts of their native ranges in the Cascade and Rocky Mountains. However, recolonization of the Olympic Mountains is extremely unlikely without human assisted migration. Without wolves, the dire situation within the park will continue to deteriorate (Douglas, 2003).

Public opinion of gray wolves has changed over the past few decades, particularly since wolf reintroductions were successful in Yellowstone National Park. Williams et al. (2002) told us that people’s attitudes towards wolves and their reintroduction have become more positive as people gain more environmental education. It is time to reintroduce gray wolves to the Olympics.

1. **State your research question(s).**

Is it time to reintroduce gray wolves *(Canis lupus)* to Olympic National Park (ONP)?

1. **Situate your research problem within the relevant literature. What is the theoretical and/or practical framework of your research problem?**

I will be using “Human Dimensions Theory” as the practical framework for my thesis. Understanding human attitudes towards conservation of endangered species will be key to answering my research question. For example, as Babcock in 2013 told us, the U.S. Fish and Wildlife Service (FWS) in 1995 completely failed to appreciate how many people in wolf recovery zones would oppose their one-sided decision to forcibly reintroduce wolves at Yellowstone National Park. When the FWS allowed science alone to drive their reintroduction plans, they alienated the people who would be the most impacted by the decision and who also see wolf reintroductions as a threat to their way of life.

I propose writing a science-based literature review that explains in simple terms why wolf reintroductions are required to complete Olympic National Park’s ecosystem. There are many reasons to reintroduce wolves. First, eco-tourism after reintroductions or in the future would be an economic incentive for locals to act now (Babcock, 2013). Second, wolves put selective pressure on prey species like elk, which would reduce population number to a sustainable level and indirectly allow riparian plants and animals to recover (Carrol et al. 2006). Finally, improve ecosystem services; clean water, soil stabilization, carbon storage, water storage and providing places for humans to relax and learn (NPS, Climate Change Action Plan 2012-2014).

Reintroductions of apex predators such as the gray wolf remain controversial. Much of the controversy comes from strong public emotions as well as public misunderstanding of the ecological importance of wolves. The National Park Service requires public support to even consider supporting reintroductions of wolves to Olympic National Park. From its inception, the NPS has been following its congressional-mandated dual objective to protect wildlife and retain the support from the public (Wright, 1998).

In 1999, the U.S. Fish and Wildlife Service published their *Feasibility Study on the Reintroduction of Gray Wolves to the Olympic Peninsula;* they concluded that wolf reintroductions were biologically feasible, and that habitat and prey base could support them. However, they warned that minimizing wolf/human conflicts would be required for the plan to work. Therefore, retaining public support is not just an objective of the NPS, it is a requirement for long term success of wolf reintroductions.

1. **Explain the significance of this research problem. Why is this research important? What are the potential contributions of your work? How might your work advance scholarship?**

**Significance of research problem:** Due in large part to government sponsored predator control programs, gray wolves were removed from the Olympic Mountains in the 1920’s and from virtually all of its natural range withing the continental United States by the 1930’s (Babcock, 2013). Despite biologically successful introductions in other part of the country in the mid-1990s, no attempts have been made to reintroduce them to the Olympic Mountains (Ratti et al. 1999). Understanding the human dimensions associated with natural resource management on the Olympic Peninsula will be vital to any future wolf reintroduction attempts (Bruskotter et al. 2013). My survey will allow me to find out if killing wolves is a social norm on the Olympic Peninsula among stereotypical anti-wolf reintroduction groups.

**Importance of this research:** Previous reintroduction attempts underestimated the importance of building support networks within local communities; my survey will help me understand if locals are willing to revisit the issue. People have been suggesting wolf reintroductions since 1935 for the Olympic Mountains but no actual wolf reintroduction have taken place (Ratti at el. 1999).

**Potential contributions:** Using human dimensions theory to analyze previous gray wolf reintroductions in the United States and conduct my survey, I will be able to make recommendations for educational programs, policy changes, or legislative action.

**Advance scholarship:** As far as I know, no one has used human dimensions theory to assess possible wolf reintroduction on the Olympic Peninsula. My findings and recommendations could be utilized by state or federal agencies to justify a more thorough survey or possibly to begin a social marketing campaign in hopes to change how residence around the Olympics see wolves.

1. **Summarize your study design[[2]](#endnote-2). If applicable, identify the key variables in your study. What is their relationship to each other? For example, which variables are you considering as independent (explanatory) and dependent (response)?**

My thesis will attempt to answer the question: Is it time to reintroduce gray wolves to Olympic National Park? To accomplish this, I will create an internet-based snowball survey using Survey 123 by ESRI. I plan to survey two different geographic areas. One geographic area will be the Olympic Mountains and the other will be determined after more research. I will recruit my respondents by contacting pro/anti wolf reintroduction organizations who are within my areas of interest by phone or email. In my email I will ask the organization to take the survey and then to nominate others for me to contact. I will also ask them to send on my survey to their coworkers or people they believe would be interested. My survey will be custom tailored to my target audiences to maximize saliency, minimize nonresponse, and to identify different groups withing the respondents. The data I collect will be based on local people’s knowledge of wolves and asks their opinions about reintroductions and conservation. I will use cross tabulations, simple statistics, and ArcGIS to analyze the data. Finally, I will use my findings to help me draw conclusions about why wolves have not been reintroduced and what can be done to get the process started. Nobody is sponsoring or funding this research. If I have a hard time getting people to take my survey, I will reassess my methods and adapt accordingly.

1. **Describe the data that will be the foundation of your thesis. Will you use existing data, or gather new data (or both)? Describe the process of acquiring or collecting data[[3]](#endnote-3).**

The data that will be the foundation for my thesis will be newly gathered qualitative data that I will convert into quantitative values for analysis. The survey instrument will be implemented online and designed using Survey 123. Below I have stated how I will collect my data listed in order of execution.

1. Create survey instrument using Survey 123.
2. Have survey instrument peer reviewed by fellow students and piolet tested.
3. Recruit traditionally anti-wolf reintroduction groups from the Olympic Peninsula and from current wolf reintroduction areas based off research on topic.
4. Monitor data as it is collected to determine if I have reached my target audiences and become familiar with it.
5. Use simple statistical analysis to look at my data to determine if I can move forward with my analysis.

The administration of my survey will be in accordance with Washington State’s Covid-19 Reopening Guidance for Higher Education.

1. **Summarize your methods of data analysis. If applicable, discuss specific techniques that you will use to understand the relationships between variables (e.g., interview coding, cost-benefit analysis, specific statistical analyses, spatial analysis) and the steps and tools**

**(e.g., lab equipment, software) that you will take to complete your analyses.**

The methods I will use to collect and analyze my data are stated below in order of execution.

1. Make a code book to clean up data for analysis.
2. Use Survey 123, R-Studio, and Excel to complete my statistical analysis, cross tabulations, summary statistics, and simple statistical analysis.
3. Use ArcGIS for spatial analysis using respondence demographics.
4. Compile graphs, charts, maps, and simple statistics to identify themes and inform my conclusions and final discussion.
5. **Address the ethical issues[[4]](#endnote-4) raised by your thesis work. Include issues such as risks to anyone involved in the research, as well as specific people or groups that might benefit from or be harmed by your thesis work, perhaps depending on your results. List any specific reviews you must complete first (e.g., Human Subjects Review or Animal Use Protocol Form).**

I will be surveying human subjects which will require approval from Evergreen’s Human Subjects Review Board. I will not be collecting any personally identifiable data with my survey to protect my respondents’ identities. After assessing my survey design, I concluded that the risks associated with invasion of privacy, breach of confidentiality, and study procedures will be minimal, however, they still exist. To mitigate for these risks, I will have my survey peer reviewed by fellow MES students and conduct a pilot test prior to conducting my full survey. I will keep the survey data that I collect secured, and be cognizant of my own biases throughout the process.

I anticipate that there will be more benefits than harm from this research project. To start with, Olympic NP could potentially gain a lot from this research. The local communities around the Olympic Peninsula would benefit from enhanced ecosystem services such as influencing elk populations and lessening the impacts of herbivory in riparian areas, and impact forest growth and composition (Douglas et al., 2003) Economically, if Yellowstone NP’s experiences hold true, eco-tourism to the park would increase and local communities would see an influx of revenue as a result. If wolf recoveries in eastern Washington are an indicator, the groups that I think could be harmed from wolves being reintroduced are the local ranchers and farmers whose livestock may be put into harm’s way.

1. **List specific research permits[[5]](#endnote-5) or permissions you need to obtain before you begin collecting data (e.g. landowner permissions, agency permits).**

At this time, I do not believe that I will be required to obtain any permits for this thesis.

1. **Reflect on how your positionality as a researcher could affect your results and how you will account for this in the research process[[6]](#endnote-6).**

Gender – Male

Age – 37

Ethnicity – White

Education – BA, BS, and some MES from Evergreen.

Marital Status – Yes

Children – 3

Employment – Student

The controversy surrounding my thesis topic is something that I will need to be mindful of since I consider myself an environmentalist. Usually, groups that oppose wolf reintroductions also happen to view environmentalists as the enemy of the working person (Hanson, 1995). The people who participate in my survey will expect me to be trustworthy and ethical. I plan to build trust by creating a survey instrument with as little bias as possible, being upfront about what I am researching, and by sharing my findings in a public presentation.

I will have my conclusions and results peer reviewed by fellow MES students and by my thesis reader to reduce the chances that my positionality will affect my results.

1. **Provide at least a rough estimate of the costs associated with conducting your research.  Provide details about each budget item so that the breakdown of the final cost is clear.**

At this time, I do not believe I will have any costs associated with my research.

1. **Provide a detailed working outline of your thesis.**

**CHAPTER 1: INTRODUCTION**

**CHAPTER 2: LITERATURE REVIEW**

Introduction

Gray Wolves in the United States

National Park Service

ESA

Olympic Peninsula

Public Attitudes and Conservation

Need for Further Research

**CHAPTER 3: METHODS**

Research Objectives

Acquiring Data

Coding

Analysis

**CHAPTER 4: RESULTS**

Summary

Complete Study Area Results

Findings

Demographic Results

**CHAPTER 5: DISCUSSION**

Introduction

Limitations

Future Research

Conclusion

Recommendations

**WORK CITED**

**APPENDICES**

1. **Provide a specific work plan and a timeline for each of the major tasks in the work plan. Be as realistic as you can, even though you will probably need to alter this schedule as you complete the tasks. Remember that faculty readers take time to return your drafts and that the final polishing and formatting of your thesis for binding will take longer than you ever imagined.**
2. November 2020
	1. Begin Human Subjects Review process and training.
	2. Working outline of literature review. November 8th
	3. First Paragraph of literature Review and Thesis Statement. November 12th
	4. Prospectus Draft 2 to reader. November 15th
	5. Working Draft of Literature Review. November 29th
3. December 2020
	1. Completed Human Subjects Review process and training.
	2. Final Poster upload. December 6th
	3. Final Prospectus (to reader and to case studies) December 6th
	4. Signed Prospectus Due December 11th
	5. Write initial survey questions for data collection.
	6. Continually read and write about wolves December - May
4. January - February 2021
	1. Meet with Reader once a week or as discussed January - June
	2. Draft of literature review January 3rd
	3. Design survey instrument January 10th
	4. Peer review survey; Draft of introduction January 17th
	5. Revise questions and piolet test January 31st
	6. Finalize survey instrument February 7th
	7. Conduct survey February 7th to 28th
5. March – June 2021
	1. Analyze results from survey March 7th
	2. Results and discussion draft March 14th
	3. Adjust literature review March 21st
	4. Conclusion and future research draft March 28th
	5. Thesis draft DUE April
	6. Whole thesis editing and formatting April 30th
	7. Request to present thesis May
	8. Present thesis May
	9. Final draft due to reader May
	10. Submit final copies to MES office June
6. **Who, beyond your MES faculty reader, will support your thesis? Indicate support both within and outside of Evergreen. Be specific about who they are and in what capacity they will support your thesis. If you are working with an outside agency or expert, be specific about their expectations for your data analysis or publication of results.**

Shawn Hazboun: MES Faculty,

I will be asking Shawn for advice with my survey instrument and data analysis. I fortunately took her summer elective, *Survey Research Techniques for Social Science.*

Patti Happe: Wildlife Branch Chief, Olympic National Park,

I have already contacted Patti for advice on my thesis. She helped me understand some of the local history surrounding prior wolf reintroductions and gave me new ideas for research.

Julia Smith: Wolf Coordinator, Washington Department of Fish and Wildlife,

I have not reached out to Julia yet, but she was highly recommended to me by Patti. I hope to gain some insights from Julia about the WDFW’s plans for the Olympic Peninsula and wolf reintroductions. Patti mentioned that Julia might have some interesting data from public scoping that she conducted.

1. **List the 3-5 most important references you have used to identify the specific questions and context of your topic, help with issues of research design and analysis, and/or provide a basis for interpretation. For each annotated reference, explain how your project specifically connects to the source by extending, challenging, or responding to the conclusions, methods, or implications. For any other sources cited in this document provide a complete bibliographic citation.**
2. Smith, Douglas W., Rolf O. Peterson, and Douglas B. Houston. 2003. “Yellowstone after Wolves.” *BioScience* 53 (4): 330.

This source shows what affects that the reintroduction of wolves brings to an ecosystem. The paper uses Isle Royale National Park as a case study to justify the expected outcomes at Yellowstone. Wolves recolonized the Isle Royale and reestablished themselves as the apex predator. The wolves put selective pressure on the elk populations within the park and thus changed the ecological process taking place within the forest.

1. Williams, Christopher K., Göran Ericsson, and Thomas A. Heberlein. 2002. “A Quantitative Summary of Attitudes toward Wolves and Their Reintroduction (1972-2000).” *Wildlife Society Bulletin (1973-2006)* 30 (2): 575–84.

I plan on creating a survey to see how locals around the Olympic Peninsula feel about reintroductions of gray wolves. This article will be useful to me for my thesis because it talks about the data they collected with the surveys, its analysis, and implications for management decisions. The paper analyses 28 years of survey data from 1972 to 2000 and will be a source for me to compare my survey findings.

1. Sutherland, William J., Andrew S. Pullin, Paul M. Dolman, and Teri M. Knight. 2004. “The Need for Evidence-Based Conservation.” *Trends in Ecology & Evolution* 19 (6): 305–8.

This journal article argues that conservation decisions should be based on “evidence-based practices” instead of myth-based beliefs. This idea will be what I incorporate for my thesis’ practical framework. After researching further into my thesis question, it is becoming clearer to me that the controversy surrounding wolf reintroductions will need a multifaceted approach using social sciences with evidence-based conservation practices.

1. Carroll, Carlos, Michael K. Phillips, Carlos A. Lopez-Gonzalez, and Nathan H. Schumaker. 2006. “Defining Recovery Goals and Strategies for Endangered Species: The Wolf as a Case Study.” *BioScience* 56 (1): 25–37.
2. Ratti, John T, U.S. Fish and Wildlife Service, Western Washington Office, University of Idaho, Department of Fish & Wildlife Resources, and Idaho Cooperative Fish and Wildlife Research Unit. 1999. *Feasibility Study on the Reintroduction of Gray Wolves to the Olympic Peninsula*. Lacey, Wash.: United States Fish and Wildlife Service, Western Washington Office.
1. You are not locked into this title; its purpose is to help you identify the main point or topic of your thesis at an early stage. [↑](#endnote-ref-1)
2. You might discuss selection of case studies, sampling methods, experimental design, and/or specific hypotheses you will test. You should also address any specialized knowledge or skills that are necessary to complete the research. [↑](#endnote-ref-2)
3. If you are planning to use existing data, explain the specific source, contact information, arrangement with collaborating agencies, and expectations about use of data and final products of your research. If you are planning to gather new data, describe specific methods, time, place, and equipment that will be required. [↑](#endnote-ref-3)
4. If you’re not sure where to start, consult a ‘Code of Ethics’ or other similar document from an academic society in an applicable field of study. [↑](#endnote-ref-4)
5. If you are collecting ANY samples or data, even observational data, on public lands (city, county, state and/or federal) it is your responsibility to find out the permit requirements BEFORE you collect data. Conducting research with tribal members/on tribal lands will have different and additional requirements. [↑](#endnote-ref-5)
6. Your *positionality as a researcher* refers to the fact that one’s “…beliefs, values systems, and moral stances are as fundamentally present and inseparable from the research process as [one]’s physical, virtual, or metaphorical presence when facilitating, participating and/or leading the research project…” (The Weingarten Blog 2017). [↑](#endnote-ref-6)