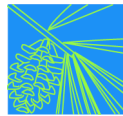


The Maidu Stewardship Project:
Blending of two knowledge systems in
forest management



Farrell Cunningham with Katie Bagby

May 2004



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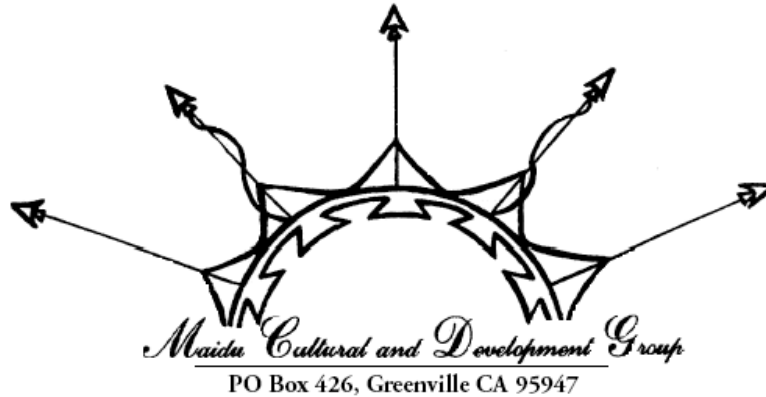
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Introduction

The Maidu Stewardship Project (MSP) encompasses two areas on National Forest system (NFS) lands. One on the Plumas National Forest (PNF) north of the community of Greenville along both sides of Highway 89 and the other on the Lassen National Forest surrounding Homer Lake. At this time there are no stewardship activities proposed for the Homer Lake area.

A variety of stewardship activities are proposed for the Greenville area referred to as the Maidu Stewardship Project Area (MSPA) throughout this description. This area is approximately 1,500 acres with elevations that range from 3,600 to 4,600 feet. This area is within Indian Valley, part of the ancestral homeland of the Mountain Maidu and home of the largest Native American population in Plumas County.

The MSP began as a proposal developed by the MCDG in 1997. The proposal included several key elements: 1) collaborative communication protocols, 2) demonstration of traditional ecological knowledge, and 3) community cultural revitalization. This proposal was nominated as a National Pilot Collaborative Stewardship Project of the FS by the PNF Forest Supervisor, through the Forest Service Pacific Southwest Regional Office (RO) and the Washington Office (WO) in September of 1997. Notice of selection as one of 22 pilot projects was sent from the WO to the MCDG in September of 1998.

The MSP provides an opportunity for a proactive rather than a reactive land management approach in areas that contain significant cultural resources. The primary purpose of the MSP is to develop an understanding of Maidu culture by implementing TEK on an ecosystem scale. Objectives of the project are to improve forest, meadow, and riparian health by incorporating Maidu TEK into progressive forestry. Other project goals and objectives include: local communities contributing to collaborative solutions and increasing community social and economic stability over time.

Participatory Research Need

Traditional western-European derived science systems often lack a diversity of perspectives particularly where non-mainstream resources are concerned. Indigenous

science systems often lack venue since they are not derived around mainstream thought and priority systems.

The bringing of western science and indigenous science into a common practicality will allow for a greater range of forest ecosystem understanding. Thus, through the MSP a community need, identified by the MCDG, has been the raising of awareness and acceptability of traditional ecological knowledge within the Maidu community and within the institutionalized land management knowledge systems as exemplified by the Forest Service and the University.

MCDG is partnering with the Pacific West Community Forestry Center to implement a participatory research project to develop a monitoring plan and gather baseline data for a fuels reduction corridor on the Maidu Stewardship Project site. Within the fuels reduction corridor, the MCDG will practice traditional management of oaks and other plants important for traditional foods, medicines, and material culture. The monitoring plan integrates and reflects monitoring priorities of Western science (through the Western science team) and Maidu traditional ecological knowledge (through the MCDG).

Methods

In October of 2003 the MCDG convened a meeting of several scientists, researchers, and forest professionals to develop a monitoring plan for the MSP area. PWCFC staff provided technical assistance and capacity building sessions on clarifying meeting goals, planning, and implementation. The workshop was also supported by funding from the Collaborative Learning Circle.

Currently, a 300-foot corridor on both sides of the state Highway 89, where it travels through the MSP, is the immediate project and thus the site of the most intense monitoring program development. Monitoring will form the basis for later discussions regarding the ecological, social, and cultural successes of the MSP.

Some of the questions that were immediately discussed included what constitute priority plant, shrub, and tree species for the Maidu community. This question had already been extensively discussed within the Maidu community and therefore was easily answered. However, transferring of this knowledge of priority species became a first order of business, that is, once the players reached the field.

Of course, much was discussed prior to reaching the field. Jonathan Kusel and Katie Bagby of the Pacific West Community Forestry Center facilitated a pre-field discussion regarding participatory research and its utilization as a part of this science team process. Also discussed were roles of the players as well as Maidu philosophical perspectives around TEK.

One of the early discussions centered around reasons for the MSP and monitoring. Maidu participants are certain that they are not experimenting in this process but, rather, are merely implementing a time-tested system of ecological management. Thus, a Maidu

priority is the simple act of implementing the project goals of increasing overstory and understory vegetative health and diversity to meet the material cultural needs of the community. However, due to ethnocentric perspectives imposed by non-Maidu thought processes Maidu TEK has become nearly absent from the ecosystem. Therefore, an institutional barrier must be overcome before Maidu TEK can be viewed as a valid knowledge system and become practiced on the landscape. Hence, another priority of the Maidu (although, perhaps, an externally determined priority) has become the validation, within elite and latently racist educational and forest management institutions, of a Maidu land-knowledge system.

It is the validation of a Maidu land-knowledge system that has formed the primary basis for the Maidu-Science team and the October meeting and field sessions. Maidu-Science team participants walked the Stewardship Site together and identified monitoring parameters and protocols. The monitoring plan builds from Maidu initiated indicators of plant change based upon the implementation of Maidu TEK. Thus, as it is anticipated that indicators will indicate positive plant responses over time Maidu TEK will build validity-of-self through monitoring data.

Scientists, researchers, and forest professionals attending the meeting held the ability to learn about Maidu TEK and the act of working with a place-based indigenous knowledge system and community as the main reason for their participation in the meeting and ongoing MSP activities. A processual and reflective journal will be kept by Maidu participants and science team members. These journals will serve as a narrative data collection methodology, whereas indicators measurements will be numerical. These journals shall be kept separately by each paradigm type – that is Maidu and scientific.

Outcomes and Next Steps

As a result of the Maidu Science Team meeting held in October a monitoring plan and methodology has been produced for the MSP. This plan includes indicators of ecological change for a wide range of culturally important plant, shrub, and tree species. Indicators are based around Maidu parameters for plant, shrub, and tree health and human resource needs.

Several methods for implementing monitoring were laid out. A series of several plots have been laid out along a linear pattern of 150 meters. Oak tree centered plots have been developed and a plant or shrub based plots. Oak, plant/shrub based plots are designed to reflect ecological change centered around Maidu culturally important plants. The oak produced acorns. Acorns were a vitally important food source for the pre-European contact Maidu. However, presently the oak of the Mt. Maidu homeland is seen as having no commercial value due to a hollow-center growing pattern. Thus, the oaks have, within recent history, been removed from commercial-species managed forest ecosystems. Yet, oaks and oak stands were once a major part of this ecosystem in the free-Maidu times.

Thus, reducing oak numbers has inevitably changed an ecosystem that was oak balanced. Numbers of oak dependent plant and animal species will change. An ecosystem adjustment will have to be made in a very short period of time. This ecosystem adjustment, exacerbated by an influx of non-native species of plant, animal, and microscopiae will inevitably take its toll upon native species diversity. An oak centered monitoring plot will allow for us to learn from the oak about oak balanced ecosystems and ecosystem adjustment while also remaining consistent with Maidu cultural values.

In laying-out plots and speaking of data needed to monitor indicators it became apparent to all members of the Team that consistent and plentiful man-power would be needed. It was suggested that, perhaps, a class might be developed through the local junior college, Feather River College. Students participating in the course would have the opportunity to learn about Maidu ecology, the National Environmental Policy Act, fire and fuels reduction, ecosystem monitoring, and data collection. The MSP would gain its workforce.

As plants emerged from winter dormancy, multiple field sessions were held in the spring of 2004 with a Western science team member and the Feather River College class to set up additional monitoring plots and gather baseline data. This class was designed to fulfill the requirements of a one-unit lab course. During the dormant winter months the class was designed as a nine week field course that began on March 20. Total hours were 54 with 9 of those hours being lecture. The class met for 6 hours on Saturdays for 9 weeks with the final class occurring on May 22. 80% of class students were Maidu community members. Through this course students were introduced to culturally important understory and overstory forest species, pre-historic, historic, and contemporary forest resource management techniques and perspectives as well as plot lay-out, design, and data collection.

Several different types of plots were laid-out. These plots included linear transect, square, and circular oak tree based. There were several purposes for the plot placement. One purpose was for the photo monitoring of tree removal activities. Thus, plots that would demonstrate change from "before" and "after" were chosen. Another purpose for plot location was to target specific plant communities. Thus, these plots were located in areas where the selected plant communities were present. Finally, plots were located in a manner so as to encircle selected oak trees. These plots were laid out to track understory vegetative as well as canopy change. The type of plot to be used in specific areas was determined by functionality and replicability.

In addition to working with students to implement monitoring goals, two community members also worked to carry-out project activities. One area of special concern has been the willow management area of the Maidu Stewardship Project. This willow management area has been severely impacted by changes in management and hydrology. Changes in management have meant that for the last several decades, at least, the willows have not been managed at all. Thus, the willow stands are heavily diseased and contain large amounts of dead material. Some bushes that were cut as part of this project contained as much as 90% dead material. Lack of management is exacerbated by

changes in the area hydrology. A creek runs through this willow area and was historically responsible for the creation of a "swampy" habitat. However, within the past 50 years the creek has become increasingly channelized. That is, rather than freely flowing in a multiple shallow channeled condition the creek has become single-channeled. In addition, the creek continues to down-cut thus creating stream banks and lowering the water table.

The two community members worked to cut diseased and dying willow bushes of the "Grey" willow species. Grey willow is the preferred basket making willow of the mountain Maidu. The plant is actually called "hisdom chupi" in Maidu, which loosely translates as "basket weaving willow." These willows were cut, data collected, and tagged. It is anticipated that the selected willows will show a change in growth and health by Spring of 2005. Furthermore, in an effort to establish additional stands of quality willow while also enhancing creek channel stability *hisdom chupi* was planted along the channel edge. Thus far all stems planted are surviving.

All monitoring plots were mapped using the global positioning system (GPS) for use in creating paper and digital maps using the geographic information system (GIS). However, it was found that a greater understanding of both of these mapping systems was needed in order to maximize monitoring efficiency. Thus, MCDG staff and consultants participated in a personalized training program. Through this program participants were able to learn basic map creation techniques using GIS as well as data collection and downloading methods for GIS.

In gaining a greater understanding of GPS and GIS map creation has become infinitely more efficient. Early maps used in the Feather River Class were created using a cut and paste methodology with physical contour maps. This process is extremely time consuming and the possibility for error is greatly increased. Future maps will demonstrate all of the benefits of modern technology from the MSP grounds to satellites in outer space.

Lessons

These things take time. Building common awareness of plants and plant attributes between variously trained people including, at the foundation of the project, an entirely unique culture (Maidu) will not be completed in one meeting or even two. Further, carrying out the work of implementing a monitoring plan for the MSP will take far more time than originally anticipated and thus, a plan of action for the future must include a way of engaging additional people.

Through this project it has been learned that consistent and on-going communication is of great importance between community, the MCDG, and the science team. Science team member participation was limited during the spring field sessions due to scheduling and communication challenges.

Sharing Outcomes

The MCDG feels that it is premature to speak of indicators, methodology, and monitoring results at this time. The project has yet to result in on-the-ground implementation of ecosystem management. Therefore, the process remains untested and biophysical data only base line, if that.

However, in terms of building community capacity and creating a TEK workforce MCDG will be implementing a worker and landowner training session as a method of sharing practical ecosystem knowledge. Further, the ability to implement the college course allows sharing within our community of place.