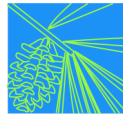


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Integrating Paiute traditional ecological
knowledge & Western botany through
participatory research



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Final Project Report

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The Pacific West Community Forestry Center is one of four regional field stations of the National Network of Forest Practitioners' National Community Forestry Center. This work is supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture under Agreement No. 9936200-8704. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not reflect the view of the U.S. Department of Agriculture.

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Pacific West Community Forestry Center
at
Forest Community Research

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Introduction

Members of the Bishop and Big Pine Paiute tribal communities are documenting their traditional ecological knowledge of native plants in the Owens River Valley in California and linking their knowledge with current Western scientific knowledge. With the passing of an older generation of Paiutes, the unique knowledge that defines the Paiute people's relationship with the land is passing with them. With few tribal members fluent in Paiute, it is increasingly urgent to record traditional knowledge, practices, and language for current and future generations.

This report describes a participatory research project conducted by members of the Bishop and Big Pine tribal communities in partnership with the Pacific West Community Forestry Center and the Eastern Sierra Institute for Collaborative Education. We describe what need the project addresses for the community, what methods they used, some preliminary results and outcomes, and some of the lessons they learned through the process of conducting the research. The report describes the project's outcomes as of May 2004; the community's project is ongoing.

Research need

Mr. Qwina West is a young member of the Bishop Paiute tribe, and has family and communal ties with the Big Pine Paiute tribe. Mr. West helps tribal community members use native plants as medicines and foods to support and improve physical, cultural, and spiritual health. He works closely with elders and tribal healers to understand Paiute traditional ecological knowledge about the plants and their relationship to the land and people, as well as their medicinal uses.

Living in "two worlds," community members may receive Western medicine treatment for health problems. Some practitioners of traditional Paiute medicine have identified the need to integrate their traditional knowledge of the plants with Western botanical knowledge. This will enable them look up plants and their properties to avoid potential complications with Western medications, to potentially replace chemical medications with medicinal plants, or to treat tribal members who do not wish to be treated with Western medicine. Traditional practitioners believe that while chemical medications may force change in symptoms, herbs teach the body how to heal itself, preventing damage to the body and with more lasting effects. At the heart of this project is a desire to keep alive the traditional and spiritual use of native plants.

Led by Mr. West, members of the Bishop and Big Pine tribal communities are conducting a participatory research project to address the following question:

What can Western scientific knowledge about native plants in the Owens River Valley contribute to Paiute traditional ecological knowledge about native plants and their uses as medicines?

Participatory research methods

In order to document and compare Paiute traditional knowledge and Western scientific knowledge about native plants, the project is employing two primary methods:

videotaping interviews with Paiute elders and practitioners of traditional medicine and conducting field sessions and discussions with two botanists from University of California White Mountain Research Station and Inyo County Water Department.

First, Mr. West is working with local elders and traditional medicine practitioners to identify important plants. As of December 2003, he has recorded 36 hours and produced 8 edited hours of videotape based on elder discussions of plants associated with the Owens River, their relationships, and their traditional uses. These interviews include translational stories in which traditional cultural and ecological knowledge are embedded.

Second, Mr. West is conducting field sessions with local botanists Dr. Sally Manning and Mr. Daniel Pritchett to begin to develop a shared understanding of important local plants along the river flood plain of the Owens Valley. In preparation for the field sessions with the botanists, Mr. West shared edited interviews with elders. In Fall 2003, three field sessions were conducted to discuss important plants and to identify their Paiute, common, and botanical names. Field sessions included discussions of the plants' ecological relationships and known properties from both traditional Paiute and Western scientific perspectives. Additional field sessions will be conducted in the summer of 2004. Outcomes of the field sessions are being documented.

Mr. West has been entrusted with the traditional knowledge of elders and practitioners of "green world medicine" – using only plants to heal – who believe that no profit should be made with spiritual and cultural medicines. Practitioners are careful to pass cultural knowledge on in a respectful manner and in appropriate situations. The project works to balance two challenging concerns:

1. If traditional cultural and ecological knowledge is not documented and shared, medicinal and spiritual uses of the plants will fade out of use.
2. Documenting and sharing traditional cultural knowledge may result in disrespectful use of that knowledge to make a profit and over-harvesting of important plants.

The project is building safeguards into the methodology to protect tribal knowledge of the plants for community use. For example, interviews with elders are recorded primarily in the Paiute language, without translation to English. Results of the participatory research project are shared with broader audiences with a focus on lessons learned through the *process*, rather than specific cultural knowledge of plants.

Preliminary results and outcomes

As of December 2003, three field sessions had been conducted. Approximately 14 native plants have been identified and catalogued with their Latin botanical names and properties. Discussions of Western scientific knowledge and Paiute traditional ecological knowledge of identified plants have taken place. Interviews with elders include identification of 16 culturally important plants and descriptions of their uses and relationships to humans in the natural world.

Mr. West is creating a data system for each culturally important plant with the Paiute name, the botanical name, and the common Western name. Approximately 90 plant names have been catalogued to date. This data system is for internal community use only.

Preliminary lessons learned

The fall field sessions identified a few key themes for further exploration. First, Mr. West and the botanists sometimes apply different common names to the same plant or the same common name to two different plants. For example, what Mr. West identifies as Angelica, Dr. Manning and Mr. Pritchett have identified as Ranger Button. The Paiute identify a different plant as Ranger Button. The botanists' notes from the September 2003 sessions highlight their understanding of the differences in classifications:

We met with Qwina again yesterday and discovered that the elders apparently use the name "Angelica" to refer to both Rangers buttons (*Sphenosciatum capitellatum*) as well as members of Angelica. Qwina wasn't happy about realizing their usage was inconsistent with ours, but brightened up when he realized that they were both in the same family. It didn't sink in what this meant until I drew a ...diagram of a hierarchy showing the family (*Apiaceae*) at the top, the two genera (*Angelica* and *Sphenosciatum*) below, and the species in each genus below that, all connected by lines.

At the heart of it for Mr. West is what the plants do medicinally. If what he and the elders call Angelica and what botanists call Ranger Button are in the same family, have the same properties, and produce the same medicinal results, then they are classified by that relationship with humans.

The team decided to revisit the plants in the early summer, before plants are dry, to try to re-identify them. Each party will verify with their sources – the elders and the botanists' field guides. When differences in classifying the plant(s) arise, an interesting process outcome of the participatory research will be how the two perspectives respond to and reconcile the differences. That is, how will participants prioritize which knowledge system is considered most legitimate? Project participants hope to resolve the differences in classification during the summer field sessions.

A second example of differences in plant identification and classification has been resolved. In the fall, project participants came upon an inconsistency among their use of scientific, common Western, and Paiute names for another set of plants. The elders had taught Mr. West that a plant called Dozo (Paiute name) was commonly called Angelica. Using a Western botanical key, Mr. West identified Dozo as *Leptotaenia mulfidia* (Genus species), commonly known as Indian Balm. The project botanists brought that into question when they identified the plant as *Leptotaenia mulfidia*, commonly known as Thin Leaf Angelica. Through more research and contacting botanist Michael Moore of the Southwest Botanical School of Medicine, Mr. West learned that the botanical key had been reorganized, and classification had changed: what had been known as Indian Balm, *Leptotaenia mulfidia* (Genus species) had been changed to Thin Leaf Angelica, *Angelica*

lineariloba (Genus species). After verification with community sources, Mr. West was able to summarize that the common names they were using were from research that was approximately 20 years old, and predated the reorganization of the botanical key. In addition, the confusion seems to have arisen because of the presence of both a thin-leaved and broad-leaved form of *Angelica* in the Eastern Sierra Region. Understanding this change verified the Paiute elders' knowledge of Dozo and reconciled it with Mr. West's identification of *Angelica*. Mr. West highlights this example as a lesson about recognizing and trusting the long-standing knowledge of elders about the plants that have been important to their culture for centuries.

This example also highlights that as Paiute practitioners of traditional knowledge become more comfortable using a Western botanical key, they will be able to verify traditional knowledge about the plants, and can contribute to better understanding of the connection between Western and Paiute classification systems.

This lesson has led to the development of a future stage of the project. In the summer field sessions, Mr. West will work with another local botanist to learn the anatomy and taxonomy of plants of interest so that he may use botanical keys to determine Western plant designation. These sessions will be videotaped for other Paiute tribal members with both English and Paiute explanations of plant identification.

Finally, the field sessions to date highlight potential differences in the relationship of humans with the plants in the two knowledge systems. For example, botanists tend to identify plants through the use of field guides and reference materials. Mr. West identifies and perceives plants through their relationships to others in the world, including humans. The botanists' notes highlight their learning about these differences, which came to the surface as they discussed the Western classification diagram showing family, genus, and species:

...He [Qwina] immediately noted that *Angelica* and rangers buttons are cousins. The elders use familial terms to relate species so being able to treat the species as cousins provides a way to explain the naming confusion to the elders. It also reveals that the Bishop tribe has at least a two-level hierarchy in their classification of plants. It would be interesting to get Qwina to write down the groupings of plants according to the Paiute circumscriptions of families, sibling groups, cousins, etc....

These differences in classification systems – Western classification based on form and evolution vs. Paiute classification based on familial relationships – will be an important topic for further exploration in future field sessions.

Sharing Outcomes

Outcomes and lessons learned from the project will be shared with tribal members, as well as other communities who may be interested in developing their own participatory research project. For more information, please contact either of the following:

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