

Fly Fishing the Pacific Northwest: Encouraging Environmental Stewardship
in Urban Environments Through Outdoor Recreation

by Conor Curran

Community, Environment, and Planning

Senior Project Report

Introduction

Imagine this, if you will, no more than 50 years ago, Seattle, Washington an up and coming city. A time before its current economic boom, explosive growth, and rapid expansion. The city of Bellevue was still a sleepy little lake front town, with no buildings legally allowed over five stories tall, Issaquah was just a trout hatchery and a root beer stand, and the newly built Space Needle dominated the skyline. Fast forward to now, Seattle stands as one of the United States most important cities, a technological hub that seems to have nothing but growth on its mind. Nicknamed the “Crane Capitol of America” with over 50 active construction cranes in the downtown area alone. Incoming Seattleites flock to the city every day, making Seattle the fastest growing city in the US. If you have never had the chance to visit the upper left USA, you might imagine a booming metropolitan sprawl, akin to the island of Manhattan, with people bustling about and nothing but steel and concrete for miles around, but this isn’t the case. Seattle is surrounded by unmatched natural beauty. The skyline is nestled on the shores of Puget Sound, a vibrant marine ecosystem home to whales, marine mammals, all six pacific salmon species, and bookended by the Olympic Mountains to the west and the Cascades to the east, all under the watchful eye of the towering Mt. Rainier. Seattle scenery is picture perfect, but its in trouble.

Abstract

We are faced at present with an interesting dichotomy, we are at present the most aware and apprehensive about environmental impact and changes than we have ever been in history, yet we are developing and growing faster than we have in recent history. Like any city blah blah, Seattle's explosive growth threatens natural environment, as we expand and grow, the border between

The goal of my senior project, and in fact my educational trajectory within the Community, Environment, and Planning major, has been to explore how we as a society can live and grow more responsibly. Seattle is the paradigm of urban intersecting with natural environment, the areas incredibly diverse and important natural ecosystems are in a constant struggle with the drive to expand and grow. In my four years here at the University of Washington, it has become clear that there is a lack of appreciation for our natural surroundings, or even awareness of their state of decline. How is it that our University is home to one of the best Fisheries' science schools in the world, located less than an hour from historic salmon fisheries, yet many of our students have never been face to face with the fangs of a spawning chum? How is it that we boast a top level environmental sciences program, with students who rarely leave the 634 acres of our urban campus? How can we expect to progress as a society, and develop in a manner which prioritizes sustainable interaction with the environment, if our Urban Citizens have neither concept nor connection with the natural world.

Context

Fly fishing, much like outdoor activities such as backpacking and hiking, and more so than other methods of fishing, has a long and storied history of its participants engaging in environmental activism and stewardship. Like any sport or activity which derives function from an outdoor experience, it is inherently in the interest of any fisherman to preserve the natural environment in which they operate. Simply put, no fish, no fishing. A particularly poignant example of activism in fishing, and one which has come back into the public spotlight recently, is the proposed Pebble mine in Bristol Bay, AK. If constructed, run-off from mining operations would flow into the headwaters of the world's most productive Sockeye salmon fishery in Bristol Bay, with potentially disastrous consequences. After investors of the mine began the permitting process for construction, thousands of Alaska natives, commercial fishermen, and recreational anglers, took action. *Red Gold* is an award-winning documentary produced by Felt Soul Media, a group focusing on fisheries conservation issues around the world, in opposition to the Pebble mine. The documentary elicited unprecedented numbers of response and public comments on the proposal, slowing progress of the mine. *Red Gold*, and the struggles in Bristol Bay are just one example of the storied tradition of fly fisherman and outdoor recreationalists advocating for the preservation of the natural resources that they enjoy. I aim to extend this tradition of advocacy to the student body here at the University of Washington, a school nestled amongst the reaches of some of the most beautiful natural environments in North America. As we move into a period of time where the fates of our natural environment are threatened by a rapidly changing climate, whether it be physical, social, or political, it is paramount that we increase awareness and participation in their preservation.

Methodology

So how is it that one with no experience in teaching or designing curriculum go about designing a university program? It is this same question which I asked myself after deciding what I wanted to do for my senior project, and my answer to it was “Shoot, maybe I’ve bitten off a bit more than I can chew...” well, that’s the PG version anyway. In all seriousness, I was unsure of how to go about conjuring a self-contained and fully functional program from thin air. The longer I took to consider the steps and requirements which would be necessary to implement this idea, the more daunting the task became. But as the saying goes, the best place to start is at the beginning. My first step was to sit down with Matt Jensen, the Associate Director of UWild and my project mentor, to outline our vision for the project. Once I had a clear understanding of my scope of work, I began the development of the project in earnest. The majority of preparation necessary in completing my project consisted of a literature review concerning teaching methodologies, learning theory, and general context on environmental education and activism. In addition, I performed a number of case studies of similar outdoor recreation organizations within the Puget Sound and Seattle areas. These case studies provided examples of effective curriculum and class structure as well as ideas on engaging students and customers. Once this period of preliminary work was complete, I was free to develop my own curriculum for the program, amassing the knowledge I had gathered and following best practices learned from my case studies. Once I had created a working draft of the course curriculum, I was able to host focus groups and practice clinics which allowed me to make adjustments to the curriculum before finalizing it and making registration open to the university.

Literature Review

My research aims to answer the critical questions of how can active learning encourage environmental stewardship, and why should organizations such as the University of Washington invest in non-traditional learning experiences? A study performed in the Puducherry and Cuddalore regions of India, both areas wracked by issues of environmental degradation and rapid urbanization due to explosive population growth in recent years, set out to answer a question similar to the one my project poses, how to “foster the acquisition and transfer of the necessary knowledge, skills, attitudes and behavior with reference to the protection of the environment and sustainable development in selected high schools” (Alexandar, 2014). The study compares two groups of students from regional schools, one group educated through conventional lessons and curriculum while the other was taught with the Environmental Education for Sustainable Development, or EESD. This approach focuses on interactive classroom sessions, field-based education, and hands on exercises (Alexandar, 2014). The study found that, when comparing the traditionally taught students to those participating in EESD, the latter had significantly improved knowledge of and attitude towards local environmental issues. It was determined that the students’ active participation in activity outside of the classroom, immersed in the environment they were learning about, created stronger connection to the issues as they now had a personal interest. A similar study performed by Laura D’Amato and Marianne Krasny looked at 23 students participating in Outdoor Adventure Education, OAE, and dissected the experience each student took from it. While the Alexandar study performed in India could perhaps be described as an alternative classroom experience, the OAE is an extracurricular program, with not all participants

necessarily being students of similar age. What they found was that of the individuals participating in field-based adventure education, 15 felt that it increased their connection to the natural environment, 14 stated an “increased respect and admiration for nature”, and 21 noted psychological benefits from their experience (D’Amato, 2011). The findings are quite clear, when participating in education programs in alternative classroom environments, a large percentage of participants complete the program with feelings of increased personal connection to both the subject and the environment in which their experience takes place. My UWild course will emulate the successes of studies such as the two performed by D’Amato and Alexandar and bring their findings to the University of Washington student body. By encouraging outdoor activity among peers, and by offering easy access through an on-campus program, I hope to instill some of the same feelings and emotions in my peers as were developed in D’Amato and Alexandar’s studies on experiential learning.

For the second part of my literature review, regarding curriculum development, I determined that the most feasible way to approach the creation of my curriculum was to look at the project in three segments; fly fishing skills and technique, teaching methodology, and case studies.

Teaching Methodology

Coincidentally, during the Fall 2017 quarter I was enrolled in an education class centered around organizational and group theory in educational and community-based organizations, EDUC 472 Individuals, Groups, Organizations, and Institutions. This class, along with its primary textbook *Reframing Organizations* by Lee Bolman and Terrance Deal, has been

extremely useful in establishing a base knowledge of management and leadership that I will be applying to my curriculum and teaching. Throughout the quarter, we explored the structure and workings of various educational and business systems, noting what was useful or successful, and what wasn't. Examples include a great deal of analysis of traditional public-school systems here in the United States as well as companies such as Zappos, where a non-traditional working environment is encouraged and expected, and has seen great success among its employees. Overall, the class allowed me to remove myself from my own personal experiences within traditional classroom settings in order to better understand the systems and issues operating therein, that I may now avoid in developing my own curriculum and teaching methodologies. Additionally, EDUC 472 exposed me to a vast amount of non-traditional methods and alternatives to operating within a learning environment, including different ways to present information, manage a group, or resolve issues. The class as a whole was an excellent springboard into the world of education and teaching theory, and served as a basis from which I could begin my research for this program.

A large majority of my project is based around the ideas of experiential learning, or learning which takes place outside of a traditional classroom setting. Experiential learning is any learning that supports students in applying their knowledge and conceptual understanding to real-world problems or authentic situations where the instructor directs and facilitates learning (Wurdinger & Carlson, 2010). Many authors have addressed this topic and the experiential learning theory (ELT). Two propositions of ELT which are particularly applicable in my case are that "learning is best conceived as a process, not in terms of outcomes" and that "learning results from synergetic transactions between the person and the environment" (Kolb 5). David

A. Kolb was the pioneer of experiential learning theory, drawing from the works of learning theorists before him, Kolb was the first to articulate what we now recognize as a valuable teaching strategy. Kolb's model is a four-step process;

- 1) Active Experimentation
- 2) Concrete Experience
- 3) Reflective Observation
- 4) Abstract Conceptualization

I will be keeping these key propositions of the experiential learning theory in mind as the project continues to evolve and I begin the teaching portion in earnest. Though all four elements are key in a successful experiential learning activity, the two which will be most relevant to my program are steps one and two, active experimentation and concrete experience. As my program focuses primarily on actively engaging participants with the natural environment, the goal is to provide them the space to actively engage and experiment through the designed curriculum. A similar text which builds upon the work of Kolb, Venugopal and Ross' "Active Learning Exercises in Introductory Mechanics" poses similar support of the effectiveness of experiential learning applied to difficult or commonly misunderstood subjects. It has long been my understanding that hands on learning, in situations uncommon from a traditional classroom setting, facilitate more effective learning and teaching, a conclusion supported by proponents of experiential learning theory.

Fly fishing skills and technique

If one wishes to be able to instruct on a subject, they must first be confident and proficient in their own aptitude. Once it was decided that my project would require a significant amount of time dedicated to teaching others the skill of fly fishing, I knew that I would benefit from developing and honing my own skills as an angler. This initial literature review was concerned mostly with guide books and technical publications starting with the most basic books on how to fly fish. A series I discovered which has proved itself extremely valuable is Lefty Kreh's instructional guides on fly casting. One volume, *Lefty Kreh's Modern Fly Casting Method: for Mastering the Essential Casts*, serves as the primary reference I have been using for teaching the basic casting clinics. Widely considered one of the greats in the fly fishing community, Kreh's books provide accumulated years of experience, with excellent illustration of technique.

In developing curriculum for the program's casting clinics, I made it a point to distill my lesson down to the absolute necessities. I did this for several reasons, the first being that I will potentially be teaching students with a variety of previous experience either with fly fishing or some other form of angling and must be able to address varying levels of proficiency. Another reason for this is that I hope to establish a very low level of entrance investment by the students, making it more accessible to anyone interested.

In a similar vein I have looked to publications, both print and online, from Orvis, a national fly fishing outfitter, as instructional media. Orvis has been a leader in both fly-fishing equipment and literature since its founding in 1856. Nowadays, the company keeps up a large

category of fly fishing articles and instructional literature on their website, covering topics from fish identification and handling to how to perfect your cast. The information the company publishes is something which I have often referenced in my personal experience as a fly fisherman and thus recognized the value that it could bring to my program and lessons.

Case Studies

The final aspect of the preliminary literature review was the study of similar fly fishing and outdoor recreation programs. The purpose of this was primarily to familiarize myself with how professional organizations go about teaching the subject, and how they structure the progression of their lessons. To begin, I focused my studies on programs in and around the Puget Sound area, identifying programs which might be considered “competitors” to what my project aims to achieve. However, the goal of these case studies is not to gain a competitive upper-hand over similar programs, rather the goal is to compare my program and curriculum to entities operating in the same environment as I will be, noting difficulties they have faced and operating techniques they have implemented. The most relevant study was of the program run by the Avid Angler fly shop in Lake Forest Park, WA. I was able to obtain a hard copy of their fly fishing course curriculum and method for teaching beginner fly casting courses. This has proven to be an excellent reference in the development of my own curriculum. Aspects of their curriculum which I found particularly useful were the facts that it is broken down into very simple to understand and navigable sections, their language is simple enough that someone without any kind of previous fishing would understand what they are describing, they provide examples and diagrams for any of the more difficult concepts, and their lesson progression is very logical. These elements are ones which I will be trying to emulate as I create my own

curriculum. In particular, I found their lesson progression to be very approachable thinking from a non-experienced student's perspective and as such my curriculum will progress similarly, beginning with the essentials of what fly fishing is, why people do it, as well as what you can fish for and where. I will also be structuring my curriculum in a manner which focuses on distinct sections and easy to navigate text, however as of yet I am unsure of whether or not my curriculum will be produced for the students in the same manner that Avid Angler has done, and therefore I may not have to consider styling and finish for my curriculum quite as much. Similar programs which were also subject of preliminary review are Reds Fly Shop in Ellensburg, WA, Emerald Water Anglers in West Seattle, and Gig Harbor Fly Shop in Gig Harbor, WA.

Though much of what I have been including in my programs development has come from personal experience on the subject of fly fishing, this literature review has proven to be useful in the aspects of creating a program which I had not initially considered. It had always been my personal belief that learning was best facilitated through engaging students with activities relevant to the subjects being taught and allowing the students to get hands experience in and out of the classroom. This was always the way by which I learned the best and I struggled to pay attention and absorb anything when it came to sitting and listening to lectures and discussion based lessons. Now, as a graduating senior from the University of Washington, this capstone project has provided a platform to combine my own personal experiences and create something which has the potential to make a lasting impact on the University's campus. Through the combination of learning methods, conservation tactics, and non-traditional education facilitation learned through the research process as well as my

personal appreciation for and experience with outdoor recreation, I hope to inspire current and future UW students to be stewards of their natural environment.

The implementation of what has been learned in conducting research will be a multi-step process. Initially I will be designing the curriculum, modeling it after my study of the Avid Anglers course materials. The next step will be the introduction of courses for students, including the classroom sessions and casting clinics. The final step of my project encompasses the field aspects, where I will be able to take participants outdoors on guided fishing trips, to apply and develop lessons learned in the course and clinics. While on guided trips, not only will I be guiding and teaching some of the ecological and environmental lessons outlined in the course curriculum, I will also be carefully observing to determine whether my students are putting into practice the lessons they have been taught. This is where I look to the studies done by Alexandar, D'Amato, and others to facilitate active and engaged learning outdoors, away from a classroom.

Results and Lessons Learned

- Fully operational recreation course providing classroom sessions as well as guided trips
- Basis of curriculum and lesson plans available to the program to both continue after my graduation as well as allowing them to expand the program in new directions
- A collection of potential

Next Steps and Reflection

- Provide and discuss a vision for the future of the program so that whoever takes over will have an idea of where it was heading and my original intentions for creating the program
- Further development of curriculum allowing for expansion of lessons, covering new ideas, expanding on what I have provided and covering topics which I was unable to in my initial work
- Ensure that there is a procedure in place for after I graduate which will assist in the continuation of the program once I leave UW, so that the program has someone who is aware of its progress and direction and it does not fall fallow
- Continue work through the short remainder of the 2018 school year before I leave, potentially guiding a few trips and teaching more lessons.

It has been an incredible experience being able to witness my personal time and investment translate into a fully-fledged program here on the university's campus. As a direct result of my personal efforts, alongside Matt Jensen the University of Washington Recreation department now has a fully operational fly fishing course, available to all students and staff. Ideally, my program will continue to be a staple offering in the UWild programs course catalog for years to come, and one which will continue to grow and expand as it gains support and recognition from the university community. When I first set foot on this campus four years ago, a face in the crowd 40,000 strong, never did I imagine that when I left I would have the chance

to leave a legacy which would last long after people on campus forgot my name. Yet that is exactly what my senior project in the Community, Environment, and Planning program has allowed me to do. I look forward to being able to re-visit the university in the future and see the progress my program has made, knowing that it was my time and commitment which made it possible.

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Pacific Northwest Research Station, US Forest Service Interests: natural resource governance, recreation and human use planning for public land management agencies, the public health benefits of public lands. Special Issue Information. Dear Colleagues, The journal "Sustainability" is seeking submissions for the Special Issue "Outdoor Recreation, Nature-Based Tourism, and Sustainability." Outdoor recreation and nature-based tourism occur within a socioecological system with feedback loops to changing social, economic, technological, and ecological conditions. While you'll find plenty of the usual recreational activities, there may be a few surprising options as well. While there are countless miles of scenic trails throughout the Pacific Northwest for hiking, at Olympic National Park in Washington, you can hike through a rain forest. The Hoh Rain Forest is among the only protected temperate rain forest in the Northern Hemisphere, located on the west side of the park. Pacific Environment builds people power to fight climate change, defend the oceans, protect wildlife, and promote open and inclusive societies. Sign Up Take Action Donate. Pacific Environment - Protecting the Living Environment of the Pacific Rim. Sign Up Take Action Donate. Search for: We Need You. Help Us Take On Plastic Pollution. Our Mission. Protecting Communities and Wildlife of the Pacific Rim. A rare environmental success story is unfolding in waters off the US west coast. "Not all fishermen are rapers of the environment. When you hear the word "trawler", very often that's associated with destruction of the sea and pillaging," said Kevin Dunn, whose trawler Iron Lady was featured in a Whole Foods television commercial about sustainable fishing. Trawlers that fish for groundfish off the Oregon and Washington coast are shown in Warrenton, Oregon. Photograph: Gillian Flaccus/AP. The Marine Stewardship Council certified 13 species in the fishery as sustainable in 2014, and five more followed last year. As the quota system's success became apparent, environmentalists and trawlers began to talk. Regulators would soon revisit the trawling rules, and the two sides wanted a voice. Pacific Environments are a creative team of architects and designers based in Auckland, who design award winning and sustainable buildings. Similar to urban design but involves the bigger picture and building placement within a single site. CPTED principles are used to ensure safe places are created. PORTFOLIO. Pacific Environments NZ Ltd is a bespoke architectural studio with a long history. We have considerable experience in the design of buildings and spaces in the areas we live, work, learn and play. Be it an education facility, community centre, sport facility, retirement village, residential housing or commercial fit-out.