Seeking Spatial Representation: Reflections on Participatory Ethnohistorical GIS Mapping of Maidu Allotment Lands

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Abstract. This essay describes an effort to create a user-friendly Geographic Information Systems (GIS) map of historic and contemporary Indian allotment lands in Plumas and Lassen counties. Because of the nonratification of treaties with California tribes, most unrecognized Mountain Maidu do not see themselves spatially represented despite their collective presence. By appropriating tools of representation (maps), and assimilation (allotments), the act of mapping allotments resists the attempted political and spatial erasure of unrecognized California Indians. As allotments continue to change hands today—via hydroelectric and timber projects, conservation initiatives, and housing developments—knowing their location is important for protecting cultural resources and for asserting the significance of Maidu participation in environmental stewardship. A GIS layer of Indian allotment lands in Plumas and Lassen counties, linked to quantitative and qualitative information from allotment files, offers a multileveled understanding of allotments. The mapping process engages dialogues in Participatory GIS (PGIS) and place-making, and raises key questions of power, representation, accessibility, and knowledge. The historic and contemporary contexts for mapping are addressed, and PGIS is evaluated as a tool for liberatory research with community groups.

Introduction

Unlike much participatory cartography, the maps that are the focus of this essay do not depict the cartographer's representation of a traditional, indigenous view of place.[1] Rather, these maps focus on allotments—paternalistic, state allocations of lands to indigenous people, which were placed awkwardly atop traditionally broader patterns of indigenous resource stewardship and sociopolitical organization.[2] The map displays the allotments as one political-ecological layer within a multifaceted contemporary Maidu sense of place.[3]

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In both process and goals, the mapmaking endeavor addresses ongoing injustices by revealing previously hidden histories of the alienation of currently contested Maidu lands. First, in terms of process, the development of ethnohistorical knowledge in this project occurs both within the larger community of map viewers and within a Maidu community rediscovering the details of how family allotments were transferred to corporate and state entities. Second, regarding project goals, the maps are then applied in struggles to reacquire, or at least protect and access, these same lands. Overall, this mapping project is described in three general sections, beginning with a background on allotments, followed by reflections on participatory mapping and research methods, and concluding with a discussion of research applications and significance. These three sections rely on one another to fully explain the project's development, use value, and theoretical and empirical significance to ethnohistory.

Background

Like other land-poor tribes throughout the United States, Maidu retain a deep sense of place and identity despite not having a land base.[4] The vast majority of Maidu land was alienated from Maidu in the mid-nineteenth century and distributed to white settlers and to timber and hydroelectric companies. As such, many sites in the Maidu homeland are also reminders of loss and destruction; places taken from Maidu ownership. Visualizing the allotment era contributes to understanding the complexity of Maidu political and cultural place-making by demarcating the parcels that Maidu were able to claim, at least briefly, during a period of western resource development and expansion. By rendering allotments, and then linking the parcels to narratives of contested claims, Maidu resistance to corporate, settler, and federal attempts to alienate allotments becomes visible.[5]

Allotments

On the heels of mass displacement and decimation of Native American communities, and the appropriation of Native American lands and resources, the General Allotment/Dawes Act of 1887 authorized male or female Indian heads of household to apply for allotments of 160 acres or less for themselves or for their minor children. The intent of the act was to encourage "civilization" through private property ownership.[6] The act had the full support of humanitarians, many lawmakers, and social scientists, who sought to help Native American people become "civilized"—to domesticate rather than exterminate them.[7]

The allotment era had different effects on federally recognized tribes

with reservations and federally unrecognized tribes without land bases, respectively. Allotments on reservations fragmented the land base into a patchwork of parcels held in trust for the tribe by the federal government, owned in fee (private property) status by individual tribal members, held in federal trust for individual tribal members, and owned by nontribal members who had purchased allotments from Indian allottees or claimed lands via the Homestead Act or other federal programs designed to assist settlers. Once reservations were divided into allotments of 40–160 acres apiece, leftover lands were made available to incoming settlers, resulting in an influx of non-Indian ranchers and homesteaders moving onto former reservation lands. The cumulative outcome of the allotment era across Indian Country was massive loss of Indian lands and/or restricted access to natural resources.[8]

However, while the General Allotment or Dawes Act of 1887 harmed large reservation tribes by dissolving their reservations into fractionated landscapes of individually held allotments, for nonreservation Indians the allotments also represented a brief instance of landownership. This claim was quickly removed as allotments were appropriated for national priorities of either development or conservation. In Maidu country in northeastern California, for example, there are many examples of allottees being forced to sell their lands in poverty or having their lands sold by the Indian agent without their knowledge.[9] The fate of Indian allotments in the Big Meadows area of Maidu country—a landscape rich in timber and ripe for potential hydroelectric development—was even confusing to the superintendent of the Greenville Indian Industrial School. In 1916 he wrote a letter to the commissioner of Indian affairs asking what had happened to the lands in and around the newly formed Lake Almanor, which flooded Big Meadows:

> . . . there were a number (of allotments) cancelled at one time; about the time the Great Western Power Company was acquiring the lands for their big 30,000-acre reservoir and dam, which is in my jurisdiction.
>
> There are allotments under this water which have never been paid for so far as the Indians are concerned, and I have inquiries as to whether certain Indians own, or do not own, certain lands in this neighborhood. They claim their lands have been flooded and no contract has ever been entered into by them.[10]

Allottees who received lands deemed more valuable for hydropower initially received their trust patents, but within one to five years they received cancellation notices, and their allotments were transferred to hydroelectric and timber companies.[11] Often the timber company would

purchase the land first, clear it of vegetation and sell the timber, and then sell it to the hydroelectric company. Lands valuable for their hydroelectricity generation potential were often in the watered valleys where Maidu stewarded resources such as hydrophilic edible bulbs, cattails and tules, various fish species, and berries.[12] Under the Dawes Act's policy of selecting arable lands for allotments, these areas were nearly ideal. Today, some of these former allotments that belong to Pacific Gas & Electric (PG&E) and were not flooded are available for divestiture through the Pacific Forest and Watershed Lands Stewardship Council process.[13]

For non–federally recognized Maidu, the allotment process may have been one of the few times an ancestor was recognized as Indian by the federal government. Those who remain federally unrecognized today but have an interest in an allotment can use allotment records to show their relationship back to a person who was recognized as Indian. Looking into allotment files also allows a glimpse into the circuitous ways in which Native American people were allotted, then had their allotments canceled, and then spent years seeking fair treatment from the courts, Indian agents, and resource management companies. Race, gender, education, military service, state and private development, and land use intersect in allotment policy, thereby influencing both historic and contemporary land distribution. These records remain particularly important to Maidu groups like the Maidu Summit, which is seeking contemporary reparations for lands lost during the allotment era.

Participatory Ethnohistory and Participatory Geographic Information Systems (GIS) with Maidu Allotments

This research on allotments began in 2002 to supplement the land protection efforts of the Maidu Cultural and Development Group (MCDG), a Maidu educational and cultural nonprofit organization. The MCDG was established in 1994 to "research, preserve, and perpetuate the Maidu culture; promote the well being of Maidu people and families; and educate the Maidu and non-Maidu community about Maidu culture."[14] In partnership with MCDG, the research followed participatory research principles of collaborative work with individuals and groups to produce knowledge that can be used in grassroots struggles. Because the knowledge and skills of each party are honored, there emerge new insights on problems and solutions that would not have developed from a top-down, single-researcher approach. The participatory method offers a counterpoint to an extractive mode of doing research; that is, one in which the framework, question, research, and analyses are all separate from the location where information

is gathered, and data gathered through the experiences and/or the labor of populations of study may never return to them. In this particular context, MCDG Coordinator Lorena Gorbet had been researching Maidu allotments under Lake Almanor as part of an effort to prove the ongoing disruption that hydroelectric development had caused in Maidu society, and I was able to begin working with her and others in the community to expand this effort.

Throughout the course of this collaborative research, elders came forward with more questions about allotments in Mountain Maidu country. Maidu individuals had papers and oral histories on their own family allotments; those who had been involved in petitioning for federal recognition had compiled paper and, in some cases, digital files on many allotments; and the recognized tribes had digital databases that included most of the allotments in the area. But there was no accessible, general map and dataset about these lands. Land management agencies at the county (Planning, etc.), state (California Department of Forestry and Fire Protection, California Department of Parks and Recreation, etc.), and federal (U.S. Forest Service) levels also had no accessible, inclusive record of allotment lands.[15] Knowing where these lands were and are remains important in cultural resource protection: for example, Gorbet and a volunteer regularly include the locations of affected allotments in their comments on proposed timber harvest plans (THPs) and housing developments.[16] Indeed, some of the allotments (at least three in Plumas County and several more in Lassen County) are still in trust status, and some were sold and taken out of trust status as recently as the 1950s.[17]

Participatory cartographic work inevitably unearths a web of longstanding relationships within the community.[18] While participatory researchers work to provide products that can be used as tools (such as maps) by community groups, they remain implicated within the colonial research enterprise through persistent dynamics of class, race, rewards, and expectations.[19] With goals of contributing to underfunded, technologically challenged grassroots efforts, illuminating hidden injustices, and making information on Maidu lands and families accessible to Maidu, this research naively began with the assumption that all Maidu *wanted* an allotment map. However, participatory mapping efforts undertaken with a subset of community members often visualize phenomena that other community members may have wanted to keep unrepresented on a Euro-American derived map. Studying personal property rights was seen as potentially dangerous and problematic by some community members, even as others requested lists and maps of allotment information that were difficult for them to obtain.[20] Wainwright and Bryan make the point that, in their work

as participatory cartographers, their maps did not serve as generally liberating, nor did they invert the paradigm of mapmaking to a more inclusive enterprise. Rather, their work served more often to privilege some local actors over others.[21] The participatory researcher must struggle to come to terms with his or her role in local hierarchies, in order to create a product that can be used across the community.

Despite these challenges, utilizing GIS to spatially represent the allotment period of Native American landownership continues a long trajectory of using contemporary mapping tools to assert Native American territoriality. According to tribal lands expert Imre Sutton, "Tribes continue to seek confirmation of their claims to former territory, raising questions about the official cartographic record as based on historic official sources . . . [and] tribes seek enhanced management technology such as GIS and related methodology so that they can, under self-determination, pursue their own resource management goals."[22] As formerly colonized groups reclaim real and ideological space through counter-mapping,[23] their "new" maps reveal the fractured and particularistic nature of what were previously seen as objective maps. By representing multiple layers simultaneously, GIS maps can juxtapose multiple senses of place over time, thereby revealing not only the spatial and temporal complexity of indigenous place-making, but also the ways in which it abuts nonindigenous, settler conceptions of place. Indigenous counter-maps express histories and conceptions of space that may differ markedly from those represented in maps produced by government agencies or private companies. By displaying different accounts of spatial reality, counter-maps make it clear that all maps issue from a host of assumptions based in a cultural and epistemological framework, and, used creatively, GIS maps allow comparisons of these multiple conceptions.

While maps are relative representations of space, not all maps are created equal—some maps are endowed with greater power and influence based on who produced them, using what technology, and for what purpose. GIS, for example, is privileged as a form of mapmaking because digital maps populated with GPS (Global Positioning Systems) points and satellite data are thought to capture more information more accurately than a potentially biased and imperfect cartographer.[24] The politicized ways in which maps are presented, selected, combined, and applied is intertwined with the sociocultural positionalities of different mapmakers. How Louise Fortmann brings Oxford University philosopher Miranda Fricker's concept of "epistemic injustice" to bear on participatory research also helps to describe cartographic inequalities: "Credibility is frequently aligned with social power. In general, the powerful are designated as credible knowers and set the criteria for identifying who are other credible knowers. In this

construct, the powerless are not credible knowers, cannot create credible knowledge, and cannot choose who can do so."[25] Power and privilege continue to infuse representations of space. This essay describes an effort to assert a representation of space that counters the historic hierarchy obscuring Maidu property ownership and preventing effective Maidu land claims. The following section offers an example of how the ethnographic data on these allotments can be revealed in spatial representation and linked to the present, for use by tribal members and their lawyers in land claims efforts.

Research Process

I began archival research at the National Archives and Records Administration, Pacific Region, San Bruno in 2005. In 2006, Farrell Cunningham (Mountain Maidu) assisted with this research, gathering information on parcels and making copies in order to compile a local archive for Maidu to research primary source data on these lands.[26] Archival research was also undertaken in the Plumas County Recorder's Office and the Plumas County Museum, respectively, on the location of turn-of-the-century lot boundaries, and to corroborate information about when lands were canceled and which lands were still in trust. Individuals, groups, and tribes also shared locations of allotments, contingent upon the promise of access to the entire database when it was complete.

The allotment research was particularly focused on the PG&E parcels: when did these lands become PG&E lands for hydroelectric development? Most files on private parcels show a history of different private owners over time, and note when parcels were bought and sold. PG&E parcels at the southern end of Lake Almanor, however, list PG&E as the sole owner. When asked if there were any other records on ownership of this land, county employees replied, "PG&E was the first owner." While that may be true for county tax purposes, allotment records show that PG&E was actually not the first owner. For example, seven parcels totaling 1,120 acres at the southern end of the lake that are now mostly up for divestiture through the Stewardship Council process were nearly all Indian allotments belonging to the Jenkins family.[27] PG&E's predecessor, Great Western Power Company, condemned all or parts of these lands in Plumas County Court in 1902 for hydroelectric development. Greenville Indian Agency superintendent Edgar Miller questioned these proceedings in a 2 May 1922 letter to the commissioner of Indian affairs:

> As I have said before, that no one, for many years, looked after these lands and protected the interests of these Indians and for that reason many things of questionable repute have happened which has caused

> considerable talk and gossip and made it extremely hard for me to get head or tail to the complete conditions throughout this extremely large jurisdiction. The condemnation of *Government* lands in a *State* court is a striking example of how things went and the prices allowed in these proceedings are strong arguments as to the unprotected condition of the Indians.[28] [emphasis in original]

The court paid the Jenkins allottees damages ranging from $40 to $420 for condemnation of the water rights, timber rights, or the entire parcel. Some Jenkins allottees and heirs retained some parcels until 1920–21, when they sold them to Red River Lumber Company, which cleared the lands of timber before typically selling them to Great Western Power for hydroelectric expansion. Referring to PG&E as the "first owner" allows land managers and the general public to assume that any Indian lands were generally taken "long ago" as part of the state's march of progress and development. Unraveling the historical record reveals the specific processes and moments in which allotment lands were sold, condemned (with and without compensation), and otherwise appropriated for hydroelectric development and conservation.[29]

GIS mapping technology was applied to create a digital record of the allotment era so that (1) it could be used in applications for lands and to advocate for site protection in the advent of proposed development or modification; (2) other users, including local rancherias with developed GIS systems, could insert the allotment layer into their existing maps; and (3) the map might become a GIS teaching tool for interested community members. Using ArcView 9.2, 576 polygons (to represent each known allotment) were carefully drawn on base files of the Lassen and Plumas national forests, respectively, using township, range, and section coordinates as provided in allotment files.[30] The National Forest shapefiles and other base layers were obtained from University of California Extension. Additional shapefiles, including PG&E property ownership and a satellite photo of the Lake Almanor Basin, were contributed by Zeke Lunder of NorthTree Fire.[31]

Other shapefiles that can be rendered with the map are lakes, elevation, streams, major roads, Forest Service landownership, vegetation, Forest Service roads, Plumas County parcels, Maidu place names, and significant Maidu sites.[32] Each of these layers contributes to understanding where allotments were and are and how they relate to other natural and cultural features, including other property boundaries. Although allotments have been mapped throughout Plumas and Lassen counties for this project, the focus is particularly on the Lake Almanor Basin, including adjacent Humbug Valley and the reservoirs of Lake Almanor, Butt Valley, and Mountain Meadows. The basin contained a concentration of allotments, many

of which were flooded for twentieth-century water conveyance projects and are now the focus of contemporary conservation and development initiatives.

For each of the mapped 576 allotments, and 60 others that are not yet mapped because lot boundaries are being confirmed, the following information is available in a Microsoft Excel spreadsheet: location in township and range, name of allottee, and date allotted (see table 1). The allotment files each have differing amounts of information, some offering only the location and date of the allotment and others containing extensive appraisal data, land sale information, and additional correspondence relating to the allottee's Individual Indian Monetary (IIM) account. Ongoing research into Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM, formerly the General Land Office) files is revealing additional information about each allotment. The spreadsheet also provides, when available, information on the date the land was trust patented to the allottee; the allottee's heirs; the date of the heirs' or allottees' petition to sell; the names of petitioning heirs; the date of sale; price; the price per acre; the name of the buyer; the date the former allotment was fee-patented to the buyer; the date the allotment was canceled; the method of cancellation; the date it was reinstated; the information source; and a category of "notes." The spreadsheet is searchable by any of these variables, using Excel's "filter" function.

In the "notes" category, qualitative information on each allotment parcel is provided, using the words of the allottees, Indian agents, and other parties, as available from letters in the allotment files. This is an important dimension of the research that has been a challenge to include in GIS maps, as GIS requires primarily quantitative input. As Trevor M. Harris et al., Patrick H. McHaffie, and John Pickles, respectively, ask in *Ground Truth*: how do you enable grassroots participation in GIS, and create maps that reflect local knowledge, when the primary input is quantitative?[33]

When the Excel spreadsheet was converted into an ArcView geodatabase instead of a Microsoft .dbf, and merged with the map in ArcView, much of the qualitative data in the "notes" category—primarily stories gleaned from allotment files that describe the challenges of asserting Native American ownership and access to either the allotment or the proceeds from selling the allotment—would not appear. The challenge of representing qualitative data in GIS is an ongoing issue, particularly among scholars interested in social science applications of GIS.[34] I resolved the issue with the ArcView hyperlink tool, creating hyperlinks to Word documents containing either snapshots of scanned-in documents or text summarizing allotment files. Now viewers can select the hyperlink tool (a lightning bolt icon) and click on an allotment, and the qualitative information will open

Table 1. This three-part table is an example of what would be a single entry expressed horizontally in the Excel spreadsheet.

Allot No	Name	Tribe Area	Acreage	Date	County	Township	Range	Section 1
33	Henry John Jenkins	Mountain Meadows	160	6.14.1892	Lassen	28N	9E	27

Section 1 Coordinates	Section 2	Section 2 Coordinates	Land description	Trust Patent Date	Fee Patentee/ Date	Held for Cancellation
SW/4 SW/4	28	S/2 SE/4,SE/4 SW/4	Mostly timber, some grazing land	10.2.04	Red River Lumber Company 7.6.1914	4.21.02, as to SW/4 SE/4, SE/4 SW/4, Sec. 28

Cancellation Form	Notes	Heirs	Price	Sold To	Date Sold	Date Sale Approved
Commissioner Letter "G"	Land sold for less than appraised value.	Polly Jenkins (1/2), Ike Jenkins (1/10), Goodseener Jenkins (1/10), Girl Jenkins (1/10), Joe Henry (1/10), Doc Jenkins (1/10)	$1,200	Red River Lumber Company	5.29.1914	7.6.1914

as a linked Word document. If there are Web-based resources that are relevant to particular allotment parcels, such as information on timber harvest plans that may affect cultural resources on the parcel, URLs can also be hyperlinked to individual allotments.

This allotment-mapping project raises moral as well as methodological questions. For example, the question of quasi public-private information was of particular concern in the "notes" and "heirs" categories. Although the information on allotments is public, it is also personal, and raises the question of whether it should be made available. The "notes" category includes information that bears strikingly on the data in the spreadsheet, in that it illuminates relationships between actors and/or explains discrepancies in information. While including the information on the heirs of the allottee involves more personal family information, it makes the project more useful for Maidu looking at the map and the data, as many community members are keenly interested in genealogy, and this project links Maidu genealogy to land.

Application

Immediate Threats to Maidu Lands

The history of the allotments became particularly relevant when the Pacific Forest and Watershed Lands Stewardship Council began to plan for the distribution of PG&E lands, many of which were composed of historic allotments that had been alienated from allottees when the reservoirs were filled at Lake Almanor, Butt Lake, and Mountain Meadows.[35] The council is charged with developing conservation plans for approximately 140,000 acres of PG&E lands around the state and divesting these lands to entities capable of carrying out the plans.[36] The divestiture represents a distinct possibility for large-scale land restitution for unrecognized as well as recognized tribal applicants.

While there are numerous ongoing resource concerns facing Maidu in Maidu country, such as protecting cemeteries and other sites from timber harvest and housing development,[37] the PG&E land divestiture affects people across the Mountain Maidu homeland and offers the possibility of gaining land and other benefits as mitigation for the destruction caused by hydropower development. In 2006, the Maidu Summit—a Maidu "homeland security" organization that was formed in 2003 of representatives from nine Mountain Maidu groups—came together with a renewed sense of urgency to apply for Stewardship Council lands.[38] While Maidu and other Native American people were not initially invited to participate in the divestiture process, they pushed for their own inclusion and helped to

ensure the addition of a Native American representative to the Stewardship Council Board of Directors.[39]

The Stewardship Council land application process requires extensive documentation, particularly of applicant organizations' ability to manage lands to meet public conservation goals. In their land management plan submitted to the Stewardship Council, the Maidu Summit emphasized its members' ability to steward the land to a precontact condition using traditional knowledge. The plan also underscores the Stewardship Council's opportunity to support the healing of people and the land by creating "the first example of the return of lands to collective Maidu ownership and management since conquest."[40] The plan's principal author, Farrell Cunningham, defines *healing* for both Maidu and non-Maidu involved in this restitution of Maidu lands: "Healing can begin through the process of righting past wrongs. The healing will be on the part of the Maidu who can begin to rebuild their cultural lives and on the part of society in general through restoration of faith in national ideals and the basic enactment of justice."[41] Further, the plan refers to the lands (if transferred to the Maidu Summit) as a "vast and integrated educational opportunity and a sort of experiment in social justice—a park dedicated to education and healing."[42]

Maps constituted an important supportive component of the plan. Every contender for the lands, including federal agencies like the U.S. Forest Service with its many mapping tools and expert cartographers, was submitting maps of the lands along with proposals for specific resource management actions.

The allotment mapping project contributed to arguments for Maidu getting these lands back, based on their relatively recent Maidu ownership and unjust divestiture. The allotment maps also provided a medium on which to invert the English categorization of sites by adding Maidu names, Maidu sites, and proposed Maidu projects (fig. 1). These maps were produced in-house, with the help of local allies.[43] Using the allotment maps in the application for Stewardship Council lands—a contemporary effort to achieve restorative and environmental justice—reinvigorated my belief in the importance of mapping this unrecognized layer of Indian landownership.

Many aspects of a Maidu sense of place had been submerged in government (U.S. Forest Service, county, etc.) maps, including historic and contemporary recognition of the land as a Maidu homeland. A homeland, as Keith H. Basso describes, is rich with stories embedded in place, which continue to speak to contemporary and future actions.[44] While the allotments were an institution of assimilation, some Maidu are reclaiming them as markers of Maidu land use, recognition, and landownership. Using GIS

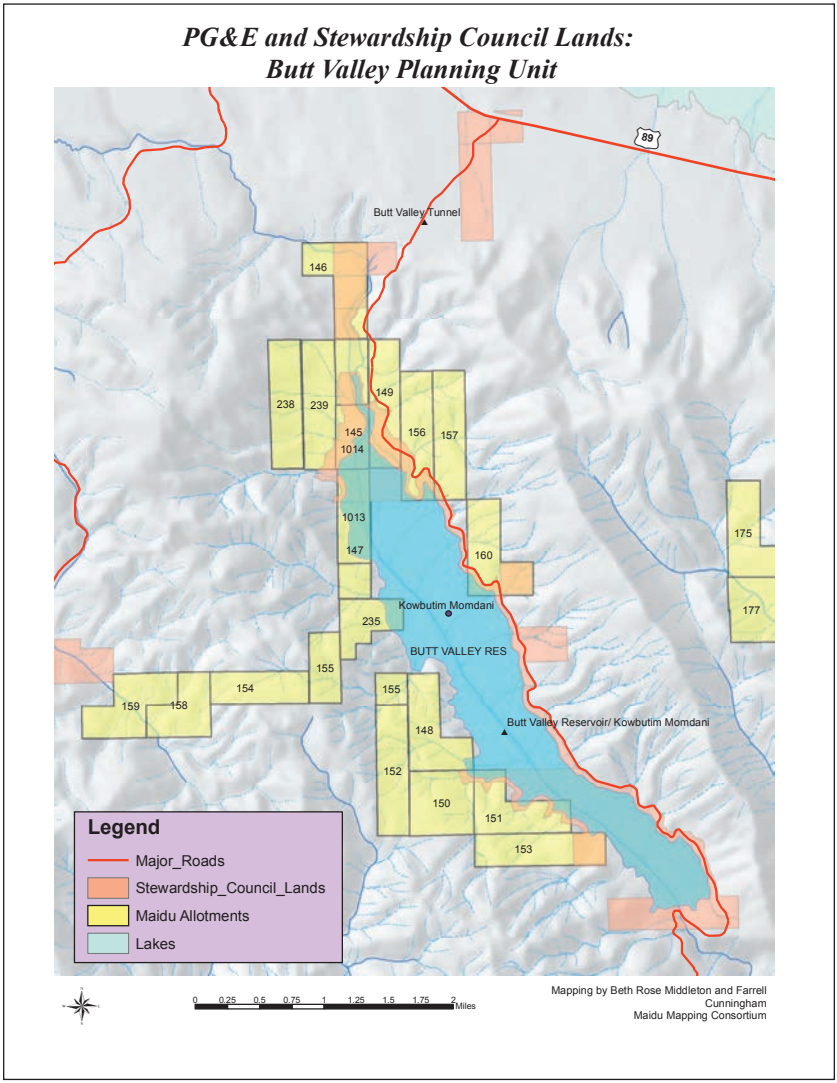

Figure 1. This map is an example of the maps created for the Maidu Summit's application for Stewardship Council lands. Butt Valley Reservoir in Plumas County is shown with the historic Indian allotments in yellow, and the PG&E lands up for divestiture through the Stewardship Council in pink. The Maidu name, *Kowbutim Momdani*, is printed in the center of the lake along with the English name. The concentration of allotment lands around the valley is clear, as is the overlap between the allotments and the lands available for divestiture.

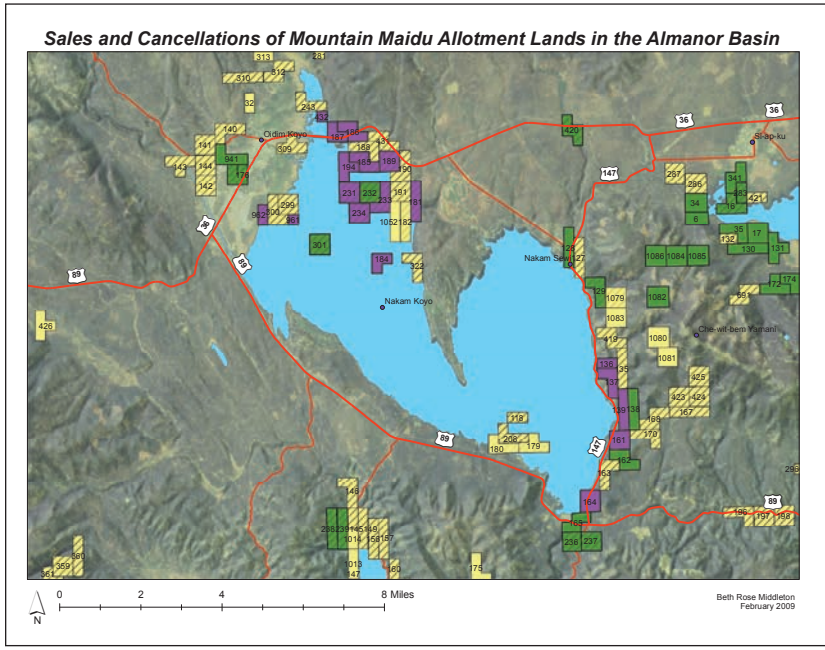

Figure 2. Allotment map in ArcView, with allotments sold to Red River Lumber Company in green, allotments sold to Great Western Power in purple, allotments cancelled in cross-hatching, and allotments sold to other parties in yellow. Text includes Maidu place names and important Maidu sites (derived from *Creation: As Told by Leona Peconam Morales*,[45] as well as from Maidu language classes taught by Farrell Cunningham).

allows maps to be manipulated to show these different eras of landownership, along with natural and cultural features of the landscape. In the iteration of the map that appears in figure 2, for example, which was not used in the Maidu Summit Land Management Plan, categories and queries were used in ArcView to organize the parcels by color based on the beneficiary of the sale and when the allotments were canceled.[46] These parameters were chosen because some Maidu are particularly interested in tracing how and when parcels were divested, in order to understand the impacts on current landownership in and around the basin.

However, these maps were not created solely for external agencies; they were created for Maidu community members, some of whom have no access to computers or the Internet. Since this project began in response to the inaccessibility of the archival allotment data, the resulting maps should

Attributes of Maidu_Allotment_Lands

TRUST_PATE	HEIRS	APPRAISED_	PRICE	PRICE_ACRE	SOLD_TO	PETITION_T	PETITIONIN	SALE_DATE	FEE_PATENT
0		0	0			0			0
1907		0	641.5	$4.09	CE Emerson	1914	Maggie Watson (ex-wife), Walte	1917	0
1907		0	1800	$11.25	RRLC	1912			1914
1907		0	1452.5	$9.07	RRLC	1920	Charley Gould, Josie Bill		1921
0		0	1606.25	$10.00	RRLC	1911	Mary Dokesim		1914
1920		0	1868		RRLC	0		1919	0
1907		1060	1070		Mr. Therold S. Lindquist	0		1923	0
1893		0	0		Jacob Isaac and Edith Elizabeth Pra	1949	Nora Martin Dibble, Elden Peters	1951	1951
0		0	0			0			0
0		0	0			0			0
0		0	1013	$6.15	Walker	0		1914	1914
1908		0	3469		Twain Lumber Company	1930		1950	0

Table 2. A selection from the attribute table for the Maidu Allotment Lands layer within ArcView. The full table is much larger and includes many more column headings. This information was initially entered in an Excel spreadsheet (see table 1), converted into an Access database, and then joined to the Maidu Allotment Lands layer in ArcView. Each row represents an allotment, and each column heading refers to a different piece of information on that allotment. Read left to right, the column headings are Trust Patent (date the allotment was trust patented to the allottee); Heirs (if allottee was deceased at the time of sale); Appraised Value (of allotment); Price (actual value allotment was sold for); Price per Acre; Sold To (buyer); Petition to Sell (date heirs began petitioning to sell, often because they needed money for subsistence); Petitioning Heirs (names of heirs petitioning to sell); Sale Date (actual date allotment was sold); Fee Patent (year fee patent was granted to buyer). Note that a zero often serves as a placeholder in cells where there no data was available. When this table is compared to the "mother" spreadsheet where the data were initially entered, it becomes clear that some text did not carry over into the attribute table in ArcView because of text character limits. The map in figure 2, also made in ArcView, features parcels sorted and color-coded by who they were sold to, based on the information in this attribute table.

certainly not be just as inaccessible. Once preliminary maps were made, however, it became clear that the only organizations in the Maidu community with access to GIS expertise and software were the recognized tribes, and perhaps the nonprofit organizations and petitioning tribes. How would an interactive allotment map reach Maidu who were not members of these groups?[47] Who would learn to use it, how, and why would they want to?

According to Sarah Elwood, after decades of critiquing the inaccessibility of GIS, little has changed for those "at the bottom of the digital divide."[48] Not only does one need specialized skills to use GIS, but a high connection speed is also required to download data, import it into projects, and query the map in a participatory interface. Although high connection speeds have reached public libraries, community colleges, cafés, Indian education centers, and schools in rural areas, the skills to take advantage of GIS and other computerized tools, and the motivation to gain them, are not increasing at the same rate. While many Maidu are very aware of where allotment lands were and are, what happened to them, and what is

now happening to them, others are not aware of the lands, including the circumstances of their divestiture and the familial and other relationships surrounding the parcels. The map represents something of interest that—through public presentations to be offered at libraries, the Indian education center, and people's homes—could create a need to learn a skill that community members can then apply to other purposes.

Generally, digital and Web-based maps are not difficult to interpret if data are provided in a clear and organized fashion (for example, all headings in the data tables clearly marked, entries in a consistent format, and parcel numbers on the map in direct correspondence to parcel numbers in the data table). If users want to manipulate the data by adding information, however, the map becomes more difficult to utilize. For those with GIS training, adding shapefiles to the allotment layer is a simple procedure.[49] Those without this expertise may circumvent the need for training by hand-drawing additions to the map: for example, Gorbet drew the boundaries of proposed development or timber harvest plans in the Almanor Basin around, through, and between the allotments on a draft hard copy version of the allotment map. She then used this new map to advocate for the protection of former allotment lands.

For those who do not have access to computers to print out a copy of the map to draw on, or the ability to use public computers where a version of the map may be installed, how can the map be accessed, read, and used?[50] Printed copies of both the map and typed parcel data must be provided. A challenge comes up here as well, as printing lengthy Microsoft Excel spreadsheets and databases often results in unwieldy paper copies, where categories may overlap multiple pages. In order to print legible copies, I reorganized the data into a Microsoft Word format that was more easily produced in hard copy and could accompany a printout of the ArcView map. These were distributed to lawyers working with Maidu to protect sacred sites; to the Maidu Cultural and Development Group for its comments on timber harvest plans and developments; and to individuals and groups interested in the family history of specific parcels. The Maidu Summit Land Management Plan includes a section drawn from this research: an attenuated history of thirty-six allotments included in the Stewardship Council lands in and around Lake Almanor, Humbug Valley, and Butt Valley.

Allotments represent a complicated layer of landownership, as they were allotted by multiple Indian agencies.[51] They were also canceled, sold, or reallotted in rapid succession, often without an extensive or explanatory paper trail. The cartographer mapping allotment lands must accept that the map will continually need editing as new information is found and different data sources (including personal archives, local and state archives, and the

BIA and BLM archives, respectively) become available. In this situation of emerging historical data, the map is distributed (at least in pieces) to community groups before it is "complete," so that it can be used immediately in struggles over land and cultural resources. Thus, I am simultaneously distributing preliminary copies of the map and refining the map.

To refine the database, errors are being removed and missing information inserted. New polygons are being drawn on the map as lot boundaries are clarified through county-level research into historical, nondigitized lot boundaries. The boundaries of existing polygons are also being made more precise. Additional archival sources are being reviewed, such as the Al Logan Slagle Collection at the University of California, Davis, and information inserted from them into the allotment database, which will be remerged with the map.[52] The "notes" section is being reformatted into a series of separate .pdf files and/or nested Web sites that can be linked to the map. Preliminary Web versions of the map have been developed with GoogleMaps Creator, and by creating a .kmz file in ArcView and uploading it to GoogleEarth; and there will be further experimentation with rendering the allotment data with such Web-based mapping tools.

Preliminary paper and CD copies of the map and database will be distributed to Maidu individuals and families, recognized tribes, petitioning Maidu tribes, Maidu grassroots organizations without nonprofit status, and Maidu organizations with nonprofit status, with the understanding that the map is continually a work in progress to which they can contribute. These preliminary hard copies of the map will also be used with community members to "ground-truth" the allotment information found in archives, further refining the map through active participation and dialogue. Staff at Susanville and Greenville Rancherias, for example, welcomed the allotment layer as one they could continue to update in their own GIS systems. For organizations and individuals without expertise in GIS, presentations will be offered on the basics of navigating GIS so that users can access the multiple features of the map. For those organizations and individuals without ArcView, preliminary copies of the map will also be accessible both in hard copy and digitally, perhaps in Adobe Acrobat, separate from the Microsoft Excel and Microsoft Word database and text allotment data, with the caveat that the map is continually being refined, and updated versions will be available.

Discussion

How does the "helpful" cartographic researcher know when places and dynamics are best left unmapped? When is mapping colonial and when is

it liberatory? Is the map a tool that can be used democratically across the community, or does it simply become a valuable representation that will support some community member's claims over others, based upon their differential ability to access and use it? When does the map simply serve to enhance the researcher's credibility by showcasing his or her technical skills? These are questions facing the cartographer committed to principles of participation and equity, who is implicated in both a (relative) positionality of power within an academic world and a position of disadvantage in terms of truly understanding the community context in which his or her map attempts to make a positive intervention.

Participatory researchers need to be clear about both the institutional and situational concerns that arise in a participatory mapping project. The participatory researcher works at the interstices of two disparate spheres—within the academy, and outside of the academy with groups that have been disenfranchised (perhaps by the academy itself). When the researcher attempts to provide information relevant to academic, policy, and community contexts, he or she may be penalized by all three, and an outsider in each sphere. However, Walter Mignolo and Ramón Grosfoguel have suggested that one of the most generative sites of knowledge production is this "borderlands," where multiple languages, cultural backgrounds, epistemologies, and identities collide, often in a single person. This location produces innovative ways of understanding phenomena, new lenses through which to look at the world, and new ways to contribute to knowledge production and justice.[53] Participatory GIS (PGIS), with its application of technological mapping tools in a participatory manner, often for social change, qualifies as a way to engage in border gnosis, or generating knowledge from an epistemological and cultural borderlands.[54]

The allotment mapping process described in this essay is subject to the political-epistemic questions emerging from critical geography and ethnic studies, including: Who is mapping? For whom? What are the maps used for? What is excluded? Does it matter? Under what circumstances?[55] The cartographer rendering allotment lands must be clear about why the project is being undertaken, how it relates to the identity of the cartographer, how and to whom the map will be presented, and what information will be shown and not shown, respectively. Understanding these factors is particularly important methodologically, as this work strives to speak to community struggles and consciously explores power dynamics. Looking at theories of mapping also contributes to the overall discussion of how Maidu have been subject to, and continue to struggle against, the spatial and cultural implications of colonialism.[56] As this map is created as a tool for use in Maidu community efforts and genealogy, questions must simul-

taneously be raised about the assumptions of its formation, the political and cultural location of its production, and where it fits within larger patterns of creating knowledge, including mapping and participatory research.[57]

Significance

The map and the process of making the map with ArcView GIS software engage Basso's concept of place-making. Basso's work examines the ways in which certain durable landscape features hold stories that are passed down through generations, explaining important lessons on human behavior.[58] In this essay, the stories of allotments themselves are texts on the landscape that tell of exclusion, assimilation, and resistance. This allotment work focuses on political relationships to the land over time and on using the mapping technology itself as a political intervention. I argue that GIS may actually enable display of temporal, spatial, and cultural data on a single frame, by linking maps to stories, photos, and other sources of information. Multiple perspectives can be rendered on a GIS map via distinct layers that can be turned on and off, allowing one to visualize different conceptions of the landscape individually or simultaneously. Of course, this is no substitute for place-based, intimate knowledge of the land, which is part of Basso's argument, but Basso also did not initially have access to this technology. The dialogue with Basso in this essay pushes GIS toward greater engagement with diverse narratives of place and hastens the potential of GIS to speak to the work of cultural anthropologists and ethnohistorians.

The map discussed in this essay also has practical usefulness, in that it will provide Maidu groups and organizations with a shapefile that represents a specific period of Indian landownership. The allotment maps can and already have supported Maidu efforts for land restitution and cultural and natural resource access and protection. The maps make visible a relatively recent period (the allotment era) of Maidu landownership and the subsequent divestiture of these lands for large hydroelectric and conservation projects. In these ways, the maps respond to calls to better link geography and ethnohistory.[59] The process of doing research on the allotment parcels with Maidu colleagues becomes a form of participatory ethnohistory, creating a participatory GIS. The visually and textually rich data provided in the allotment map and linked database and document files counter a dominant discourse of Maidu landlessness and underscore the need to include recognized and unrecognized Maidu in contemporary resource management decisions.

Notes

1 See, for example, Louise Fortmann, "Gendered Knowledge: Rights and Space in Two Zimbabwe Villages," in *Feminist Political Ecology*, ed. Dianne Rocheleau, Barbara Thomas-Slayter, and Esther Wangari (New York, 1996), 211–23; Joe Bryan's work with the Western Shoshone and Honey Lake Maidu, which is alluded to in Joel Wainwright and Joe Bryan, "Cartography, Territory, Property: Postcolonial Reflections on Indigenous Counter-mapping in Nicaragua and Belize," *Cultural Geographies* 16 (2009): 153–78).

2 For descriptions of precontact Maidu life and settlement, see, for example, Farrell Cunningham, "Maidu Summit Land Management Plan," Maidu Summit, July 2007; and Francis A. Riddell, "Maidu and Concow," in *Handbook of North American Indians*, vol. 8, *California*, ed. Robert F. Heizer (Washington, DC, 1978), 370–86.

3 The political ecology approach explores the complex interactions among politics, economy, and environment, at multiple scales, over time, and with attention to differentiation among actors (by gender, race, class, etc.); see, for example, Elisabeth Rose Middleton, "We Were Here, We Are Here, We Will Always Be Here: A Political Ecology of Healing in Mountain Maidu Country," PhD diss., University of California, Berkeley, 2008: "Political ecology, as first articulated by [Piers] Blaikie [*The Political Economy of Soil Erosion in Developing Countries*] ([London,] 1985) and [Piers] Blaikie and [H.] Brookfield [*Land Degradation and Society*] ([London,] 1987), was an intervention to illuminate the complex relationships among social, political, and economic forces and multiple scales (household to global) that influence and are influenced by ecological factors" (1).

4 Unlike the Apache, who have a land base and whose sense of place is memorialized in Keith H. Basso, *Wisdom Sits in Places* (Albuquerque, NM, 1996). For an example of deep identity with place, see Karen I. Blu's discussion of Lumbee land and identity: "'Where Do You Stay At?': Homeplace and Community among the Lumbee," in *Senses of Place*, ed. Steven Feld and Keith H. Basso (Santa Fe, NM, 1996), 197–228.

5 In this way, this interactive map also provides an important accompaniment to narratives that emphasize the victimization of California Indians, such as Robert F. Heizer's seminal text, *The Destruction of California Indians* (Lincoln, NE, 1974). Heizer's focus on the depredations against California Indians is necessary for its exposition of the destructive policies and individual actions that have caused interminable suffering for Indian people throughout the state. However, Heizer has also been criticized for focusing on the victimization. According to Albert Hurtado, in his 1993 introduction to the text: "Because Heizer was determined to illustrate the horrors of Indian life in the mid-nineteenth century, he compiled a volume that portrayed Indians as mere victims rather than as thinking actors upon the historical stage. He might have included documents that showed how Indians fought for their rights and attempted to manipulate the federal reservation system" (ix). The work on mapping Indian allotments, linking the map to stories of both Indian victimization and resistance, and using the map for contemporary resistance both honors the truths Heizer offers and shares other stories that show Indian people as "actors upon the historical stage."

6 See, for example, Rupert Costo and Jeannette Henry Costo, *Natives of the Golden State: The California Indians* (San Francisco, 1995); David H. Getches, Charles F. Wilkinson, and Robert A. Williams Jr, "The General Allotment Act," in *Cases and Materials on Federal Indian Law* (St. Paul, MN, 1988), 165–73.

7 Chad Hoopes, *Domesticate or Exterminate: California Indian Treaties Unratified and Made Secret in 1852* (Eureka, CA, 1975); Kristin T. Ruppel, *Unearthing Indian Land: Living with the Legacies of Allotment* (Tucson, AZ, 2008).

8 Almost every text on the history of Indian affairs refers to the destructive effects of the General Allotment/Dawes Act in terms of reducing and dividing Indian lands. For some perspectives, see Ward Churchill, "A Question of Identity," in *A Will to Survive*, ed. Stephen Greymorning (New York, 2004), 59–94; Getches et al., "General Allotment Act"; Rex Weyler, *Blood of the Land: The Government and Corporate War against the American Indian Movement* (New York, 1982); Vine Deloria Jr., ed., *American Indian Policy in the Twentieth Century* (Norman, OK, 1985); and Ruppel, *Unearthing Indian Land*. For a specific look at California, see Al Logan Slagle, "Unfinished Justice: Completing the Restoration and Acknowledgment of California Tribes," *American Indian Quarterly* 13 (1989): 325–45.

9 See, for example, Sus-312 (Willie Charley/William Williams), Sus-14 and Sus-1079 (Ole Salem), Sus-1080–1086 (Salem family), Sus-999 (Bob Shafer), and Sus-418 (Billy Baker/Baker Bill), Case Files of Land Transactions, 1909–56, Susanville, CA (Records of the Bureau of Indian Affairs, Record Group (hereafter, RG) 75, National Archives, Pacific Region [San Francisco], San Bruno, CA). Many allottees also petitioned to sell their own lands, and the majority of these petitions for sale stated (in typewritten form) that the land was not fit for a home and the allottee needed money for "support," "medical expenses," or "to buy a home." Since the files were signed with a thumbprint, it is unclear whether these were, in fact, the allottees' feelings about the land. See, for example, Sus-262 (Annie Baker), Sus-606 (Olie Wicket), and Sus-15 (Jack Watson), Case Files of Land Transactions, 1909–56, Susanville, CA (Records of the Bureau of Indian Affairs, RG 75, National Archives, Pacific Region [San Francisco], San Bruno, CA).

10 4 January 1916 letter from Greenville Indian School Superintendent Edgar Miller to Commissioner of Indian Affairs. Reproduced at the National Archives and Records Administration, Washington, DC.

11 Like Kate Charley, some of the allottees were illiterate, so were unable to read the notices and unaware that their lands were canceled until they were forced to leave. Sus-312 (Kate Charley for William Charley), Case Files of Land Transactions, 1909–56, Susanville, CA (Records of the Bureau of Indian Affairs, RG 75, National Archives, Pacific Region [San Francisco], San Bruno, CA).

12 See Cunningham, "Maidu Summit."

13 Pacific Gas & Electric filed for bankruptcy in 2001, and as part of the 2003 settlement agreement with the California Public Utilities Commission, 140,000 acres of PG&E land will be divested to private and public entities for conservation and public benefit purposes, under the oversight of the Pacific Forest and Watershed Lands Stewardship Council. The Stewardship Council was formed to oversee the divestiture. The council is composed of the representatives of state and federal resource agencies, nonprofit natural resource and consumer advocacy groups, PG&E, tribes, and urban and rural interests. Of the 140,000 acres available, 38,094 acres are located in Plumas County.

14 Mission Statement of the Maidu Culture and Development Group (on file with author).

15 The agency that had the records was, of course, the Bureau of Indian Affairs (BIA), but these records were not necessarily accessible. Agents in the Sacramento, CA, office indicated that records were accessible only to heirs of allottees. In the next phase of this research, several BIA offices will be contacted to determine whether records are accessible to researchers.

16 The volunteer is a retired archaeologist who offered to assist MCDG in responding to the numerous requests for comments on timber harvest and development plans.

17 For example, Dick and Ollie Reavis's allotments were sold as recently as 1953, and the resulting funds were distributed to the heirs. Sus-36 (Dick Reavis), and Sus-1031 (Ollie Reavis), Case Files of Land Transactions, 1909–56; Susanville, CA (Records of the Bureau of Indian Affairs, RG 75, National Archives, Pacific Region [San Francisco], San Bruno, CA). The records on existing allotments are not in the National Archives and Records Administration files because they are active. Existing trust lands were located by searching county parcel data, where parcels in trust are listed as owned by the BIA. However, this county data provide no information on the allottees, heirs, or history of the land.

18 For an ethnographic description of the dynamics of participatory cartography at the intra-community level, see Bjorn Ingmunn Sletto, "'We Drew What We Imagined': Participatory Mapping, Performance, and the Arts of Landscape-Making," *Current Anthropology* 50 (2009): 443–66.

19 For an overview of participatory action research and some of the challenges to its implementation, see Meredith Minkler and Nina Wallerstein, eds., *Community Based Participatory Research for Health* (San Francisco, 2003); Andrew Cornwall and Rachel Jewkes, "What Is Participatory Action Research?" *Social Science and Medicine* 41 (1995): 1667–76; and Budd L. Hall, "From Margins to Center? The Development and Purpose of Participatory Research," *American Sociologist* 23, no. 4 (1992): 15–28.

20 For example, Farrell Cunningham warned that it might be controversial to delve into personal property records (personal communication, Greenville, CA, 2005). When it became clear that all of the records to be used in the research were public records available at the National Archives, Cunningham assisted with the research. Those for whom obtaining records was difficult included Cunningham, Vivian Hansen, Lorena Gorbet, Clara LeCompte, Ron "Comanche" Morales, Franklin Mullen, and others in the community (personal communication, Plumas and Lassen counties, 2005–8).

21 Wainwright and Bryan, "Cartography, Territory, Property." This may be avoided in this project by (1) making numerous paper copies of the map, so that everyone receives the same information; (2) letting as many people as possible know about the map; and (3) gathering information for the map from a wide range of interview and archival sources.

22 Imre Sutton, "American Indian Territoriality: An Online Research Guide," California State University, Fullerton (17 October 2003, 6), madison.law.ou.edu/treatises.html (accessed 16 May 2008).

23 For example, by asserting "we are here" on maps, at community and regional events, and in the media.

24 John Pickles, "Representations in an Electronic Age," in *Ground Truth*, ed. John Pickles (New York, 1995). Donna Haraway challenges such a view with a cri-

tique of science as proffering a "God's eye view" of reality, in "Situated Knowledges," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York, 1991).

25 Louise Fortmann, ed., *Participatory Research in Conservation and Rural Livelihoods: Doing Science Together* (Oxford, UK, 2008), 6; Miranda Fricker, *Epistemic Injustice: Power and the Ethics of Knowing* (Oxford, UK, 2007).

26 These trips and photocopies were made possible by a 2006 Graduate Fellowship from the University of California–Berkeley Center for Race and Gender. Copies of the allotment files and the map (hard copies and digital) will initially be stored at the Plumas County Museum in Quincy and moved to a Maidu museum and cultural center when one is built.

27 Sus-161 (John Jenkins), Sus-162 (Ellen Jenkins), Sus-163 (Goodseener Jenkins), Sus-164 (Hosler Jenkins), Sus-165 (Harper Jenkins), Sus-166 (Ike Jenkins/Jay Side), Sus-167 (Harry Jenkins), Sus-236 (Nancy Jenkins), Sus-237 (Girl Jenkins), Case Files of Land Transactions, 1909–56, Susanville, CA (Records of the Bureau of Indian Affairs, RG 75, National Archives, Pacific Region [San Francisco], San Bruno, CA).

28 Sus-999 (Bob Shafer), Case Files of Land Transactions, 1909–56; Susanville, CA (Records of the Bureau of Indian Affairs, RG 75, National Archives, Pacific Region [San Francisco], San Bruno, CA).

29 The allotment period was characterized by hydroelectric development, with the creation of dams and reservoirs and the electrification of cities, as well as by the expansion of conservation, with the creation of the U.S. Forest Service in 1905. Like hydroelectric development, conservation acquisitions appropriated Indian lands. Some allottees were surprised to find that their allotments had been included in the Forest Reserve. For example, see Sus-28 (Charlie Redhead/Indian Charlie), Case Files of Land Transactions, 1909–56; Susanville, CA (Records of the Bureau of Indian Affairs, RG 75; National Archives, Pacific Region [San Francisco], San Bruno, CA).

30 A Global Positioning System (GPS) unit was not used to identify the allotment corners, largely because many of them are now in private ownership, built upon, or flooded, and may have been difficult to access on the ground. The corners of accessible allotments may be confirmed with a GPS in the future in order to improve the accuracy of the map. The allotment files were provided to me to copy by (1) the Maidu Cultural and Development Group; (2) Susanville Rancheria; (3) Maidu individuals; and (4) the National Archives and Records Administration, Washington, DC, and San Bruno, CA, respectively.

31 Layers were obtained from Michael DeLasaux of the University of California Cooperative Extension, (a natural resources adviser stationed in Quincy, CA), and Zeke Lunder, GIS mapping manager for NorthTree Fire.

32 DeLasaux and Lunder were extremely helpful in terms of sharing data layers and teaching me the basics of ArcView. Dr. N. Maggi Kelly and graduate student instructor Tim DeChant, both of the University of California–Berkeley were also very helpful in teaching me how to use GIS to render the data layers in different ways.

33 Trevor M. Harris, et al., "Pursuing Social Goals through Participatory GIS," in Pickles, *Ground Truth*, 196; Patrick H. McHaffie, "Manufacturing Metaphors," in Pickles, *Ground Truth*, 113; Pickles, "Representations in an Electronic Age."

34 See, for example, Harris et al., "Pursuing Social Goals," 196; and McHaffie, "Manufacturing Metaphors," 113; Sarah Elwood, "Critical Issues in Par-

ticipatory GIS: Deconstructions, Reconstructions, and New Research Directions," *Transactions in GIS* 10 (2006): 693–708; LaDona Knigge and Meghan Cope, "Grounded Visualization: Integrating the Analysis of Qualitative and Quantitative Data through Grounded Theory and Visualization," *Environment and Planning A* 38 (2006): 2021–37; Mei-Po Kwan, "Feminist Visualization: Re-envisioning GIS as a Method in Feminist Geographic Research," *Annals of the Association of American Geographers* 92 (2002): 345–661, and "Is GIS for Women? Reflections on the Critical Discourse in the 1990s," *Gender, Place, and Culture* 9 (2002): 271–79.; Sara L. McLafferty, "Mapping Women's Worlds: Knowledge, Power, and the Bounds of GIS," *Gender, Place, and Culture* 9 (2002): 263–69; Daniel Z. Sui, "GIS, Cartography, and the 'Third Culture': Geographic Imaginations in the Computer Age," *Professional Geographer* 56 (2004): 62–72.

35 The council and the land divestiture are results of the lawsuit brought against PG&E by the California Public Utilities Commission, and of PG&E's bankruptcy proceedings. For more information, see the Stewardship Council Web site, www.stewardshipcouncil.org (accessed 31 May 2008).

36 For a history of the development of the council and its mandate, see the Settlement Agreement and Stipulation, www.stewardshipcouncil.org/about_us/background_documents.htm (accessed 29 January 2010). For information on the process of divesting the land, see the Land Conservation Plan, lcp.stewardshipcouncil.org (accessed October 2009).

37 According to Gorbet, Maidu Summit secretary, Maidu Cultural and Development Group coordinator, and Almanor Basin Watershed Advisory Committee member, the Plumas County Planning Department has approved the construction of 12,000 new homes in the Almanor Basin (personal communication, 16 November 2008, Greenville, CA).

38 Inspired by the American homeland security efforts following 11 September 2001, the Maidu Summit sought to protect the Maidu homeland.

39 Larry Myers, former executive secretary of the Native American Heritage Commission, and alternate Ken Tipon, of the Federated Indians of Graton Rancheria, represent California Indian interests on the Stewardship Council Board.

40 Cunningham, "Maidu Summit," 4.

41 Ibid., 14.

42 Ibid., 4.

43 Thanks particularly to the Garcia-Cuouh family of Crescent Mills for layout and printing of the land management plan and maps, and to the Greenville Rancheria for creating multiple CD copies for distribution.

44 Basso, *Wisdom Sits*, particularly 91–92, 140, and 151–52.

45 Ron Morales, Steve Camacho, and Viola Williams, eds., *Creation: As Told by Leona Peconam Morales*, Lassen Yah-Monee Maidu Bear Dance Foundation (Susanville, CA, 2005).

46 Allotments were typically canceled by executive order, and reasons included power site withdrawals, a conflicting claim from a white landowner, a double allotment of a single individual, and/or that the allottee was deemed not deserving of an allotment (for example, if he or she had a white father). The allottee may or may not have been made aware of the cancellation (for example, in the Charley case, the allottee was notified but could not read the notice), and the cancellation could take effect immediately or take as long as ten or more years until the allottee was actually evicted from the land.

47 For a discussion of these issues, see Elwood, "Critical Issues in Participatory GIS"; Pickles, "Representations in an Electronic Age"; and Melinda Laituri, "Ensuring Access to GIS for Marginal Societies," in William Craig, et al., *Community Participation and Geographic Information Systems* (London and New York, 2002), 270.
48 Elwood, "Critical Issues in Participatory GIS," 694.
49 Such as a shapefile displaying archaeological sites, which staff at one of the rancherias noted they would like to render with the allotment shapefile.
50 Initially, the digital map was going to be housed on library and other public computers, but because of the personal nature of some of the data, the map may be password protected and accessible only to Maidu, except with explicit permission. A community meeting will be held to discuss this and other aspects of the allotment-mapping project.
51 In Plumas and Lassen counties, for example, the following Indian agencies made allotments: Redding, Sacramento, Susanville, and Carson City.
52 Al Logan Slagle (1950–2002) was an attorney for California Indian Legal Services in Oakland, CA, and for the Association of American Indian Affairs (AAIA) in Washington, DC. He worked on petitions for federal recognition for a host of California tribes. His collection of archives on Native American land and political records is now housed in the Special Collections of Shields Library at the University of California, Davis.
53 Walter Mignolo, *Local Histories, Global Designs* (Princeton, NJ, 2000); Ramón Grosfoguel, "Decolonizing Political-Economy and Post-Colonial Studies: Transmodernity, Border Thinking, and Global Coloniality," in *Unsettling Postcoloniality, Transmodernity, and Border Thinking*, ed. Ramón Grosfoguel, Jose David Saldivar, and Nelson Maldonado Torres (Durham, NC, 2007).
54 Mignolo, *Local Histories*.
55 For a critical geography perspective, see Pickles, "Representations in an Electronic Age"; Raymond Craib, *Cartographic Mexico* (Durham, NC, 2004); John Pickles, *A History of Spaces: Cartographic Reason, Mapping, and the Geo-coded World* (New York, 2004); Thongchai Winichakul, *Siam Mapped* (Honolulu, 1997); and Wainwright and Bryan, "Cartography, Territory, Property." For a critical ethnic studies perspective, see Mignolo, *Local Histories*.
56 This mode of looking at the multiple affects of colonialism on different aspects of society is informed by the scholars of coloniality of power, among them Walter Mignolo, Ramón Grosfoguel, Edgardo Lander, and Anibal Quijano. For one explanation of the coloniality-of-power approach that inspired several other works, see Anibal Quijano, "Coloniality of Power, Eurocentrism, and Latin America," *Nepantla: Views from the South* 1 (2000): 533–80.
57 Regarding the cultural location of a production, the "geopolitics of knowledge," to use a term from Enrique Dussel, informs the creation of a map or text. See Enrique Dussel, *Philosophy of Liberation* (Maryknoll, NY, 1985); and Walter Mignolo, "The Geopolitics of Knowledge and the Colonial Difference," *South Atlantic Quarterly* 101 (2002): 57–96. Dussel has informed and contributed to the coloniality-of-power approach.
58 Basso, *Wisdom Sits*.
59 See James Taylor Carson, "Ethnogeography and the Native American Past," *Ethnohistory* 49 (2002): 769–88.