

Establishing, Conducting, and Maintaining Mutually Beneficial, Collaborative Research Efforts with Tribes

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Introduction

No one perspective provides all of the answers to the environmental issues of our time. Humans have created a multitude of problems during the past 150 years or so, not only through continued development and industrialization, but also by suppressing and discontinuing land management techniques that historically enhanced local biodiversity. Through activities such as repetitive burning (with low-severity fire) and selective harvesting and pruning of useful plants, many landscapes were managed in a way that encouraged the growth of culturally important plants and discouraged others from growing in the area. While cultures have changed with time, so too has the landscape.

Fortunately, academics, agency scientists, and policy makers are increasingly seeking traditional ecological knowledge (TEK) as a source of ideas for ecosystem management, restoration, and conservation biology. While many recognize TEK as complementary to western scientific knowledge, its incorporation into scientific research is uncommon. We believe that both traditional and Western scientific worldviews should be integrated into research projects when possible. This is particularly true in cases where the research is being conducted with an area or species that has been, or currently is being, managed or used by indigenous people.

A working relationship between two groups such as an academic institution and a tribal nation requires an enhanced form of communication that emphasizes trust, respect, and shared responsibility. It requires an open and free exchange of information and belief among parties, which leads to a mutual understanding and comprehension. This relationship is essential to a process that results in positive collaboration and informed decision-making.

It is essential for ecologists to not only be concerned about threats to the land, water, plants, and animals that have characterized an area historically, but also for the people that have knowledge that can be used to help address environmental issues. There is an inextricable link between indigenous cultures and the land in which the traditions evolved. As native species of plants and animals and their respective habitats are lost due to factors such as development, suppression of fires, or overharvesting by non-indigenous people, the traditions that relied on these resources are threatened. Our aim has been to unite traditional ecological knowledge with a western scientific perspective to address environmental issues that can benefit not only the plants of concern, but also the cultures that use those species.

Once we unite indigenous and western science perspectives effectively, there is great potential to address environmental concerns such as threatened and endangered species, as well as health concerns such as diseases and diets in today's societies.

How to Start a Collaborative Research Project

When an outside researcher works with Indian tribes, he/she must approach them with an open mind. One must realize that tribes are inundated with requests from various agencies and groups. They often have limited staffing and financial resources, as well as time constraints. Therefore, the tribes must decide which endeavors are the most beneficial for their interests. To initiate the project, a researcher must meet with the appropriate tribal government representatives. This process is greatly facilitated if a member of the tribe advocates for the importance of the project. In addition, it is important for the researcher to allocate ample time to the approval process, because this step can be long-lasting. Often, multiple groups must be approached, with each having their own concerns regarding research in general, and likely a specific project's objectives.

As a scientist, it is helpful to have an ongoing aspect of the project that is not dependent upon human participants. It is beneficial to work on either compiling literature or conducting preliminary exploratory or experimental work while awaiting approval so that progress can still be made during that time. In addition, any background knowledge that you gain regarding the subject area will further benefit your work once you do initiate ethnographic research.

Ideally, work with tribal members will continue throughout the duration of the research projects, for example, having them help in the field, arranging interviews with their friends and family, and reviewing the material before it is prepared for publication.

Beargrass Research as a Case Study

The idea for our research project started because of concerns among the Quinault basketweavers and other Olympic Peninsula tribes regarding the status of a fundamental basketry plant. For the Quinault, an ecological restoration project for beargrass (*Xerophyllum tenax*) would be a very valuable project for future generations of basketweavers. Daniela Shebitz from the University of Washington was contacted by Justine E James Jr, the Cultural Resource Specialist with the Quinault Indian Nation (QIN), due to her interest in both ethnobotany and restoration ecology. Daniela was asked to attend a meeting held with the Olympic Peninsula Intertribal Cultural Advisory Committee (OPICAC) in which many of the members reported a decline in beargrass quantity on traditional gathering sites.

Despite utilitarian and aesthetic benefits of beargrass, limited work has focused on the species, especially on the Olympic Peninsula. In addition, traditional knowledge concerning its past management, and land management in general, is declining among the indigenous people of the area. Therefore, researching past beargrass distribution and management not only enabled us to determine the best way to conserve what remains of its habitat and population in the lower elevations of the Olympic Peninsula, but it also provided an opportunity for people, both native and non-native, to become more aware of the importance and significant influence of past traditional management practices, such as anthropogenic burning.

Initially, there was some resistance to this project. A tribal elder initially rejected the study, stating: "People from the outside just take and take from us and never give anything in return!" She was referring to academics, researchers, and others that conduct studies and research with the reservation tribal members. In order to assuage concerns over data ownership, an agreement was made that stated that all knowledge accumulated from this project was to be shared with the Quinault Indian Nation. Consequently, this stepping stone created the fundamental basis for our working relationship. One party, the University of Washington, is to obtain input regarding interests, concerns, and expectations of another party, the Quinault Indian Nation, and to integrate that input into a decision-making process. Specifically, this referred to the results and conclusions of the beargrass ecological restoration project.

To initiate the project, Daniela had to meet with the appropriate tribal government representatives. Due to the nature of the beargrass project, Daniela and Justine met with, and presented their proposal to, the Department of Natural Resources and the Environmental Protection Division. Daniela was also asked to provide an outline of the project to the QIN Business Committee. This request was made to enable QIN to oversee the project within boundaries of the Quinault Indian Reservation (QIR). The QIN sanctions all research projects within the QIR.

Our research with beargrass began in the summer of 2003 and had ethnographic, historical, ecological, exploratory, ethnobotanical, and experimental components. Ethnographic interviews were conducted with members of the Quinault, Quileute, and Skokomish Tribes to gain an understanding for the pre-European settlement landscape and traditional land management practices, focusing primarily on burning, and the role of beargrass as a basketry plant.

Not only was it essential to gain approval of the QIN to conduct interviews, but it was also required for Daniela, as a researcher affiliated with a university, to gain approval of the Institutional Review Board. This extensive application process includes providing the university with a description of the project, a letter of consent to be signed by

each participant, and an example of the questions that would be asked during the interviews.

After approval was granted, the next step was to identify the resource informants or contacts, namely the basketweavers, to assess the condition of the beargrass populations, the threats, history, and traditional knowledge. Many of the basketweavers are elderly, which necessitated traveling to their homes for interviews and discussions. Justine, as the tribal member, attended all of the interviews that Daniela conducted. Together, Justine and Daniela provided copies of the research project and verbally explained it to the participants. In this study, each formal interviewee was paid US\$ 30.00 for their time. The interviews were taped, if the participant allowed it to be. Once the interview was transcribed, each participant was given a transcription of the interview. Throughout the course of the study, we revisited elders, informants, and basketweavers for periodic updates. Returning for further conversation enabled them to have time to reflect and for memories to come back to them. Often these recollections are essential to the success of the project.

Both Justine and Daniela searched libraries, archive centers, and tribal and local museums to find documented resources of information regarding beargrass and historic land management in the region. This information was used to formulate a study design for the field activities.

An extensive historical ecology study was conducted to reconstruct the past landscape in order to assist in restoration efforts. For the exploratory study, we researched the ecology and population status of beargrass throughout the Olympic Peninsula. Through the exploratory study and the ethnographic interviews, we determined that beargrass abundance has declined in the low elevations of the Olympic Peninsula. Research indicated that the decline is, in part, due to the loss of open-canopied habitat due to the absence of prescribed burning by Olympic Peninsula tribes during the past 150 years.

Our next step was to determine if we could try to reintroduce anthropogenic burning to enhance beargrass populations. We conducted a series of five experiments (four field and one greenhouse experiment) through which we studied the vegetative and sexual reproductive response of beargrass to fire. Justine assisted in the field studies. Some of the experiments were conducted on the Quinault Reservation, with the assistance of the Quinault Fire Crew, while the rest of the studies were conducted on the Olympic National Forest (ONF) land. We determined that fire does indeed have great potential to increase beargrass vegetative reproduction, seed germination, and seedling establishment.

Because anthropogenically-managed habitats were part of the heritage of the indigenous people in western Washington, the restoration of such habitats in the region offers an opportunity for Tribal Members to gather plants such as beargrass that have declined in quality and/or quantity as their habitat has been lost. Ecologically, the restoration of savannas and anthropogenically-managed wetlands to the Peninsula assists in the return of unique assemblages of plants that have been threatened or lost due to the suppression of natural and anthropogenic fires during the past century.

The most significant implication of this research is to illustrate the importance of incorporating traditional land management techniques when restoring an ecosystem. To work towards this goal, we integrated both TEK and western scientific knowledge to investigate historic fire regimes and the structure of indigenous landscapes, gain an understanding of the ecology of beargrass, and research the influence of fire on beargrass. Through this project, we laid the foundation for, and initiated, a habitat restoration effort on the Peninsula that involves Tribes, the ONF, and the University of Washington so that beargrass can continue to be a fundamental component of the ecology and cultures of the Olympic Peninsula.

Challenges with Collaborative Research

Working with people presents both challenges and rewards that are very different from working with just plants or an ecosystem.

Traditional knowledge is permanently lost when individuals familiar with the past landscape and management practices pass on without sharing their wisdom. This is referred to as the “fading record” problem of attempting to capture what remains of reliable information. Fragmented recollections of elders, coupled with the scarcity of those knowledgeable about the past, limit the ability to understand the historic landscape. Despite this fading record, knowledge of the past is still held by some elders and those who have been taught by their ancestors.

It is often quite difficult to find people to interview without the assistance from a member of the tribe. There is often skepticism initially about the benefits, as was noted in our beargrass study. Additionally, there are inevitably times when the researcher with a scientific background might use phrases or terms that are not understood by the interviewee. Therefore, it is very beneficial to be accompanied by a tribal member.

The approval of the university through the Institutional Review Board (IRB) might be very time-consuming, because the application process can be extensive. It is helpful to have a mentor who can walk the research through all of the procedures associated with the process. With the approval comes the requirement to have letters of consent signed by each participant. The reactions of tribal members upon reading and signing a letter can be quite varied. Some may be thrown off

guard a bit and intimidated by the letter, while others might be reassured that the research project is being overseen by the university. However, the IRB is established to protect their rights as individuals and ensure they understand that as a researcher, we can incorporate their knowledge into addressing the issues with which we are concerned. And, as such, it is important for the interviewees to know that if they consent, information that they share may be published.

Conclusion

Ethnographic interviews are arguably one of the most under-utilized tools that can assist in defining the goal of a restoration project. In particular, there is potentially unique TEK regarding the past landscape or status of local plant and animal species. Inviting indigenous people to participate in the development of goals and carrying out the restoration project can have profound ecological and cultural benefits.

No greater reward from research can come than having results that can benefit both people and the environment. From our perspective, the greatest results evolve from establishing, conducting, and maintaining mutually beneficial collaborative research.

For our beargrass work, the project has enriched our lives as we have formed a friendship that will last throughout our lifetime. The research benefitted both the Quinault Indian Nation and the University of Washington, and formed the basis of Daniela’s doctoral dissertation. Through dedication and perseverance, we overcame longtime institutionalization from both the academic and tribal realms to create a lasting belief that if you have trust and respect, you can overcome any obstacle for the betterment of all.