



## ABSTRACTS

27TH ANNUAL SOCIETY OF ETHNOBIOLOGY CONFERENCE

MARCH, 2004

**Anderson, E.N.** (Dept. of Anthropology, UC Riverside)

[Friday, Session 10]

### **Loving Nature in Quintana Roo**

Kay Milton, in a recent book, *Loving Nature* (Routledge 2002) has introduced to ecological anthropology the recent work in psychology showing that emotion and cognition are inseparable in ordinary life. She directs us to look at human responses to and management of the environment from a more holistic, phenomenological point of view, with emotional motivation considered. This fits well with recent ethnographic work of Native American peoples, including my research among the Maya of Quintana Roo, whose caring attitudes toward the environment contrasts strongly with some urban attitudes. This paper suggests some ways of studying and applying emotional and rational-emotional concerns in ethnobotany.

**Andre, Alestine M.T.** (University of Victoria)

[Thursday, Poster, Session 9]

### **Traditional Medicinal Plants Used by Gwich'in People of Canada's Western Arctic**

An ethnobotanical research project carried out in northern Canada in July 2002 documented traditional knowledge about the medicinal plants used by Gwich'in people. A unique research methodology based on traditional apprenticeship style and oral history allowed Ruth Welsh, Gwich'in Elder and Plant Specialist, to show students the traditional uses of plants for medicines at camps on the land. She prepared teas, poultices, and salves and explained their medicinal application for insect bites and stings, urinary problems, common colds, burns and general good health. The research gave Gwich'in students an opportunity to learn about Gwich'in ethnobotany and oral history research methodology.

**Archer-Linton, Laura A.** (Washington State University)

[Thursday, Poster, Session 9]

### **Cultural, Biological, and Edaphic Factors Affecting Distribution and Lower Treeline of High Elevation Quenua (*Polylepis tarapacana*: Rosaceae) Woodlands in Sajama National Park, Bolivia**

Sajama National Park supports large tracts of *Polylepis tarapacana*, the highest growing tree species in the world. These woodlands have survived centuries of use by Aymara pastoralists. This study examined the influence of anthropogenic, biological, and edaphic factors on the lower treeline. Data from 500 m transects was used to study stand structure, reproduction, and soils. This work was integrated with local interviews and mapping of old burns to assess the role of fire. Results suggest that burning negatively impacts stand regeneration. Residents consider fire integral to livestock management, and should be consulted on plans to limit burning within the Park.

**Barton, Loukas** (Department of Anthropology, UC Davis)

[Thursday, Poster, Session 9]

### **Incipient Agriculture, Ethnographic Models, and the Archaeology of Neolithic North China**

The nature of the transition to agriculture in North China is notoriously elusive, and archaeobotanical data from this period and throughout China are equally limited. As one facet of a larger project to assess the proposed agricultural character of the Early Neolithic in northern central China, this study looks at archaeobotanical evidence for incipient cultivation, water management, and patterns in human mobility. Preliminary results suggest that the region between the Yellow and Wei rivers in the northern Loess Plateau holds promise for further study concerning the early domestication of both *Panicum* and *Setaria* and the subsequent florescence of millet-based agriculture.

**Brush, Stephen B.** (Dept. of Human and Community Development, UC Davis)  
Hugo Perales R., Bruce F. Benz, and Teresa Santiago V.  
[Thursday; Session 1A—Plenary]

**The Distribution of Traditional Knowledge about Maize in Maya Communities of Highland Chiapas, Mexico**

Agricultural practices that sustain cultural identity are expected to be evident in abilities to distinguish between practices that are shared by members of one's own cultural group from practices of other cultural groups. In Mesoamerica, maize should be distinguishable by members of distinct cultural groups and maintained in biologically distinct populations. We attempt to test these hypotheses by characterizing shared cultural beliefs and genetic differences of maize varieties among nearby Tzeltal and Tzotzil communities in highland Chiapas, Mexico. Morphological and agronomic characteristics distinguish Tzeltal from Tzotzil varieties, but farmers' ability to recognize distinct maize was uneven. Common garden trials indicate Tzeltal varieties outperform Tzotzil varieties in their local environments and in some Tzotzil environments, notably including a Tzotzil community that distinguishes its local varieties. Isozyme assays suggest there is little genetic differentiation between varieties of Tzeltal and Tzotzil maize populations. An inference is that cultural diversity contributes to biological diversity in maize.

**Buckskin, Floyd** (Pit River Tribe, Native Coalition for Medicine Lake Highlands Defense)  
**Rhoades, Willard** (Pit River Tribe)  
**Berditschevsky, Michelle** (Native Coalition for Medicine Lake Highlands Defense)  
**Gowan, Amy** (USFS, Medicine Lake Highlands Cultural Management Plan)  
[Friday, Session 28]

**Cultural and Ecological Land Management in the Sacred Medicine Lake Highlands of Northeastern California**

The precedent-setting case of the Medicine Lake Highlands and its cultural significance to Native Americans has led to an approach to an ecological and cultural restoration plan that has far reaching implications for integrating Native culture and land stewardship practices with ecosystem management. As a result of Native opposition to proposed geothermal development in this sacred area, the Pit River Tribe, Klamath Tribes and Native Coalition for Medicine Lake Highlands Defense are working on a Cultural Management Plan with the US Forest Service. The Medicine Lake Caldera was designated as a Traditional Cultural District, which creates a context for cultural management. This paper will not be concerned so much with the political process of cultural preservation except to point out how cultural preservation fits in with ecological protection and restoration. Rather we will focus on specific issues concerning restoration and management of a large geographical area where Native American culture has a strong influence. Where there have been past human disturbances, such as logging and mechanized recreation, present efforts need to be directed at restoring the wholeness of the landscape. We will focus particularly on the findings of a recent ethnobotanical study conducted by traditional practitioners and the US Forest Service, and the management priorities growing out of these findings. Included will be the restoration and management of ethnobotanically important species by traditional methods such as the use of controlled fire. We will also discuss the basic principles that traditional cultures hold as a foundation to a sacred relationship with the Earth, and the need to incorporate these in management practices and restoration science rather than remain subjects of academic study. It is vital to the balance of the world and to the cultural survival of tribes throughout northern California and beyond that traditional practices continue to revitalize a cultural relationship to the sacred Medicine Lake Highlands. On many levels, ~ from social justice to ecological wisdom, ~ it is necessary that industrial society find roots and a relationship to the aboriginal past and its continuing relevance in a world that has forgotten the basics of honoring the mystery of life.

**Cardozo, Catherine L.** (Native American Studies Dept., UC Davis)

[Friday, Session 23]

**California Indian Basketweavers Association (CIBA): A Native Agency for Change and Cultural Continuity**

Core to the cultural tradition of California Indian basketweaving is collecting one's material from nature. This requires access to those plants and having a voice in appropriate stewardship of the land. Concerns expressed by individual weavers to land management agencies about the problems of access and pesticide contamination have often been ignored, discounted, or misunderstood. Since the formation of the California Indian Basketweavers Association in 1992, these same agencies have been listening to the weaver's concerns. Or have they? This paper sets the groundwork for investigating that question, and CIBA's role as a native agency for change and cultural continuity.

**Carney, Judith** (Department of Geography, University of California, Los Angeles)

[Friday, Banquet Speaker]

**Africa's Botanical Legacy in the Americas**

The African diaspora to the Americas was one of plants as well as people. European slavers provisioned their human cargoes with African and other Old World useful plants, which enabled their enslaved work force and free maroons to establish them in their gardens. Africans were additionally familiar with many Asian plants from earlier crop exchanges with the Indian sub-continent. Their efforts established them in the contemporary Caribbean plant corpus. The recognition of pan-tropical genera of value for food, medicine, and in the practice of syncretic religions also appear to have played an important role in survival, as they share similar uses among black populations in the Caribbean as well as tropical Africa. This paper, which focuses on the plants of the Old World tropics that became established with slavery in the Caribbean, seeks to illuminate the botanical legacy of Africans in the Circum-Caribbean region.

**Catranides, Oshana** (Lomakatsi Restoration Project)

[Friday, Session 25]

**Integrating Traditional Ecological Knowledge and Practices with Fuels Reduction and Prescribed Burn Projects in the Klamath-Siskiyou Ecoregion**

Experiences integrating traditional ecological knowledge and practices as part of fuels reduction projects will be discussed. Details on the challenges and rewards of using such an approach in comparison to other government agency fuels reduction projects that do not consider ethnobiology will be shared. Challenges and rewards in working with multiple landowners and across a various ecosystems and habitats will be offered. Training of crew members and education of landowners as to why integrating traditional ecological knowledge and practices is important will be presented.

**Clines, Joanna M.** (USDA Forest Service, Sierra National Forest)

[Thursday, Poster, Session 9]

**Preserving traditional knowledge about native plants in the Sierra National Forest**

Since 1991, Sierra National Forest botanists and archaeologists have been working with Mono elders to chronicle traditional uses of native plants. The purpose of this work is to ensure that this knowledge is preserved and available to be applied on-the-ground in order to restore the abundance and diversity of native plants. This poster shows the various ways this traditional knowledge is chronicled and displayed: herbarium specimens with labels showing scientific names and Mono names and uses; live specimens in vases for exhibit; and a sampling of signs recently constructed for an interpretive trail at the Sierra Mono Museum.

**Clines, Joanna M.** (USDA Forest Service, Sierra National Forest)

**Pomona, Ruby** (Mono Elder)

[Friday, Session 13]

**Working Together to Protect and Maintain Culturally Important Native Plants in the Sierra National Forest**

Sierra National Forest botanists work with Mono elders to chronicle traditional uses of native plants, and to identify significant gathering areas that are in need of protection and management. The purpose of this work is

to ensure that this knowledge is preserved and available to be applied on-the-ground in order to restore the abundance and diversity of native plants. This talk will describe the methods used to chronicle this knowledge, and describe examples of successful protection of gathering areas. Future plans for tending these sites as a way to involve Indian youth in keeping traditions alive will be discussed.

**Cook, Carolyn D.**

[Friday, Session 16]

**From Foraging to Cultivation: Pandanus as a Foraged Food and a Crop in Papua, Indonesia**

A project is underway in the Highlands of Papua, Indonesia to examine variations of *Pandanus julianettii*, *P. brosimos*, *P. iwen* and *P. conoideus*. It documents their practical use for the Amungme people and describes technology used for propagation of the nutritious nut pandanus. The Amungme have an intimate knowledge of the characteristics of pandanus and have developed many varieties. Some are only foraged, others are both planted and foraged, others, yet, only cultivated. This paper discusses background on social and botanical aspects of Amungme pandanus trees endemic to New Guinea Island and potential for further development.

**Cunningham, Farrell G.** (Maidu Cultural and Development Group)

**Gorbet, Lorena R.** (Maidu Cultural and Development Group)

**Gorbet, Warren** (Maidu Cultural and Development Group)

**Rogers, Reina** (NRCS American Indian Liaison)

[Thursday, Session 6]

**Maidu Sense of Place**

During this symposium members of the Maidu community of Plumas County, California, in the Sierra Nevada, will speak about cultural perpetuation within a landless community-of-place. Discussion will focus around the re-creation of a Maidu sense-of-place through a US Forest Service National Pilot Stewardship Project designed to demonstrate traditional ecology; promoting community health through access to well managed traditional natural resources and the overall reinvigoration of a declining holistic culture through traditional ecological knowledge, language, song and voice empowerment. We will also discuss the process of running a non-profit organization (Maidu Cultural Development Group) a representative body for largely federally disenfranchised Maidu.

**Cunningham, Farrell** (Mountain Maidu)

**Cunningham-Summerfield, Ben** (Mountain Maidu -Turtle Mountain, Chippewa)

**Cunningham-Summerfield, Kimberly** (Tsalagi, Culturally/Adopted Mewuk)

[Friday, Session 29]

**Cultural Intellectual Property: What Does This Mean? Who Has Ownership? What Is Its Value?**

The oral traditions, practices, beliefs, knowledge and creativity of particular cultural groups have been fostered by training, passed on from one generation to another and observed, studied, reflected upon and advanced upon over time. To whom do these ideas belong, especially given the existence of 'public domain', 'right to know', freedom of expression, freedom of religion, and freedom of speech? The hosts will provide an introduction to this issue and then open the floor to participants with thought provoking questions and comments for their interactive discussion. The hosts will ensure engaging discussion while maintaining good conference decorum.

**Cunningham-Summerfield, Ben** (Mountain Maidu -Turtle Mountain Chippewa)

[Friday, Session 15]

**Traditional Uses and Tending of Elderberry: Flute Making and Playing, Foods, Gathering Ethics and Management Practices.**

Traditional uses of Elderberry will be covered, including gathering for food and the making of musical instruments such as the flute. A description of flute construction will include preparing the habitat, gathering materials, curing, cutting, cleaning, tapering, pith removal, placing holes and creating designs in Elder. Both traditional and modern tool uses will be discussed. Traditional plant gathering ethics, maintaining of a quality habitat via fire and coppicing and remembering how we all interact with one another as a whole, with respect, will be discussed. The presentation will culminate with Ben playing the flute. Questions are welcome throughout the presentation.

**Cunningham-Summerfield, Ben** (Mountain Maidu -Turtle Mountain Chippewa)

[Friday, Banquet]

**Heart Song**

Ben Cunningham-Summerfield will share “Heart Song” on his Elderberry flute for 10-15 minutes with those partaking in the banquet. Ben will play just before the Maidu and Traditionalist Dancers make their presentation.

**Cunningham-Summerfield, Ben** (Mountain Maidu -Turtle Mountain, Chippewa)

**Cunningham-Summerfield, Kimberly** (Tsalagi, Culturally/Adopted Mewuk)

**Cunningham, Farrell** (Mountain Maidu)

[Friday, Session 24]

**Ecology + Fire + Family = Survival with a Quality of Life; A PowerPoint Presentation Followed by Open Discussion**

Perceptions of fire are as different from one another as the people that hold them. Aboriginal perceptions are captured in the oral tradition as myths about how aboriginal people obtained fire. Later, fire was and still is used as a tool to manipulate traditional landscapes. As Europeans and others began to colonize traditional homelands, many of those stories, songs and practices were lost. Fire managers for many generations taught the world that all fire is bad. Fire Managers are beginning to understand the importance of those lost practices and have sought council with aboriginal people from around the world.

**Delcore, Henry D.** (California State University, Fresno)

[Thursday, Session 3]

**Corn, Mangos, Teak: Biodiversity and the Shifting Meanings of Plants in Northern Thailand**

During the last thirty years, a succession of cultivated plants has occupied the social energies of farmers, state officials, and NGO workers in a northern Thai district. Local rice and vegetable varieties were first joined by feed corn for export, then fruit trees and teak. In this paper, I trace recent changes in plant uses and meanings beginning with the spread of Green Revolution hybrids and ending with the current local NGO interest in preserving local biodiversity. I focus on cultural politics of development and identity as expressed through different ways of using and understanding plants.

**Dodd, Walter A.** (Department of Anthropology, CSU-Fresno)

[Friday, Session 16]

**Getting By with a Little Help from Ilá**

The Guarijío of northwest Mexico stretch out their nutritional returns in late winter and spring by incorporating several famine foods into their diet. One such food item is the pad of the prickly pear (*Opuntia* sp.; Sp.: nopal; Gu.: ilá). This paper will concentrate on a single series of events, witnessed in March 1982, involving the collection and processing of the tender pencas. Time-motion data from that episode provide interesting insights into how the behavior is performed, its relative costs and benefits, and its archaeological signatures.

**Emshwiller, Eve** (The Field Museum of Natural History, Chicago)

[Thursday, Session 5]

**Correspondence of Folk Taxonomy with AFLP Data in the Andean Tuber “Oca,” *Oxalis tuberosa*, Implications for Evolution and Conservation**

The observation that folk taxonomy has a good correspondence overall but a net underestimate of genotypic diversity compared to molecular data has been encountered in several vegetatively-propagated crops. Names for oca folk cultivars in three communities in the district of Pisac in southern Peru also appear to underestimate diversity, despite good overall correspondence. AFLP data indicate that folk cultivars usually designate either individual clonal genotypes or groups of genetically-similar genotypes. The AFLP data support the idea that the separation of oca into two use-categories by farmers in Pisac reflects a fundamental biological difference, possibly different ploidy levels.

**Estabrook, George F.** (University of Michigan)

[Friday, Session 14]

**Neither Wild nor Cultivated: Use of *Cytisus* (Fabaceae) for Soil Fertility in Traditional Portuguese Agriculture**

Giestas occur as dominant bushes in the spontaneous vegetation of the high granite plains in Beira Alta, Portugal, where modern commercial growers of sheep and nuts struggle to remove them from the pastures and groves. Earlier, traditional farmers let giesta grow in some parts of their farms to harvest for animal bedding and finally soil fertility maintenance. This talk reports results of a quantitative ethno-ecological study of human uses, and of growth and nitrogen fixation rates of giestas. More than half of the nitrogen present in giesta has been newly fixed from the atmosphere; allowing giesta helps sustain traditional agriculture.

**Forth, Gregory** (Department of Anthropology, University of Alberta)

[Thursday, Session 7]

**A 'Cock' and 'Bull' Story: Sex Differentiable Terms in Relation to Ethnozoological Classification**

Exemplified by English 'bull' and 'cow,' special terms distinguishing members of animal categories by sex are a common feature of languages the world over. Where various pairs of terms apply to different kinds of animals, they reflect a form of classification that is distinct from ethnotaxonomy. Among the Nage of eastern Indonesia, however, this classificatory practice is connected with general ethnozoological taxonomy in two major ways. First, as these 'sex differentiable terms' (SDTs) are applied to all zoological life-forms (including reptiles, amphibians, and insects), they confirm 'animal' (ana wa) as the inclusive taxon of Nage folk zoology. Secondly, the differential application of Nage SDTs to particular named animal categories (or 'folk generics') reveals an unnamed life-form of 'mammals', a taxon which, moreover, appears to be defined largely with reference to genital form and features of copulation and reproduction. Sex differentiable terms thus constitute another possible criterion by which covert categories-- a topic of perennial interest for ethnobiological methodology-- can be identified universally.

**Fowler, Catherine S.** (University of Nevada, Reno),

Pauline Esteves, Grace Goad, Bill Helmer, and Ken Watterson

[Thursday, Session 2]

**The Timbisha Shoshone Tribe's Honey Mesquite and Singleleaf Pinyon Protection and Restoration Project**

The Timbisha Shoshone Homelands Act of 2000 gave the Tribe its first trust lands, along with the right to co-manage its former lands now within Death Valley National Park. Among the Tribe's first concerns were the apparent declining health of its twin staple foods, the honey mesquite (*Prosopis glandulosa*) near Furnace Creek and the singleleaf pinyon (*Pinus monophylla*) in Wildrose Canyon. Former techniques that the Tribe used to care for the trees, such as pruning, clearing and cleaning, and discarding seed in the groves, had not been used in 60 years. The Tribe wanted to re-institute traditional cultural practices, and also study the history of the groves in order to better care for the trees and increase production. The Tribe's plans are reviewed along with some of the practices toward and products of these important Mojave Desert Resources.

**Gepts, Paul** (Department of Agronomy and Range Science, UC Davis)

[Thursday, Poster, Session 9]

**Gene Flow Between Domesticated and Wild Common Bean (*Phaseolus vulgaris*) in Mexico**

Common bean is generally considered to be a predominantly self-pollinating species. We present here results from investigations that show that in the long-term extent gene flow may play an important role in the Mesoamerican center of domestication of common bean. Our results based on molecular analyses of introgression, admixture analyses, and spatial analyses of phenotypic and molecular analyses of diversity show that gene flow from domesticated types to wild populations has a significant effect on the genetic diversity of wild types. Farmers may play a role in limiting the gene flow from wild to domesticated populations, possibly through selection.

**Glaze, LaVerne** (Karuk Indigenous Basketweavers)

[Friday, Session 25]

**Integrating Traditional Ecological Knowledge and Practices with Fuels Reduction and Prescribed Burn Projects in the Klamath-Siskiyou Ecoregion.**

A perspective and involvement with fuels reduction projects in Northwestern California with the Orleans-Somes Bar Fire Safe Council will be discussed. She will share traditional ecological knowledge and explain types of traditional practices that can be integrated with fuels reduction projects to provide and foster culturally significant resources. A focus on the treatment of vegetation as “fuels” that provides increased access and quality of plant for food, medicine and basket materials will be offered. A perspective of working with the USDA Forest Service, other agencies, the Karuk tribe and local Fire Safe council on the project will be covered.

**Goh, Kean** (California Department of Pesticide Regulation)

[Friday, Session 23]

**Forestry Herbicide Residues in Plants Important to California Tribal People**

The California Department of Pesticide Regulation in collaborations with U.S. Forest Service, the California Basketweavers Association, and California tribal people conducted a four-year study (1997-2001) in El Dorado, Sierra, and Stanislaus National Forests to determine the fate and offsite movement of herbicides. Forestry herbicides (glyphosate, triclopyr, and hexazinone) were monitored in bracken fern roots, buckbrush shoots, golden fleece foliage, and manzanita berries. Herbicide dissipation rate (half-life) and offsite movement were monitored in 53 and 20 treated sites, respectively. Half-life ranged from 1 to 19 weeks with the longest for liquid hexazinone in bracken fern roots and buckbrush shoots. Nineteen samples contained traces of herbicide in the 240 offsite samples taken. Half the offsite residues were detected within 15 feet from the edge of herbicide application.

**Greenhouse, Ruth** (Museum Exhibit & Education Services)

**Laczko, Gina** (Heard Museum)

**Hendricks, Adrian** (Huhugam Heritage Center)

**Hernandez-Avila, Ines** (Dept. of Native American Studies, UC Davis), Moderator

[Friday, Session 17]

**Interpreting Native American Cultures in Public Open Spaces**

This panel will explore the best practices of educational institutions in interpreting the local Native American cultures to a broad public audience. Interpreting native peoples' relationship to the local landscape in the past and present is of critical importance in our public open spaces, such as parks, reserves, outdoor museums, and universities. Ecological restoration projects and demonstration gardens are fascinating illustrations of our human connection to the land and prime interpretation examples. Panelists will explore exemplary projects from the Southwest U.S., integration of local native people into exhibit development and educational programs, and different philosophies and best strategies for cultural interpretation in an outdoor setting.

**Hankins, Don L.** (Coast Miwok/Jenner Pomo, CIBA, UC Davis)

[Friday, Session 19]

**Research on Native Terms: Community Representation in Academia and Beyond**

Within academia, Native students and others who want to research native technologies, issues, and skills can be pulled in different directions by competing expectations from faculty, the Native community, funding agencies, and other parties. In such an environment, it takes extra preparation, and communication to protect Native people. How do we highlight our unique, community-held traditional knowledge without being exploited? We will discuss the role of Participatory Action Research (PAR) as a tool to accomplish research needs for the benefit of the researcher and the community.

**Hedrick, Kimberly D.** (University of California Riverside)

[Thursday, Session 3]

**Family Ranchers' Traditional Knowledge and Range Land Conservation**

Ranchers are often perceived by the public as opposing environmental restoration and conservation. Yet many family ranchers have managed their lands for generations and profess to love and intimately know their land.

This paper investigates the basic underlying assumptions of family ranchers' ethnobiological knowledge systems and perceptions of the landscape and how this impacts range management. Family ranchers' range management strategies are quite different from federal agencies and environmentalists/ professional conservationists, yet some family ranches manage to conserve and restore range land in the midst of challenging economic and political constraints.

**Hobbs, Christopher** (Institute for Natural Products Research)

[Thursday, Session 8]

**Ethical Sourcing and Cultivation of Native Medicinal Plants of California**

Centuries of experience of native Indian tribes show the potential healing qualities of hundreds of medicinal plants from California. Cross-cultural experience with similar species from other world cultures in the same genera growing in California adds another dimension of understanding, and has stimulated interest as well as increased harvesting pressures. Many occur in widely-scattered, sometimes inaccessible regions, making gathering difficult. Cultivation of native medicinal species is therefore of interest for ecological, ethical, and practical reasons. Seeds and living plant material is increasingly available from nurseries, and in some cases, can be taken from the wild, depending on the part of the plant taken, and the scarcity or abundance of individual species.

**Johnson, Jay** (Southern Miwuk Nation)

**Gaskell, Sandra** (Enviro-design Concepts)

**Leonard, Bill** (Southern Miwuk Nation)

**Brochini, Tony** (Southern Miwuk Nation)

[Friday, Session 22]

**Native Plant Gathering Along the Travel Ways within the Traditional Cultural Properties of Yosemite Genealogical Family Use Districts**

The physical landscape of the Southern Sierra Miwuk Nation was transformed by the ethnobotanical manipulations made in cultivating native plants in various ecosystems of the Sierra Nevada Foothills. Based on the geographic regional family use tracts, defined by the first USGS geographers and ethnographers, cultivation occurs at every elevation and in many microclimates as native people gather, prepare, and use thousands of California Native Plants as nutritional and medicinal components of their diets. As the population and the human footprint increases, so will regulatory policy from all levels of government that may inadvertently affect native plant gathering, cultivation, and use.

**Johnson, Leslie M.** (Athabasca University)

[Thursday, Session 7]

**What is a "Swamp"? Determining the Referents of Place Kind Terms-Translation, Challenges and the Use of Image**

One of the challenges in ethnoecology is establishing 'kinds of place' in local understanding of landscape. When consultants speak of a "swamp," what do they mean? What are the limits and entailments of 'swamp'? My recent research has focused on establishing significant place kinds for the Kaska Dena, and attempting to visually record the referents for key terms such as tu tsel 'swamp'. Visual methods can help to establish locally significant kinds of place, and to record environmental kinds, but also have important limitations. Narrative and experience are complementary approaches to learning about the significance of different kinds of place.

**Jones, Linda S.** (Sitting Bull College, Standing Rock Lakota Nation)

[Friday, Session 10]

**Gathering Information for Future Generations: Culturally Important Plants of the Lakota**

As Indigenous peoples, our sacred knowledge has been exploited by "new age" groups, scientists, and countless others. Native peoples are now taking control of their cultural information by demanding consultation and protection. More importantly, we are now doing our own research--gathering information about plants, music, ceremonies, etc., and deciding how it is used and disseminated. Elders on the Standing Rock Lakota Nation requested a database of culturally important plants that was to be used by tribal members. This presentation deals with the long journey from that initial request to a thorough, working database of sacred plant knowledge.



**Kalt, Jennifer** (California Indian Basketweavers Association)

[Thursday, Poster, Session 9]

**Fire Management of Hazel for California Indian Basketweaving**

Since time immemorial, Native Americans have used intentional burning for a wide range of resource goals, including management of plants used for food, basketry, and wildlife forage. Fire is a critical tool used by Californian Indian basketweavers to manage basketry plants, including hazel, beargrass, deer grass, and redbud. Many species are useless for basketweaving purposes in the absence of fire. Methods of reintroduction of fire management of hazel (*Corylus cornuta* var. *californica*) were assessed through field experiments and monitoring in Humboldt County, California. Combining scientific experimentation with traditional ecological knowledge, oral history, and ethnographic accounts is essential for capturing specific information on the use of fire by Native Americans.

**Kari, James** (University of Alaska, Fairbanks)

[Thursday, Session 7]

**The Reconstruction and Restoration of Dena'ina Geography**

Shem Pete (1896-1989), the brilliant Dena'ina raconteur from Susitna Station, Alaska, was one of the most versatile storytellers in 20th century Alaska. His lifetime travel map of approximately 13,500 square miles is one of the largest ever documented in this detail for a small-scale society. The expanded 2nd edition of Shem Pete's Alaska (2003, University of Alaska Press) presents 973 named places in Upper Cook Inlet in sixteen drainage-based chapters. The place names are annotated with comments and stories by Shem Pete and more than fifty other contributors, and by historic references and a selection of photographs and maps. The reconstruction of indigenous geographic names can stimulate ecological and ethnographic awareness and can be an important component of language maintenance.

**Karst, Amanda L.** (University of Victoria)

[Thursday, Poster, Session 9]

**The Ethnobotany of *Rubus chamaemorus* in Southern Labrador**

*Rubus chamaemorus* (bakeapple, cloudberry) is a circumpolar herbaceous perennial. Its berry has been a popular food source with many northern indigenous groups yet relatively little is known of its use by First Peoples in Canada. My general objectives are to document ethnobotanical knowledge about bakeapple in Metes community in Labrador. Areas I will address are: historical uses of this species and traditional gathering, processing and management practices. This study is important because it will preserve traditional knowledge about the uses of this species. It will also provide insight into how best to manage cloudberry habitats for traditional harvesting.

**Kim, Hyun** (School of Natural Science, Jeonju University)

**Song, Mi-Jang** (School of Natural Science, Jeonju University)

[Thursday, Poster, Session 9]

**Medicinal Efficacy of Plants Utilized at the Temple: Food of Korean Traditional Buddhism**

We investigated medicinal use of plants used for foods in 20 Korean Buddhist temples from 1994 to 1998. The plants investigated were 172 kinds representing 65 families and 135 genera. Approximately 50% of total species were used as sprouts (48 species), leaves (35 species), fruit (25 species) and among 21 kinds of parts were used. The 46 food kinds were used as a sequence of seasoned cooked vegetables (86 species), pan frying (43 species), and Korean salad (39 species). The medicinal uses of plants were 118 kinds as a sequence of diuresis (32 species), digestion (25 species), fever (24 species), and detoxification (19 species).

**Kindscher, Kelly** (Kansas Biological Society, University of Kansas)

**Noguera, Erika C.** (University of Kansas)

[Friday, Session 16]

**How the Poisonous Silverleaf Nightshade Berries Are Used In Making Asadero Cheese**

The berry of the silverleaf nightshade (*Solanum elaeagnifolium*) also called trompillo, is used as a rennet substitute in the production of asadero cheese. Popular in Mexico and the Southwestern US among Hispanic

populations, it is a pleasantly tangy white cheese, and production is typically a home-based enterprise. Both the plant and berries of trompillo contain toxic glycosides of solasodine, which have been found to cause gastrointestinal necrosis and congenital malformations in hamsters and livestock. We will discuss the cheese making process as observed with two families in Chihuahua, and how the cheese is relatively safe for human consumption.

**Kramer, Kathryn A.** (U.S. Forest Service, San Bernardino National Forest)

**Pink, William J.** (Pechanga Cultural Resources)

**Alaniz, Luciano D.** (Nursery Technician, Pechanga Cultural Resources)

[Thursday, Poster, Session 9]

**Basket Rush, a Traditional Resource for Textiles in Southern California**

Southern California Indians are well-known for their fine basketry made with *Juncus textiles*, the basket rush. Although not a rare species by resource agency standards, this plant is uncommon. Like most native plants, little is known about the plant's ecology and local knowledge suggests that the quality of material varies between *Juncus* patches. We are studying six populations to determine cultural significance/importance as well as ecological differences between *Juncus* populations. Four of the study sites occur on U.S. Forest Service land and serve as an important source for traditional users. We relate our results to-date by monitoring occurrences such as uncontrolled burns, gathering, response to weather, to the stewardship and management of this important cultural resource.

**LaBonte, Elaine M.** (Confederated Tribes of Grande Ronde)

[Thursday, Session 5]

**A Traditional Values Plant Index for the Confederated Tribes of the Grand Ronde Community of Oregon**

The Traditional Values Plant Index (TVPI) specific to the Confederated Tribes of the Grand Ronde Community of Oregon (CTGR) assesses the value of a given land area relative to the traditional native values associated with certain plant species. The TVPI quantifies these values by allowing comparison of economic values to inherent values of the given land area. TVPI is based on the unique value system of the CTGR, and defines these values according to associated uses of specific plant species. This study is an analysis of the literature review compared to TVPI data collected from elders of the CTGR.

**Lake, Frank K.** (Oregon State University)

**Glaze, LaVerne** (Karuk Indigenous Basketweavers)

**Riggan, Ben** (Orleans Somes Bar Fire Safe Council)

**McCovey, Kathy** (Karuk/Yurok; US Forest Service)

**Catranides, Oshana** (Lomakatsi Restoration Project)

**Colegrove, Brian** (Hupa/Yurok Cultural Resource Specialist)

[Friday, Session 25]

**Integrating Traditional Ecological Knowledge and Practices with Fuels Reduction and Prescribed Burn Projects in the Klamath-Siskiyou Ecoregion.**

Multiple federal and private sources have provided funding for fuels reduction and prescribed fire to reduce risk of catastrophic wildland fire in wildland-urban interface zones and provided opportunities for reintroducing fire as a land management tool. This session explores the integration of traditional ecological knowledge and practices with fuels reduction and prescribed burn projects in the Klamath-Siskiyou ecoregion of northern California and southern Oregon. Projects, if planned and implemented properly, can achieve multiple ecological and cultural objectives associated with restoration. Panel members will present their involvement with restoration projects and how fuel treatments and prescribed fire are used to provide access, management and use of areas important to sustaining local communities.

**LaPena, Sage** (Wintu)

[Friday, Session 15]

**Wintu, Maidu and Pomo Traditional Foods and Medicines, Gathering Philosophies and Issues Native Gatherers Face**

The Wintu, Maidu and Pomo are Tribes that extend from Central to Northern California, in the Sierra Nevada foothills, Sacramento Valley and Coastal regions. These Tribes have always paid respect to and understood the symbiotic relationship that they as people have with plants. Traditional plants of these Tribes and their uses in the past, present and future will be covered. Gathering philosophies will be discussed and issues facing Native Peoples today as they practice their Traditions will be addressed.

**Lepofsky, Dana S.** (Simon Fraser University)

[Friday, Session 21]

**Climatic Shifts and the Development of the Coast Salish Cultural Landscape, 2400-1200 BP**

Historically and today, the Coast Salish of British Columbia were linked in tight social networks that enabled groups to be connected to a broader landscape. These regional networks may have solidified 2400 BP - 1200 years ago, during the Marpole Phase. Our work in the Fraser Valley demonstrates a coincident period of climatic warming and drying, which resulted in the Fraser watershed becoming the preferred place in the region to harvest many resources. We suggest that the strengthening of social links during the Marpole phase was prompted by these ecological shifts, and represents people seeking to solidify their ties to the ecologically richer and more biologically complex Fraser system.

**Lewis, Laura R.** (Graduate Group in Geography, UC Davis)

[Friday, Session 11]

**Germplasm Management of Pearl Millet (*Pennisetum glaucum*) by Hausa and Fulani in Niger, West Africa**

The southern portion of Niger comprises part of the wild and domesticated range of pearl millet. Two distinct cultural groups of farmers in this region are the Hausa and Fulani people. Most of the region is referred to as Hausaland because of the strong historical ties of the Hausa people to this region. The Fulani have traditionally occupied much of the same territory but as nomadic herders. Recent social, political and environmental events have led Fulani people to farm in this region among the Hausa. Understanding local farmers' environmental perceptions and their impact on germplasm management is vital when studying genetic resources. In this paper I will discuss the recent events that have led the Fulani to farm and what influences, if any the Hausa have on their germplasm management and how this might impact pearly millet diversity.

**Litzinger, William J.** (Prescott College, Environmental Studies)

[Thursday, Poster, Session 9]

**Shared Knowledge? Cultural Sensitivity and Ecological Sensitivity of Traditional Knowledge Recorded in the Ethnobotanical Literature of the Hopi, Zuni and other Southwestern Indigenous Peoples**

Culturally sensitive knowledge (CSK) and traditional ecological knowledge (TEK) are assessed in the ethnobotanical literature for 25 plants used by the Hopi, Zuni and other Southwestern Indigenous peoples. Quantitative analysis of use between cultures yields mixed results, due to the incomplete record. Analysis of consensus within cultures is not possible. However, within each culture there appears to be common knowledge available to everyone and specialized knowledge, mostly held secretly by individuals or groups. All cultures generally agree at the empirical level of use and low cultural sensitivity. There is little agreement at higher levels of detail. While TEK shows a general trend, the underlying processes must be inferred. There is a shared southwestern ethnobotanical heritage only for empirically obvious uses at low levels of CSK. When use details are given, CSK and TEK are high in sensitivity, indicating potential concern for the intellectual property (IP) of individual cultures.

**Loader, Paula** (Victoria University of Wellington, New Zealand)

**Smith, Huhana** (Ngati Tukorene Iwi Tribe)

[Friday, Session 11]

**Te Hākari Wetland Restoration: A New Zealand Case Study**

The New Zealand Biodiversity Strategy (2000) envisages a major role for communities in habitat restoration. It recognizes the special role of Maori as kaitiaki (guardians) of their ancestral lands. Ngā Whenua Rāhui and Mātauranga Kura Taiao have been established under the Department of Conservation, to promote Māori conservation initiatives and encourage hap' /iwi participation in managing biodiversity in ways consistent with mātauranga Māori (customary knowledge). Te Hākari, a modified wetland remnant in the Horowhenua, is a tāonga (treasured possession) of the hap' (subtribe) Te Rangitāwhia, Te Mateawa, Kapumanawawhiti and iwi (tribe) Ngāti Tukorehe, who are undertaking a project to restore the wetland area. This research identifies key challenges faced in a Māori restoration project, using a cross-cultural collaborative case study to describe the history and current status of the wetland project, and to provide an initial appraisal of its habitat zones and potential for ecological restoration. The research aims to locate Te Hākari within the overall context of wetland restoration and biodiversity conservation, with particular reference to the Biodiversity Strategy. A key conclusion is that the participants consider that the restoration of Te Hākari and its environs is not only about restoring a natural ecosystem: restoring the health of the physical environment is fundamentally linked to the well-being of their community as a whole.

**Lopez-Maldonado, Julio E.** (Department of Entomology, UC Davis)

[Thursday, Session 3]

**Ethnohistory of the Stingless Bees *Melipona beecheii* (Hymenoptera: Meliponinae) in the Mayan Civilization**

The *M. beecheii* is one of the most important domesticated species in the Mayan civilization. Mythological accounts show that these bees played an important role since the origin of life in this planet. Ethnohistorical and archaeological evidence demonstrate that their honey is used in the Mayan pharmacopoeia especially in human fertility and other aspects of health and social culture. The internal development of their brood cells is the ecological model to predict successful agricultural trends. Codical Mayan texts demonstrate that their eusocial organization is the best model to explain the sociopolitical organization and distribution of the Mayan civilization in the Mesoamerican region.

**Lynch, Ryan L.** (Eckerd College)

[Thursday, Poster, Session 9]

**An Assessment of the Relationship Between Human Settlements and Useful Plant Resources in KuKu Group Ranch, Kenya**

The KuKu group ranch is located in the Kajiado district of South East Kenya. The group ranch has in the past been dominated by the Maasai, however in recent years increased numbers of Kikuyu, Kamba, Luo, and Luyia have moved to the region. Preliminary studies have shown that many species of both ethnobotanical and non-medicinal plants, which the people of the region are highly dependent upon for food, shelter, and medicine are quickly declining. The exact cause of this decline is unknown, however population pressures, loss of knowledge of sustainable collection techniques, ecological conditions and other related factors are suspected. A solution which integrates biological conservation with cultural needs is imperative.

**Macri, Martha J.** (Native American Studies Dept., UC Davis)

**Woodward, Lisa L.** (Native American Studies Dept., UC Davis)

[Thursday, Session 5]

**The J.P. Harrington Database Project: A Resource for Ethnobotanical Studies**

The goal of the J.P. Harrington Database Project is to increase access to the ethnographic field notes collected by Harrington during the first half of the twentieth century. This treasure of indigenous knowledge has over 375,000 pages on Native peoples of California. The database format provides text that is coded to generate word lists and searches by categories such as flora, fauna, toponyms, and material culture. Harrington was not only interested in words for items, but in detailed descriptions including their location, preparation, and uses. His material contributes both to scientific knowledge and to Native American language and cultural revitalization.

**Sloan, Kate** (Archaeologist for the Yurok Tribe)

**McConnell, Debra** (Hupa tribal members, Director CIBA Field Office)

**McConnell, Robert** (Yurok Field Coordinator for the Culture Department)

**Bates, Fern** (Yurok elder on the Culture Committee, Basketweaver)

**House, Freeman** (Restorationist and Author of Totem Salmon), Moderator

[Friday, Session 27]

**Fire, Elk, and Gathering in the Bald Hills of Redwood National and State Parks: A Yurok Perspective**

The Yurok understand an intricate relationship between browsing ungulates, regeneration of hazel used for baskets, and the role of introduced fire. Indian-set fires have been suppressed since the 1930's in the Bald Hills with the result that elk foraging habitat has decreased, hazel plants are not regenerating, and Douglas fir trees have encroached into the prairies. Originally these prairies were maintained by periodic burning by Yuroks. Federal regulations prohibit traditional hunting and gathering within national park boundaries. This presentation will cover the cultivation and use of hazel for basketry; elk hunting, preparation, and uses; and experiments involving the reintroduction of Indian-set fires and pruning to the Bald Hills.

**McCovey, Kathy** (Tribal Gatherer)

[Friday, Session 25]

**Integrating Traditional Ecological Knowledge and Practices with Fuels Reduction and Prescribed Burn Projects in the Klamath-Siskiyou Ecoregion.**

The perspectives of involvement with fuels reduction and prescribe burn projects will be presented. Explanations of what activities implemented in fuels reduction projects best foster culturally significant goods and services will be offered. Details of what issues related to cultural resource protection and maintenance associated with fire management and fuels reduction activities will be discussed. Suggestions and the identification of directions and improvements needs in fuels reduction, prescribe burns and fire management will be shared.

**McCune, Letitia M.**

[Thursday, Session 8]

**Conserving Habitats to Protect Antioxidant Plant Species**

Environmental factors influence the type of compounds, including antioxidants, available in plant species. Antioxidants by themselves, or as components of plant remedies, have been studied as treatments for numerous diseases. When looking at plant species used to treat symptoms of diabetes, levels of antioxidants can be associated with type of habitat. Comparison of these results to habitats associated with other species used worldwide for symptoms of diabetes will be presented. Conserving specific habitats will conserve plant species, even common species such as *Rhus hirta* and *Larrea tridentata*, subjected to a unique combination of environmental factors that yield health benefiting compounds.

**McGinnis, Shelley R.** (Analytical Environmental Services/United Auburn Indian Community)

[Friday, Session 23]

**Re-acquisition of Tribal Lands in California: Challenges and Opportunities for Native American Ecosystem Management**

Tribal gaming in California has provided many Tribes with the resources needed to re-acquire lands in their aboriginal territories. Acquisition and potential development of these lands presents both challenges and opportunities for Native American ecosystem management. Using case studies of California Tribes, environmental management issues are discussed, including the incorporation of cultural restoration into land use planning, the tribal fee-to-trust process, and compliance with federal and state environmental laws such as the National Environmental Policy Act and the California Environmental Quality Act.

**Nabhan, Gary** (NAU Center for Sustainable Environments)

[Thursday, Session 1B—Plenary]

**Rescuing America's Endangered Food Traditions Campaign: Ethnoecological, Agricultural and Culinary Restoration**

We have already lost 60-65% of all Native American crop landraces and livestock breeds. Some remain as part of Native American agricultural and culinary traditions and elsewhere they precariously persist as "genetic resources" but not necessarily as "cultural traditions." A consortium has launched a campaign to assist in the documentation, rescue, restoration, and revitalization of food traditions based on these heirloom crops and livestock breeds. Criteria for including food traditions in a "redbook" will be discussed as well as an "invitation" to Native American activists and others to assist in: a) relocating crops for revitalization and conservation within cultural landscapes (e.g., Navajo peaches in Canyon de Chelley); b) documenting authentic historical cultivation and culinary preparation techniques; and c) assisting tribes and other ethnic communities in production for niche markets that return benefits to original guardians and stewards.

**Nelson, Melissa K.** (Turtle Mountain Chippewa; American Indian Studies, San Francisco State University; The Cultural Conservancy)

[Thursday, Session 2]

**Native Ecology -- Revitalizing Storiscapes through Environmental Restoration and Language Preservation**

Most ecologists are deeply concerned with restoring native plants and animals and eradicating exotic invasive species as a way to protect and restore indigenous biodiversity. Most Native Americans and other indigenous communities are deeply concerned with preserving native languages and the traditional environmental knowledge of their oral traditions. How can these two activities be holistically integrated to facilitate the restoration of both native biodiversity and traditional knowledge? My paper presentation will discuss two tribally-directed eco-cultural restoration projects with the Kashaya Pomo Tribe of northern California and the Kaibab Paiute Tribe of northern Arizona.

**Nelson, Melissa K.** (The Cultural Conservancy and SFSU)

**Klasky, Philip M.** (The Cultural Conservancy, Storiscapes Project)

**Farish, Colin** (Stillwater Sound)

[Friday, Session 12]

**Community-based Ethnography: Audio/Video-recording the Ecological Knowledge of Tribal Elders and Protecting Their Intellectual Property Rights**

We will offer a 90-minute presentation and demonstration of our work with indigenous communities providing workshops on ethnographic audio and video recording of stories, songs, endangered languages, and ecological knowledge. We will talk about our successful efforts to: assist Mojave elders in the preservation of aging reel-to-reel tapes of the last of the Mojave Creation Song singers; record the Salt Songs of the Paiute Nation; record the Mother Earth Songs of Western Shoshone elder Corbin Harney; and produce a state-of-the-art PBS web site, Circle of Stories, documenting the land-based stories of tribal storytellers.

**Nolan, Justin M.** (Dept. of Anthropology, University of Arkansas)

[Thursday, Session 7]

**Warm Fuzzies and Creepy Crawlies: The Expressive Component of Ethnozoological Cognition**

In this paper we demonstrate the relationship between expressive representation and ethnozoological cognition. Data were obtained from 101 undergraduates who rated the five ethnozoological life forms (birds, snakes, fish, mammals, and wugs) according to personal preference, and then free-listed the names of creatures they like as well as the names of all creatures they dislike. We found a strong level of intragroup concordance among the ratings, as well as a significant correlation between the evaluation of each life form (e.g., the relative order of preference) and the cognitive salience of the life form. Concordance was also found between the salience of constituent members of each life form and the respective proportion of listed items within each life form. Our conclusions support the growing body of evidence suggesting that effective, culturally programmed orientations toward living creatures constitute a powerful, albeit overlooked component in ethnobiological information processing.

**Ogata, Nisao** (University of Veracruz)

**Gomez-Pompa, Arturo** (Botany and Plant Sciences, University of California, Riverside)

[Thursday, Session 1A--Plenary]

**New Approaches to the Ethnobotany of Cacao**

The discovery of cacao in sinkholes in northern Yucatan was an important result of a long-term systematic effort to study the uses of plants by the Yucatecan Maya. We review our advances in research of *Theobroma cacao* from an initial ethnobotanical approach and give information on applying and integrating molecular biology and phylogenetic methods to: 1) understand the importance of a phylogenetic approach in classifying monophyletic groups; 2) point out the difference between ranking and grouping during classification; 3) present ethnobotanical and historical evidence related to the conservation of pre-Hispanic cacao germplasm in several areas in Mexico; and 4) propose hypotheses on the origin and distribution of cacao in Mexico and gene flow from putative wild individuals found in the tropical rain forests of Mexico to many areas where cacao was cultivated in pre-Hispanic times.

**Padoch, Christine** (New York Botanic Gardens)

[Thursday, Session 1B--Plenary]

**Monitoring the Demise of Swidden in Southeast Asia: Local Realities and Regional Ambiguities**

Shifting cultivation in Southeast Asia is rapidly changing and being replaced by other land uses. While this trend has been observed and quantified in numerous areas, region-wide data on this important change are difficult to find. In this paper I discuss three issues that help account for this difficulty: (1) the diversity and dynamism of swidden cultivation, (2) its association with smallholders, and (3) its contentiousness as a political issue. Classifying and measuring the extent of swiddening involves not only an admission of its existence but also a prediction that lands will continue to be used for swiddening. Swidden is typically represented in the landscape by a large number of distinct landscape features, each of which may be changing and easily confused with other land uses. Swidden-fallows are thus often relegated to a "residual category" in reports presented on provincial, national, and regional levels.

**Palylyk, Claudia L.** (Alberta Research Council; Woodland Cree First Nation #474)

[Thursday, Poster, Session 9]

**Use of Boreal Plant Species by the Woodland Cree First Nation in Alberta, Canada**

The Boreal Forest Region of Alberta, Canada, is rich with a diversity of plant and animal species that have historical and cultural significance to the Woodland Cree First Nation. A variety of these native plant species will be presented in terms of their nutritional, medicinal, cultural and ecological significance, with descriptions of their habitat. Their status, in response to environmental disturbances and ecological succession, will also be discussed.

**Parker, Lucy** (Coast Miwok/Kashaya Pomo/Sierra Miwok/Paiute)

**Parker, Julia** (Coast Miwok/Kashaya Pomo)

**Jernstedt, Judy** (University of California, Davis)

**Shahrokh, Renee** (American River College)

[Friday, Session 20]

**Multiple perspectives on soaproot (*Chlorogalum pomeridianum*)**

The soaproot plant, (*Chlorogalum pomeridianum*), or Wavyleaf Soapplant, is a native Californian species with many traditional uses and is of great cultural significance to Native Tribes throughout California. Adapted to harsh soil and weather conditions, established populations of soaproot plants can be decades, if not centuries, old. This plant is often located on private property and in parks where it cannot be harvested. Developers and farmers often destroy these plants unaware of their cultural importance. Untended soaproot patches continue to be threatened by development, but can be rescued by attentive naturalists. Transplanting these plants is a successful option when site protection is not. The three panelists will present their expertise on the soaproot plant: its unique botany, physiology, ecology, cultural importance and rescuing and transplanting techniques.

**Pierotti, Ray** (Comanche, Penatelca Band; Biological Sciences and Indigenous Nations Studies, University of Kansas)

[Friday, Session 10]

**Keepers of the Game: Myth or Reality?**

Valuable insights can result from inclusion of philosophical approaches and knowledge of indigenous peoples. One area of promise is examination of the role of high quality individuals in both local population dynamics and microevolutionary change. Study of such individuals has been largely ignored by Western science, but is clearly part of the indigenous tradition as evidenced by stories and traditions about "keepers of the game" or "animal masters," which have major influence on local population dynamics. Such individuals are likely to be repositories of cultural knowledge, a phenomenon only recently described in Western science.

**Pink, William J.** (Consultant, Pechanga Cultural Resources)

**Alaniz, Luciano D.** (Nursery Technician, Pechanga Cultural Resources)

[Thursday, Session 2]

**Dogbane Propagation, Understanding the Root System and Growth Cycles**

Dogbane is of tremendous importance to many Tribes throughout California and was utilized in the production of many goods essential to daily life. It became the scorn of cattle ranchers because just one ounce of leaf material is capable of killing full a grown cow. This led to the near extermination of Dogbane by the United States Department of Agriculture. Cattle Grazing is on the decline and the threat to the cattle industry from Dogbane is waning. This presentation will discuss the various methods of propagating Dogbane and site selection for the establishment of new plant colonies.

**Planas, Lorrie** (USDA Forest Service)

**Tamez, Sonia** (USDA Forest Service)

**Heffner, Kathy** (USDA Forest Service)

[Thursday, Poster, Session 9]

**Forest Service - Tribal Revitalization Projects**

This "Poster Display and Information Table with Handouts" will share experience and information of various collaborative Forest Service and tribal projects designed to meet the cultural needs of tribes and the concerns of the Forest Service. Handouts will include information on management practices of culturally significant plant species (e.g., tan oak, mushroom, CA black oak), tribal/forest service plant restoration agreements; examples of burning, basketry materials, and other topics.

**Prusti, Arati Bala** (P.N. College, Utkal University, India)

[Friday, Session 14]

**Traditional Plant Uses of Bonda Tribe of Orissa State, India**

Bonda, a small Austro-Asiatic Tribe numbering to about 4000, have isolated themselves off into the mountainous country known as Bonda hills. Their violent homicidal methods are well known. They are a fierce and proud tribe and even now they shun civilization. They possess a great deal of knowledge of plants for various purposes. Several wild fruits and roots form their main food. To ward off ailments, they offer prayers and chicken to their deity. Nevertheless they employ almost each plant growing in their surroundings for various ailments. The plants used in the treatment include *Gnetum ula*, *Hiptage benghalensis*, *Vitex peduncularis*, *Ficus hispida*, *Ardisia solanacea*, *Sterculia urens*, *Borreria articularis*, *Cleome viscosa*, *Aerva lanata*, *Cipadessa baccifera*, *Ficus semicordata*, *Soymida febrifuga*, *Plumbago zeylanica*, *Milletia extensa*, *Desmodium triflorum*, *Smilax zeylanica* etc. In this article use of 13 wild plants as food items and 63 species in various ailments have been recorded giving Latin name, Vernacular name, Family, Local and mode of uses.

**Pryor, John H.** (Department of Anthropology, CSU-Fresno)

**LaJeunesse, Roger M.** (Department of Anthropology, CSU-Fresno)

[Thursday, Poster, Session 9]

**A Conjecture on the Evolution of Acorn Processing in Central California**

The stratigraphic record of the Skyrocket archaeological site (CA-CAL-629/630) covers most of the Holocene. The record here provides a glimpse as to the origins and evolution of balanophagy. Through the combination of



a variety of data, including micro and macro botanicals, ground stone, features, and demographics, the authors propose a sequence of events, spanning 8,500 years, that led to the acorn eating practices described in the ethnographic present.

**Raboff, Adeline P.** (Neets'aii Gwich'in)

[Friday, Session 21]

**Tribal Displacement in Northern Alaska Told Through an Historical Novel**

This is a reading from an historical novel that is set in Northwestern Alaska in the Western Brooks Range beginning in 1800. It is the life story of Adeline's great-great grandmother Sarah Shaaghan Dik. The early part of the story takes place before European contact. The reading includes territorial shifts, the relationship of the people to the land and fauna, and the weather and trade that contributed to territorial shifts. Some present day discussion of how this information was passed down and how Ms. Raboff was raised on the Venetie Indian Reservation (circa 1950's) and her relationship with the land at that time and presently will be discussed.

**Rakow, Melba**

**James, Steven**

**Pete, Dinah**

**Shoshone, Lynda**

[Friday, Session 26]

**Washoe Storytellers**

Traditional stories of Washoe culture will be told in the native language and translated into English.

**Rentz, Erin D.** (San Francisco State University)

**Glaze, LaVerne** (Karuk Indigenous Basketweavers)

[Friday, Session 20]

**The Effects of Fire on Anatomical Structure in Plants Used in California Basketry**

*Xerophyllum tenax* and *Corylus cornuta* are two plants commonly used in the native basketry of Northwestern California. In order to produce materials suitable for weaving, low intensity fires are used to burn off existing vegetation and initiate the production of new plant growth. A comparative study of leaf and stem anatomy identified differences in the distribution of cell types between samples collected prior to burning and those from post-burn growth. These anatomical differences affect mechanical qualities of the weaving material and may explain why post-burn growth is more suitable for weaving.

**Riggan, Ben K.** (Orleans Somes Bar Fire Safe Council)

[Friday, Session 25]

**Integrating Traditional Ecological Knowledge and Practices with Fuels Reduction and Prescribed Burn Projects in the Klamath-Siskiyou Ecoregion**

The challenges and rewards of working with local tribal members, Karuk tribe, private land owners and government agencies on fuels reduction and prescribe burn projects will be discussed. A perspective of how to use multiple funding sources for integrating diverse ecological and socio-cultural objectives associated fuels reduction projects will be presented. Specific details on managing fuels for important wildlife habitat and basketry material will be discussed.

**Salmón, Enrique** (The Christensen Fund)

[Friday, Session 10]

**Building Walls to Rebuild the Soil: The Sierra Tarahumara Trincheras Project**

Today in the Sierra Tarahumara of Chihuahua, Mexico topsoil is eroding at a rapid pace due to logging, mining, overgrazing, and an ongoing drought. A solution has emerged that works in concert with local land management techniques and a landscape that rarely lies horizontally. Trincheras (short stone walls) have been erected in various Tarahumara communities. The trincheras are culturally salient, and serve to capture soil during runoff. As a result, the topsoil is reemerging, cornfields are being replanted as well as apple and peach orchards.

**Scarry, C. Margaret** (University of North Carolina-Chapel Hill)

**VanderWarker, Amber M.**

[Friday, Session 21]

**Menus for Families and Feasts: Household and Community Consumption of Plants at Upper Saratow, North Carolina**

We consider patterns of plant food consumption from Upper Saratow, a Contact-period Sara Indian village in North Carolina. We examine plant remains from storage pits and roasting pits (special cooking facilities used to prepare food for ritual events) to explore differences between everyday menus and "feasts." Did community events at Upper Saratow involve a food tradition that was different from everyday domestic consumption? Or, were such events simply larger-scale meals supplied by "potluck"? This distinction is key to understanding differences between household-level and community-level identities, especially during this period of increased cultural exchange with Europeans.

**Shahrokh, Renee C.** (American River College)

[Friday, Session 13]

**The Traditional Processing of Red Maids, a Native Wild Seed: Harvesting, Winnowing and Roasting with Hot Coals in Baskets**

Red Maids, *Calandrinia ciliata*, has a variety of traditional uses. Aside from edible greens and roots, pounds of its seed were gathered and processed by several Tribes. Today it is difficult to find this plant in large quantities in a toxin-free environment, but the author has found such a field. This presentation will show a traditional method of seed gathering, drying, cooking with hot rocks in a basket and pounding into cakes. The success of using a seed beater basket for gathering seed will also be shown. Let's revive the use of this remarkable plant. Some seeds will be available.

**Sharma, Gopal K.** (The University of Tennessee at Martin)

[Friday, Session 14]

**Ethnodynamics and Ethnobiology of *Cannabis* in Kullu Valley**

Wild populations of *Cannabis* exhibit great morphological plasticity in a wide variety of microhabitats in the lower ranges of the Himalayas in the Kullu Valley, celebrated as the Valley of the Gods. Plant height ranges from 0.5m to 5m depending on topographic, edaphic, and light conditions prevalent in a particular area. The Kullu Valley, a long and narrow slice of lush verdure, extends from the gorge of River Beas to the Rohtang Pass. It is known as the Eden of *Cannabis* cultivation, a multi-purpose enterprise in the area. *Cannabis* yields fiber, food, medicine, oil, and hallucinogen. Recent anthropological factors have adversely affected the ethnobiology and ecological equilibrium.

**Shebitz, Daniela J.** (College of Forest Resources, University of Washington)

**Peter, Dave** (Olympic National Forest)

[Friday, Session 13]

**Towards Restoring a Cultural Landscape: Beargrass Savanna on the Olympic Peninsula, Washington**

This project incorporates cultural land management practices in the restoration of an historic beargrass (*Xerophyllum tenax*) savanna. Savannas maintained through anthropogenic burning were a dominant form of vegetation in the Puget Sound Lowlands before 1850. Air photographs from 1929, General Land Survey records and accounts from early residents and botanists indicate that there were savannas throughout the Olympic Peninsula. Since that time, fire suppression has accelerated succession in these areas. A beargrass savanna restoration project was initiated by the Forest Service in 1995. A 33 acre unit in the Olympic National Forest was burned in autumn 2003. The regrowth of beargrass and associated species is being monitored.

**Sonoquie, Monique** (Chumash / Indigenous Youth Foundation)

[Friday, Session 15]

**Thonok' (Seaweed) Traditional Gathering and Issues of Permitting, Pesticides and Site Preservation for Native Tribes**

A 19 minute video, "Thonok'", will be shown on the traditional seasonal gathering of seaweed and mussels in Northern California. The Campbell family of the Coyote Valley Pomo Tribe takes us on an excursion to the

Mendocino Coast to gather Thonok', (Seaweed), for their annual Elders' gathering. A discussion will follow on the traditional practices of food and material gathering and the current problems Native Peoples face today, including pesticides, permits, site preservation, re-learning old methods and returning to old gathering sites. Also addressed will be what you can do as a community member or specialist in these areas to assist in such situations.

**Stevens, Michelle L.** (Eden Again/ Iraq Foundation)

[Friday, Session 23]

**Eco-Cultural Restoration of the Mesopotamian Marshes; Challenges and Aspirations**

Over 90% of the Mesopotamian marshlands of southern Iraq were drained and desiccated in the 1990's, and the Marsh Dwellers forcibly evicted or killed. The Marsh Dwellers had lived in this watery and tended landscape of reed homes, Mudhifs, and floating reed islands for thousands of years. In 2003, environmental refugees began returning to the marshlands and releasing water, rejuvenating an area approximately double the remnant patch size. In some areas, reeds are regenerating, water buffalo are grazing, and people are returning to the marshes. Marshland restoration is a priority of both the Iraqi Minister of the Environment and scientific community.

**Tamez, Sonia** (USDA Forest Service)

**Frankel, Susan J.** (USDA Forest Service)

**Shea, Pat** (Pacific Southwest Research Station)

**Alexander, Janice M.** (Calif. Oak Mortality Task Force, UC Coop. Ext., Marin Co.)

[Friday, Session 18]

**Sudden Oak Death: How Can We Work Together to Stop The Spread?**

This roundtable discussion addresses how Tribes and agencies like the Forest Service can work together to address problems and opportunities facing our forests. Participants will discuss issues such as Sudden Oak Death (SOD), a relatively new plant disease threatening the coast forests of California and Oregon. The disease affects many plants of cultural importance to Tribal members. Researchers and tribal members will go over the simple precautions for preventing the spread of SOD while gathering traditional plants. Opportunities for collaboration, including tribal priorities for research, will be discussed.

**Todt, Donn L.** (Ashland Parks Department)

[Friday, Session 14]

**Coyote's Weed**

Coyote tobacco (*Nicotiana attenuata*) is an old-time Far Western vagabond. Like all weeds, it has its own agenda, abhors constraints, ignores political boundaries and resists management. Both Native Americans and Euroamericans have leveraged the fortunes of this opportunistic fellow traveler. Native Americans sow it from well-traveled tobacco pouches; loggers prepare seed beds and sow it with well-traveled brush piling equipment. Observations on the cryptic biogeography of coyote tobacco along the Oregon-California borderland suggest that this odoriferous hitchhiker has hit the road, insinuating its presence into the modern transportation system of the Far West.

**Turner, Nancy J.** (School of Environmental Studies, University of Victoria)

[Thursday, Session 8]

**Similarities Between Folk Medicine of First Nations and Ethnoveterinary Knowledge in BC**

This paper compares several plants used as ethnoveterinary remedies in British Columbia with one of many original sources - First Nations folk medicine. In 2003 we conducted semi-structured interviews with 60 participants obtained using a purposive sample. A draft manual prepared from the data was then evaluated by fifteen participants at a participatory workshop. The plants to be discussed include conifers used for internal parasites and as winter foods. Oregon grape (*Mahonia aquifolium*), *Bovista* spp., and *Usnea* spp. are used for wounds. Safe and effective plant remedies can provide benefits to organic farmers and other holistic animal practitioners.

**Turner, Nancy J.** (School of Environmental Studies, University of Victoria)  
[Thursday, Session 2]

**The Hand of Woman? Transplanting and Culturally Important Plant Populations- Records from British Columbia Indigenous Communities**

Indigenous peoples of northwestern North America are typically regarded as minimally influencing native plant distribution. Their management and manipulation of plant populations may be recognized, but researchers assume wild plant populations to have established naturally throughout this region. Yet, there is significant evidence from indigenous elders that transplanting useful plants from one location to another was often undertaken, at least within the past century. This paper presents actual accounts of indigenous transplanting practices, and suggests that such extensions of plant populations are relatively common and long standing practices.

**Velasquez, Fred D.** (Staff for West Point Mewuk, Miwok Dance and Culture Group)

**Fisher, Arveda** (Eph/Cummings Mountain Mi-Wuk)

**Hensher, Cassandra** (Karuk, State of California, DOT)

**Henning Childress, Jayne** (Sierra Miwok, Sheep Rancheria)

**Russell, Rose** (Sierra Miwok, Sheep Rancheria)

**Biggs, Vicki** (Tuolumne Mewuk)

**Barajas, Anna** (Tuolumne Mewuk)

**Parker, Lucy Telles** (Paiute/Pomo/Coast Miwok)

**Balen, Barbara** (USDA/USFS Calavera Ranger District), Moderator

[Thursday, Sessions 4A and 4B]

**Contemporary Plant Management for Basketry and Traditional Uses**

A special symposium with ten presenters who will share and contrast the varied aspects of how their human interrelationships affect their interaction with native plant communities in the Central Sierra Nevada region and the ways that their ethnobotanical experience has been defined by the roles the work of each has played. Among these are: (1) Finding the native plant resources in a limited and dwindling land base (2) Negotiating access to the land (3) Recovering and managing resources so they can be viable as elements of traditional cultural expression. Each of these aspects will generate numerous sub-headings and nuances, since each presenter's contribution will be colored by their different ages, levels of interest, and differing world views, their contributions will add much to the interesting and complex subject of ethnobotany.

**Walsh, Laurie A.** (University of Nevada, Reno)

[Friday, Session 11]

**Mantjiltjarra Burning Country**

Recent ethnographic research with Mantjiltjarra people in Australia's Western Desert revealed the changing nature of burning practice. Prior to settlement in contemporary communities, burning country increased general productivity and conveyed social information. Today, the desired productivity is narrower and focuses on a few animal species. Reduced mobility and other cultural patterns have contributed to over-burning on Aboriginal lands and this is becoming an issue of sustainability. If burning is to continue, Mantjiltjarra and other land managers need to understand the impact of the changing social context of burning.

**Wang, Jinhua** (Department of Anthropology, UC Riverside)

[Friday, Session 10]

**Resource Management of Mengsong Akha Community in Southwestern Yunnan, China**

Facing increasing environmental problems, a major issue today is how humans can develop a more acceptable relationship with the environment that supports them. This paper will examine how conservation ethics based on both religious beliefs and utilitarianism have been developed by the Mongsong Akha community in Southwest Yunnan, China. It also suggests that the biodiversity in Mengsong is developed as a result of historical human activities of the community. Culture and biodiversity are interdependent on each other in such an ecosystem. The indigenous culture, along with their traditional knowledge, is disappearing as a result of national policies.

**Williams, Chuck** (Redwood Valley Little River Band of Pomo Indians)

[Friday, Session 13]

**Pomo Basketry Now Helping Protect Environment**

The loss of traditional collecting areas for basket materials led the Redwood Valley Rancheria to create a basket materials garden to help revive their traditional heritage. A primary material used in coiled baskets is the root of White Root Sedge, *Carex barbarae*, which grows along streams in western California. In Pomo its name is Kahome, which translates to "water gift." While willow, redbud, dogwood, bracken fern, and black walnut are also grown, the sedge is showing itself useful for solving some of today's environmental problems. We are selling and using the sedge in stream restoration projects and bioremediation filter strips. In unison with the spirit of environmental stewardship, "water gift" is now returning as a gift to its watery home. A hands-on demonstration and practice of several ways to remove bark and split the core of sedge root in preparation of weaving material will follow the talk. Raw root will be provided for 30 participants.

**Wohlgemuth, Eric** (Department of Anthropology, UC Davis)

[Friday, Session 21]

**9,000 Years of Plant Use in Native Central California: Implications of the Archaeobotanical Record for Archaeologists, Native Peoples, and Restoration**

Charred plant remains from archaeological sites in central California show significant changes over the past 9,000 years, and considerable geographic variation as well. These changes point in differences in habitat, territory size, and paleoclimatic shifts. I will also present tantalizing data on changing seed size over time for maygrass and native barley in the Sacramento Valley. While the archaeobotanical record has clear biases, it also has important implications for practitioners working to restore native habitats in central California.