Sierra Institute
for Community and Environment

Dinkey Creek Collaborative Socioeconomic Monitoring Report

PREPARED BY THE SIERRA INSTITUTE FOR COMMUNITY AND ENVIRONMENT, DECEMBER 2017

BROOKE HUFFMAN, ALLISON REEVES-JOLLEY, JONATHAN KUSEL

FINAL REPORT

Table of Contents

Executive Summary

The Dinkey Landscape Restoration Project (DLRP) seeks to improve understanding of the "triple-bottom-line," or economic, ecological, and social conditions in communities local to the project area. The Dinkey Creek Collaborative, supported by Sierra National Forest (SNF), established a cost-share agreement with the Sierra Institute for Community and Environment (Sierra Institute) to conduct the socioeconomic monitoring for the DLRP. The purpose of this report is to provide a snapshot of 2016 social and economic conditions in local communities around the DLRP, six years into the U.S. Forest Service's Collaborative Forest Landscape Restoration Program funding.

Sierra Institute worked with the Dinkey Creek Collaborative's Socioeconomic Monitoring Committee to identify an initial list of informants that included local contractors, local business owners, tribal representatives, grazing permittees, and USFS employees. From this list, Sierra Institute staff utilized snowball sampling to generate additional interviewees. In total, 16 informants were interviewed, representing all the employment areas outlined above.

Pursuant to the socioeconomic monitoring matrix developed by the Sierra Institute and Dinkey Creek Collaborative, both the results and discussion sections of the report are organized into three sections: 1) forest restoration effects on the local economy; 2) education and training opportunities; and 3) community capacity. Information on forest restoration and education and training opportunities draw largely on interview data and data provided by Sierra National Forest, while section three contains census data as well as discussion from a community capacity assessment workshop held September 15, 2016.

Tree mortality across the Dinkey Landscape and beyond has brought a surge in employment to the local economy. Local contractors have a surplus of work. Out of town workers have moved in resulting in increased revenue in the rental housing market, the hospitality industry, as well as the service/supply portions of the economy. These outcomes are likely to be short term as mortality is harvested and then degrades. The Sierra Institute conducted local community capacity assessments and concluded that Collaborative or DLRP activities have not yet affected local community capacity. We identified that targeted work on training—including improving tribal workforce training, local contracting, and local business development can have important short-term benefits that will alter capacity and local socioeconomic outcomes, a clear goal of the CFLR program. We conclude the report with recommendations for future socioeconomic monitoring work.

List of Figures

Introduction

The Collaborative Forest Landscape Restoration (CFLR) Program was established by Congress with *Title IV of the Omnibus Public Land Management Act of 2009*, and is designed to "encourage the collaborative, science-based ecosystem restoration of priority forest landscapes" (Consolidated Appropriations Act of 2012). This initiative promotes an all-lands approach to forest restoration, requiring that the USFS collaborate with diverse stakeholders to restore forest ecosystems across ownership boundaries. In addition to restoration of resilient forests, the CFLR Program seeks to improve socioeconomic well-being of local economies and communities. The enabling legislation requires projects funded under the CFLR Program to benefit local economies through increased local employment (Section 4003, page 4):

> ...(7) benefit local economies by providing local employment or training opportunities through contracts, grants, or agreements for restoration planning, design, implementation or monitoring with (a) local private, nonprofit, or cooperative entities; (b) Youth Conservation Corps crews or related partnerships, with state, local, and non-profit youth groups; (c) existing or proposed small or micro-businesses, clusters, or incubators; or (d) other entities that will hire or train local people to complete such contracts, grants, or agreements....

As required by the national CFLRP legislation, the Dinkey Landscape Restoration Project (DLRP) seeks to improve the "triple-bottom-line," or economic, ecological, and social conditions in communities local to the project area. The Dinkey Creek Collaborative, hereafter the "Collaborative," supported by Sierra National Forest (SNF), established a cost-share agreement with the Sierra Institute for Community and Environment (Sierra Institute) to conduct the socioeconomic monitoring for the DLRP. The purpose of this report is to provide a snapshot of 2016 social and economic conditions in local communities around the DLRP, six years into the CFLR Project.

In 2014, the Collaborative contracted Sierra Institute to conduct a separate stakeholder assessment and socioeconomic assessment. Although this report builds on prior assessments Sierra Institute conducted for the Collaborative, there is no direct comparison as changes to the

objectives, measures and indicators were requested, though some of these measures were identified for further study.

The Dinkey Collaborative identified a final group of measures and topics to include in the study and these were refined by the Socioeconomic Monitoring Committee, made up of members of the Collaborative. The development of the matrix involved first, identification of issues the Collaborative and the subcommittee wanted included and, second, refinement by the subcommittee and the Sierra Institute working together to establish the most suitable measures based on data availability, cost, and time needed for collection (See Appendix 1).

A key component of the study involved determination of where to focus the study. The Collaborative identified the following communities as the primary "local" area: Auberry, Big Sandy Rancheria of Mono Indians, China Peak Resort, Cold Springs Rancheria of Mono Indians, North Fork, Lakeshore/Huntington Basin, Prather, Shaver Lake, Terra Bella, and Tollhouse.[1]

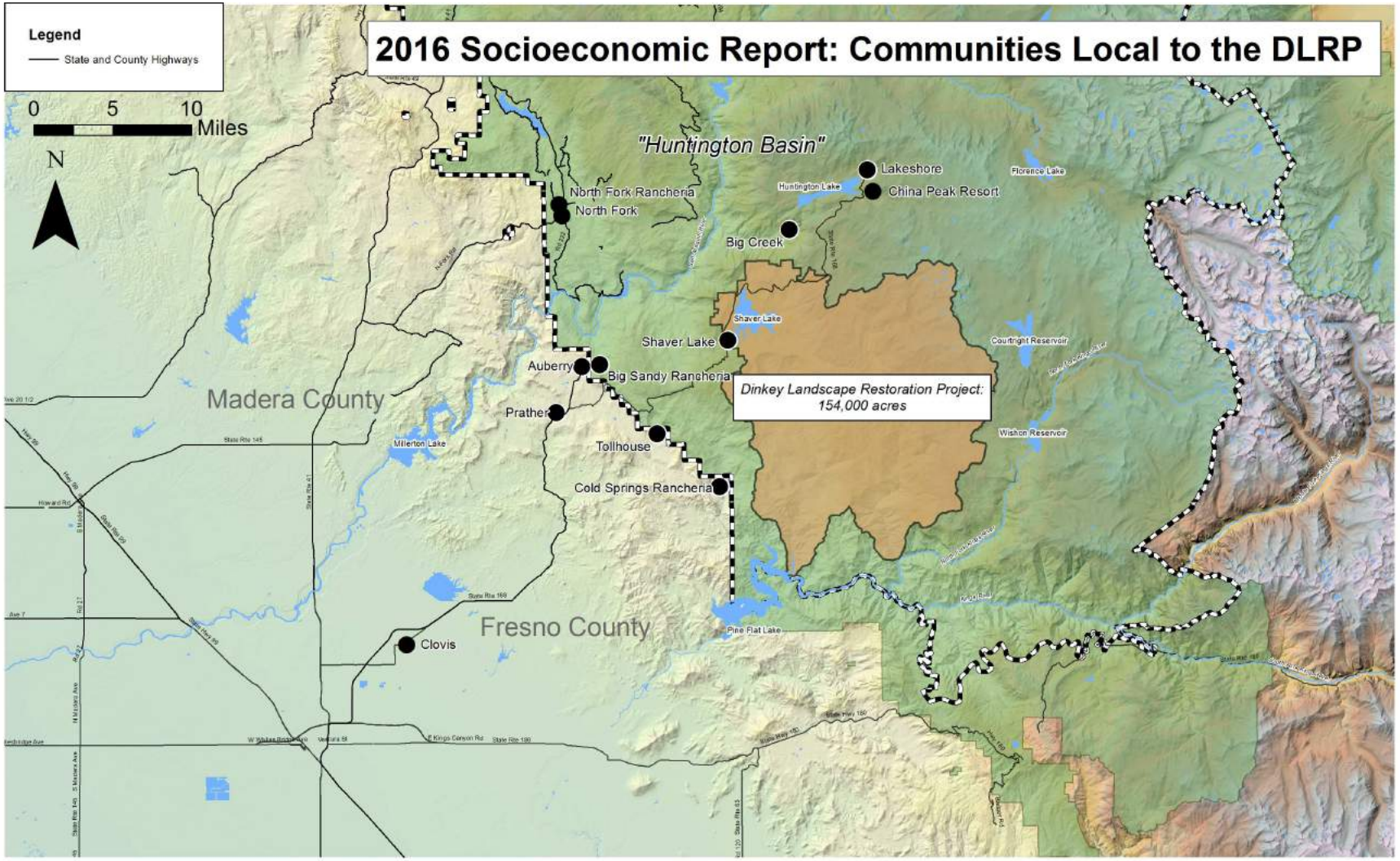
Sierra Institute worked with the Collaborative's Socioeconomic Monitoring Committee to identify an initial list of informants that included local contractors, local business owners, tribal representatives, grazing permittees, and USFS employees. From this list, Sierra Institute staff utilized snowball sampling to generate additional interviewees. Staff reached out to potential informants to discuss the purpose of the socioeconomic study and gauge interest in participating. Some declined an interview or were unavailable when Sierra Institute staff were in the DLRP area; others were unable to be reached or participated in phone interviews. In total, 16 informants were interviewed, representing all the employment areas outlined above.

Pursuant to the socioeconomic monitoring matrix developed by the Sierra Institute and Dinkey Creek Collaborative, both the results and discussion sections of the report are organized into three sections: 1) forest restoration effects on the local economy; 2) education and training opportunities; and 3) community capacity. Information on forest restoration and education and training opportunities draw largely on interview data and data provided by Sierra National Forest, while section three contains census data as well as discussion from a community capacity assessment workshop held September 15, 2016.

The report concludes with a discussion of key findings and recommendations for future DLRP socioeconomic monitoring efforts.

[1]The Collaborative considers additional communities, including the North Fork Mono Tribe, North Fork Rancheria, Big Creek, Clovis, and Fresno, to be "local," although the Sierra Institute characterizes them as secondary "local" communities. We were unable to assess conditions at these locations because informants were not identified or declined interest in participating, or these locations were beyond the scope of this effort.

Geographic Area of Focus



**Terra Bella is included in analysis but not shown on the above map*

Findings

Sierra Institute examined indicators related to the three main socioeconomic monitoring objectives: 1) forest restoration effects on the local economy; 2) education and training opportunities; and 3) community capacity. Data were developed and collected through informant interviews, a workshop, and directly from SNF.

Forest Restoration and the Local Economy

Tree Mortality

As a result of the massive tree mortality in and surrounding the SNF, local forestry contractors currently have a surplus of work. Data show that tree mortality has brought a surge in employment to the local economy. The current tree mortality vastly exceeded local capacity and loggers from all over the country are now working in communities local to the DLRP. One participant estimated that 500 contractors, subcontractors, and employees have come from out of town to work on tree mortality-related projects. With a reported waiting list of eight months to fell a tree, it is obvious that contractors and not contracts are currently what is in demand. Some contractors are using revenue from this work to purchase additional equipment.

This influx of out-of-town labor has also led to increased revenue in the rental housing market, the hospitality industry, as well as the service/supply portions of the economy. Reportedly, hotels and restaurants are full, houses are rented, and stores are buzzing with commerce. More targeted study is needed precisely to quantify this impact, but the Collaborative should consider tree mortality's long term economic implications. Data suggest that this economic upswing is temporary, and described it as likely to be restricted to a 2-5-year window. Wood is flooding the market, driving down prices as the supply exceeds demand. Nonetheless, the boom has resulted in local entrepreneurs investing in their businesses—be it a hotel, a restaurant, or a gas station.

Secondly, while the service and hospitality industry has flourished, timber landowners and the tourism are facing losses. Southern California Edison alone estimates that tree mortality will cost their company hundreds of millions of dollars' worth of timber. One individual estimated that it will take probably 100 years to correct. A drive through the project area quickly illustrates how vast and long lasting this problem will be.

Fire

At both the national and state level, wildfire suppression efforts create a tremendous drain on the USFS budget, meaning that funds that could go to local restoration projects oftentimes wind up going to wildfire suppression (USFS 2015). However, wildfire suppression and fuels management can also present employment and contracting opportunities (Canton-Thompson).

USFS employees and non-USFS participants expressed their belief that USFS is doing the best it can with limited funds, but is unable to treat the landscape with thinning or prescribed fire at the needed pace or scale to address current conditions. Because the USFS is limited in its ability to conduct treatment, properties bordering SNF are subject to higher wildfire risk. Thinning can improve drought tolerance. A local forester mentioned that where the Collaborative has conducted treatments in the DLRP footprint, tree mortality is closer to 85%, versus the 95%-100% mortality in untreated areas.

The Dinkey Socioeconomic Monitoring Committee identified Big Sandy Rancheria, Cold Springs Rancheria, North Fork Rancheria of Mono Indians, and the North Fork Mono Tribe as the four tribes most closely tied to the DLRP. For the purposes of this study, Sierra Institute investigated whether employment of local tribal wildland firefighting crews had changed since the creation of the DLRP.

SNF Tribal Liaison Dirk Charley indicated that there are no local tribal wildfire fighting crews currently working with the DLRP or Sierra National Forest.[2]

Although the DLRP is not tied directly to any fire crews, representatives of Cold Springs and Big Sandy Mono Tribal indicated that both of these Rancherias employ tribal members on their fire crews. Currently, this work is seasonal, however, data suggest there are enough projects to keep these crews working year-round. One participant estimated that there is enough work on the Cold Springs Rancheria alone for a year-round crew of 10-12 individuals.

Prescribed burning and cultural capital

This study did not reveal any data regarding the DLRP designing and implementing prescribed fire rooted in tribal traditional ecological knowledge. However, the Cold Springs forestry crew aims to increasing work with prescribed fire. In addition to the economic and employment opportunities that prescribed fire offers, increased use of tribal methods for prescribed burning may also build cultural and social capital. In

[2] Dirk Charley recommended a contact that could speak to potential tribal crews, but this individual did not respond to phone calls or emails from the Sierra Institute during the study period.

2015, 20 members of the Cold Springs Mono Indian tribe participated in a USFS wildfire incident training. Participants received certifications needed to enter into a burn area, which are required if an individual is to act as a cultural resources specialist on a fire. One informant explained that further north, a Karuk cultural resource leader accompanied the burn boss on fires to ensure the protection of cultural resources. The DLRP was not involved in this training, but this approach could be another outlet for generating positive social and cultural benefits to local tribes.

Wildfire and property values/insurance rates

Fire's relationship with the local economy is not limited to jobs, particularly as tree mortality weakens the local forest's wildfire resilience. Uncharacteristic mega-fires can affect property value and homeowner insurance. While this connection is somewhat speculative, it represents another economic variable that should be considered. Reflecting the importance of this fact and the concern about fire impact, the Huntington Lake Association collects $125,000 annually from its members to fund a firefighting crew. The presence of this crew has reportedly reduced homeowners' wildfire insurance by hundreds of dollars per year. Interestingly, the threat of wildfire also contributes to building social capital, as informants mentioned that fire safety meetings are common and well attended community events. Communities can and do bond around their volunteer fire departments.

Local Employment

The following entities were identified as the primary local employers: The USFS, utilities (primarily Pacific Gas & Electric and Southern California Edison), casinos, tourism, private contractors (primarily related to forestry and construction), and service/hospitality. The USFS appears to be the only entity hiring and employing those that work on the DLRP-funded projects. A number of USFS records, staff live locally, though the agency was unable to provide a specific percentage. Of the contractors interviewed, total employees in individual businesses range from 5 to 22, most of whom work year-round. Most of these employees live locally, though a small number commute from Fresno and Clovis, and from an area defined by the Collaborative as a secondary local area. In most instances, these employees do not work on DLRP-funded projects.

More generally, participants noted that the younger population is less interested in living locally, and that there are very few younger families moving to the area. Especially in communities such as Shaver Lake and Huntington Basin, the majority of homes are second home residences. Only a small percentage of residents live in these communities year-round, and many of those who do are retired.

A new bioenergy facility is being constructed in North Fork that some hope will provide new local jobs. However, in terms of DLRP-related jobs, the North Fork Bioenergy site does not plan on sourcing feedstock from the DLRP footprint due to transportation costs. Interview data suggests

that the volume of material removed and type of jobs associates with DLRP work are limited, and most local jobs are more dependent variables beyond the scope of the DLRP. For example, participants suggested that aside from current trends related to tree mortality, local employment has historically tended to align with regional and national economic trends, such as the decline of the logging industry in the Pacific Northwest, and the Great Recession that hit hardest between 2008 and 2010.

USFS Contracting

Between 2011 and 2016, 28% of SNF contracts funded partially or wholly by DLRP funds footprint were awarded to contractors within the local area. A total of 41% of the value of contracts went to local contractors, with the remainder awarded to contractors throughout California and the West (see the map shown in Appendix 3). USFS Contracting Officers reported no contracts were awarded to tribal contractors. Interviews revealed that there is at least one Native American contractor that has contracted with the USFS, yet USFS staff stated that no tribal contractors contract with Sierra National Forest.

When asked why there are not more local forestry contractors, two individuals who are both local and former/current USFS contractors[3] identified that local barriers to contracting involved large contracts and labor-intensive projects.

Awarding contracts locally, however, has an immediate and direct positive outcome on the local economy. It builds human infrastructure for future contracting. One individual explained that if more local contracts could be let, then the Sierra National Forest and other neighboring lands would have a more robust workforce and equipment catalog for emergencies, such as wildfire suppression. The two USFS contractors interviewed as a part of this assessment have diverse businesses. Both work in the field of forestry and construction. Successful business models in a rural area go hand in hand with diversification rather than strict specialization. One contractor has diversified so much that he anticipates closing his business after his retirement because there is no one with the skills to handle the complexity of his operation.

Grazing

The Dinkey Creek Collaborative is interested in monitoring the effect of DLRP restoration efforts on cattle grazing permittees in the project footprint. Specifically, the Collaborative inquired about annual Animal Month Units (AMUs) allocation and the rate of change in the amount of supplemental feed needed by grazing permittees.

[3] One informant provided services via a micropurchase. Micropurchases are purchases made for less than or equal to $3,500 for supplies, $2,500 for services and $2,000 for construction in accordance with the Service Contract Act and the Davis Bacon Act.

Sierra Institute staff worked with the Rangeland Management Specialist at SNF to identify the grazing permittees active on the DLRP footprint. Of the four that have been active on the Dinkey Landscape since 2010, one participated in an interview. Sierra Institute staff discussed grazing on the DLRP landscape more broadly with the Rangeland Management Specialist, who coordinated collection of data for this assessment, including the season of use, the number of authorized animals, Animal Unit Months, and utilization data for 2015. SNF rangeland utilization and actual use data provided to Sierra Institute for this study shows that within the DLRP boundary between 2010 to present, permittees had no violations and do well, but the relationship between grazing and landscape condition is ambiguous. For example, the Rangeland Management Specialists indicated that data show permitees rarely exceed their permits but even if no one exceeded their permit allocation a meadow could still be in poor condition. For this reason, measures should be revisited when designing future monitoring efforts.

Based on these data, Sierra Institute is unable to determine any direct effect between DLRP forest restoration activities and grazing permittees. However, the grazing informant and Rangeland Management Specialist, indicated that meadow restoration and fuel reduction projects within the project footprint could offer benefit through reduced fire risk and increased water storage, and permittees could benefit from forest thinning by the creation of more open stands and increased forage production.

The Dinkey Creek Collaborative's Relationship with Local Communities

Heavily dependent on the rangeland and forests that surround them, individuals that reside in the communities local to the DLRP footprint are aware of the environmental changes in the area over the past few years, as well as the last few decades. Residents of these communities see longer fire seasons, increased drought, and recently, have seen extremely high levels of tree mortality. SNF and the DCC are working to restore baseline forest health while exploring ways to adapt to these new conditions.

As one informant stressed, perhaps the biggest socioeconomic benefit of the Collaborative has been building trust among diverse stakeholders as they work together to design projects. There has been no litigation in the DLRP project area since the formation of the Collaborative because of the willingness and commitment of "environmentalists" and loggers/contractors to come together for a common goal.

In addition, the one major remaining 'local" mill, Sierra Forest Products in Terra Bella, has directly benefited financially from restoration activities on the DLRP footprint. Since the beginning of the DLRP project, the mill has received wood from the project footprint. While the DLRP has not itself created additional jobs at Sierra Forest Products, it has supported existing positions. Important to point is the reciprocal relationship between this mill and Dinkey landscape work. The presence of the Sierra Forest Products mill is important for creating a market for DLRP products.

Despite a relative consensus among informants that the Collaborative needs to increase the pace and scale of forest restoration, interview data revealed that most members of local communities aren't aware of the Collaborative's restoration efforts (if they are familiar with the group at all). Other local residents, such as members of the Cold Springs Rancheria and Big Sandy Rancheria, are aware of some of the Collaborative's efforts, but don't believe much has "come out of it" yet.

Based on interview data, the Collaborative's connection with local Tribes is indistinct. At the time of the study, tribal representatives didn't perceive many direct ties between the DLRP and their Tribes. Cold Springs Rancheria is interested in "ramping up" their partnership with the Collaborative, both in the form of aforementioned fire crews and in bolstering the integration of Traditional Ecological Knowledge (TEK) in the Collaborative's restoration work.

Education and Training Opportunities

The Collaborative is interested in monitoring the frequency, abundance, and efficacy of training opportunities for youth and adults in local communities that have developed as a result of the DLRP.

At this time, there are no data available from USFS for this. Sierra Institute learned from discussion with SNF that there have not been USFS trainings offered to the public specifically related to or funded by the DLRP project since its creation.

There may have been some outreach in the past few years between USFS and local tribal entities in regards to wildland fire preparedness. There has been outreach from SNF to local homeowners regarding fire-safe buffers and fire safety.

Community Capacity Assessment and Demographic Survey

On September 15, 2016, Sierra Institute hosted a community capacity assessment workshop following the regularly occurring Dinkey Creek Collaborative meeting at the High Sierra Ranger District. There were 20 participants, including four community members who were unaffiliated with the collaborative. During the workshop, Sierra Institute's Dr. Jonathan Kusel described factors of assessing community capacity, including a review of financial, human, social, physical, and cultural capital. The goal of the focus group discussion and capacity assessment exercise was to determine relative levels of community capacity for the groups local to the DLRP footprint.

What contributes to community capacity?

Financial Capital: *Availability of dollars for local uses and projects and to meet pressing local needs. These may be public dollars or private dollars, but if private they are tightly linked to community purpose and not just self-interested purposes.*
Human Capital*: Individuals with knowledge/ability to work on the landscape and address conditions and stressors of concern; it is also the experience and capabilities of local residents and their willingness to use these locally.*
Social Capital: *The ability and willingness of local residents to work together towards community ends and purposes and beyond self-interested ends.*
Cultural Capital: *The prevalence and strength of shared local bonds and ways of living, and the uniqueness of and identification with this.*
Physical Capital: *The "hard" infrastructure of a community, such as roads, sewers, schools, etc., including the quality of this infrastructure and its ability to meet local needs.*

Participants were each given three communities for which to fill out community capacity indicator worksheets (see Appendix 4). Each worksheet provided a scale from 1 to 5, 1 indicating the lowest level of capital, and 5 indicating the highest. The three communities were assigned based on the participants' responses during registration; they were given the three about which they were most knowledgeable. Participants filled out their three worksheets and Sierra Institute staff recorded and collated the numeric responses for each in an excel sheet. This excel sheet containing multiple responses for each type of capacity for each community was then projected in front of the group to serve as a point of conversation. Facilitated by Dr. Kusel, the group discussed the relative capacity of each community; this discussion yielded community-specific information and agreement on the overall capacity of each community that supplements the relevant census information available for each community.

Data for following communities are available on the 2000 U.S. Census, 2010 U.S. Census, and the 2010, 2012, and 2014 American Community Survey: Auberry CDP, Big Sandy Rancheria, Cold Springs Rancheria, North Fork Rancheria and Off-Reservation Trust Land,[4] Shaver Lake CDP, and Terra Bella CDP. Census data for the remaining communities were not available.

Data measures collected to represent key demographic variables and socioeconomic trends in the selected communities include: total population, age, race and ethnicity, poverty status in the past 12 months for families, health insurance coverage status, and median household income in the past 12 months. These data are generally accepted in the social science field as important sociodemographic data.

[4] Census data for *North Fork Rancheria and Off-Reservation Trust Land* is used to identify demographic trends for *North Fork Rancheria of Mono Indians.*

In some data sets, 2010 U.S. Census differs from 2010 American Community Survey. For the purpose of this analysis, we relied on American Community Survey to represent demographic data for the year 2010. All Census data and American Community Survey data were retrieved from American Fact Finder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

California School District Data were collected for the following schools regarding Free or Reduced Price Meals (FRPM): Big Creek Elementary, Minarets High, Mountain Oaks High, North Fork Elementary, Pine Ridge Elementary, Sierra Unified-Foothill Middle School (changed to Sierra United-Foothill Elementary in 2011), and Sierra Unified-Sierra High. Data were collected for each school year from 2008-2009 to 2015-2016 and retrieved from the Student Poverty FRPM dataset on the California Department of Education website (http://www.cde.ca.gov/ds/sd/sd/filessp.asp).

Community Survey and Demographic Information

Under each community heading we include a brief description of the community's demographic information and related graphs if available, as well as the community-specific information learned through participant responses at the community capacity workshop. We also list the overall community capacity "score" decided through group discussion at the community capacity workshop.

**Due to the small populations in each community, and subsequently small sample sizes used by the Census, data can become skewed. The numbers provided by Census are estimates, and may not accurately reflect conditions in small, rural communities.* Nonetheless, they are the best available data for local communities.

Auberry

The total population of Auberry remained mostly stable with small fluctuations ranging from 1,903 to 2,369 between the years 2000 and 2014. Age group populations also remained stable aside from a significant decline in most age groups under 44 years in 2012. Auberry's Hispanic and Latino population increased by approximately 500 people by 2014. The American Indian population reportedly decreased from 206 to 6 in 2012 survey and remained low in 2014. Other ethnic and race groups remained stable. The percentage of families living below the poverty line decreased from 9.4% in 2000 to 0.0% in 2010, and then gradually increased to 13.0% in 2014. Dramatic swings can be attributed to small numbers in the samples. Median household income increased from $34,621 in 2000 to $70,917 in 2010, and then stabilized in the $50,000 range in 2012 and 2014.

Auberry received an overall capacity score of 3 following considerable discussion by the group. Participants recognized that Prather and Auberry are often viewed as one community, and Prather strengthens Auberry's overall capacity. Relative to Prather, Auberry has fewer businesses and has been negatively affected by a school closure. However, a number of participants expressed that there are still strong networks in Auberry, for example the Friends of Auberry Library group.

Big Sandy Rancheria

The total population of Big Sandy Rancheria increased overall from 98 to 201 between 2000 and 2014 with a peak population at 216 in 2010. Most age groups remained stable throughout, meaning there is no demographic group changing dramatically relative to others. The most significant fluctuations occurred in the 10 to 19 and the 35-44 year old age groups. The American Indian population increased gradually between 2000 and 2014. The Asian population increased from 0 in 2000 to 32 in 2010 then dropped to 0 again in 2014. The Caucasion population declined from 14 to 4 between 2000 and 2014. Other ethnic and race groups remained stable. The percentage of families living below the poverty line gradually increased from 6.5% in 2000 to 48.3% in 2014. Median household income increased from $19,250 to $61,094 in 2012, and then decreased to $43,333 in 2014. Again, it is important to point out these fluctuations demonstrates how small numbers can lead to considerable fluctuation in numbers.

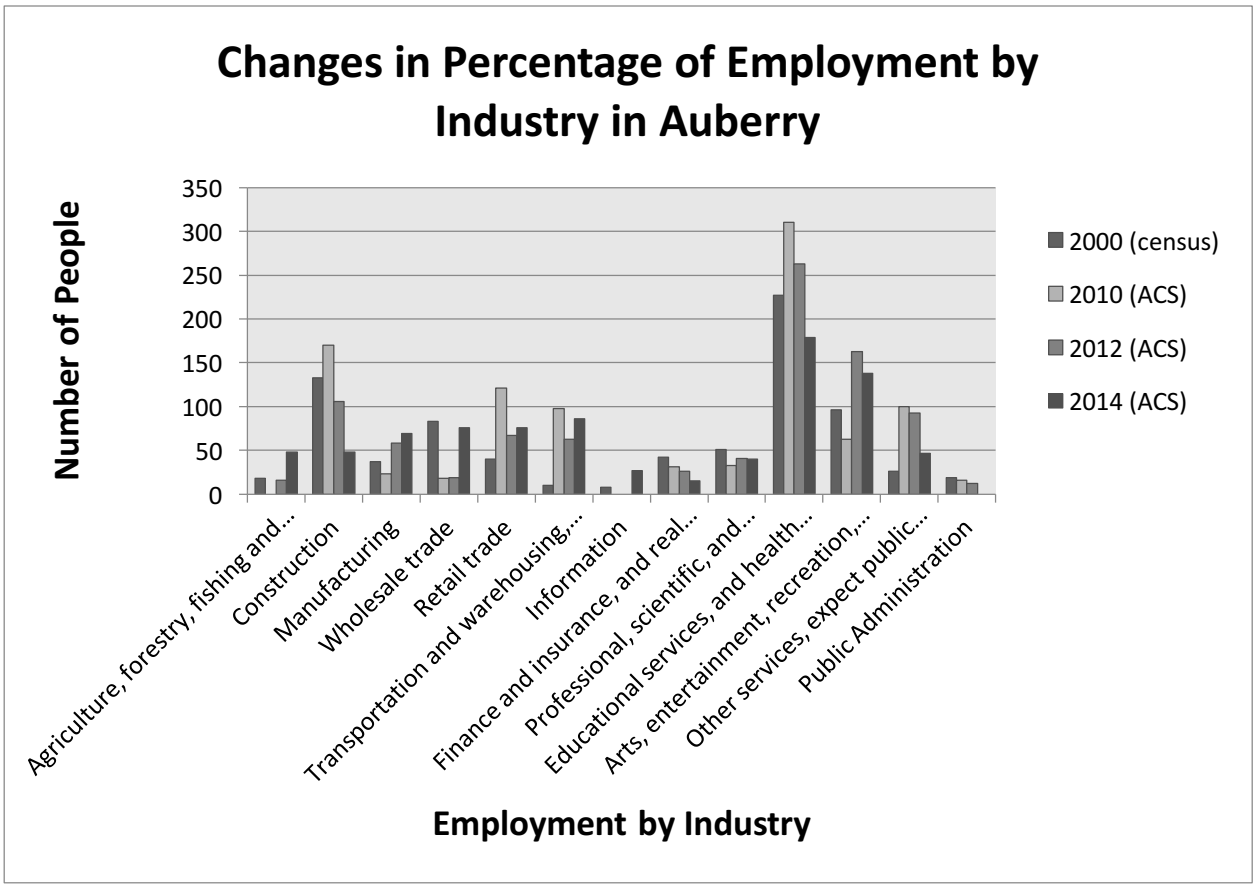


Figure 1. Auberry Changes in Employment

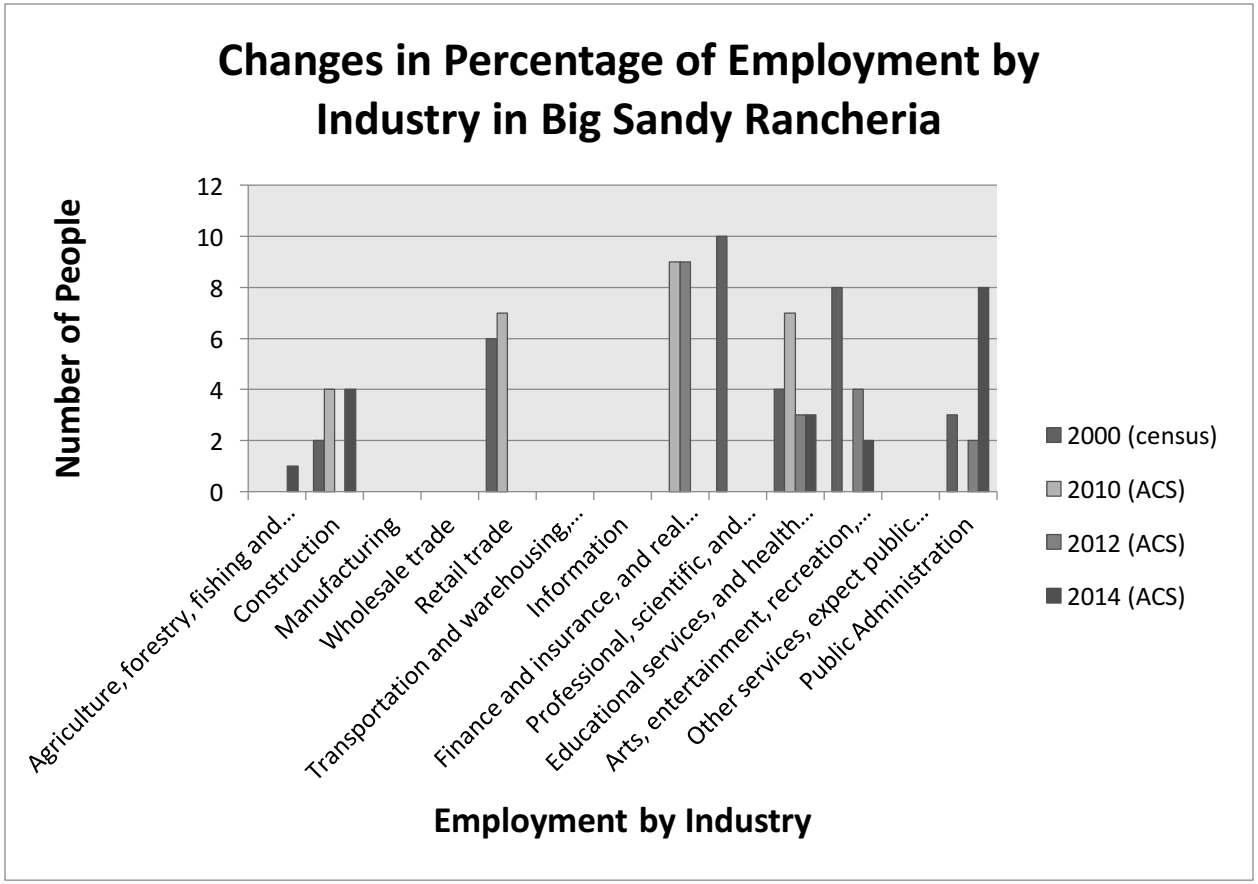


Figure 2. Big Sandy Rancheria Changes in Employment

Capacity assessment participants ranked the overall capacity of Big Sandy Rancheria a 3, which reflects a balance between low financial capital ratings and higher cultural capital ratings. One participant noted that the leadership of the Rancheria is strong, and he was encouraged by their momentum.

Cold Springs Rancheria

The total population of Cold Springs Rancheria gradually increased from 193 to 238 between 2000 and 2014 with a small decline in 2010. All age groups remained stable with the exception of the 25 to 34 year old age group, which plummeted in 2010 then increased and stabilized in later years. Age groups are examined because loss of younger residents and children reflects an "aging" community, and typically one that is less stable. Ethnic and race groups remained mostly stable between 2000 and 2014 with slight variability

throughout. The percentage of families living below the poverty line declined from 35.7% in 2010 to 10.5% in 2014. Median household income doubled between 2010 and 2012, and then remained stable at $45,000 through 2014.

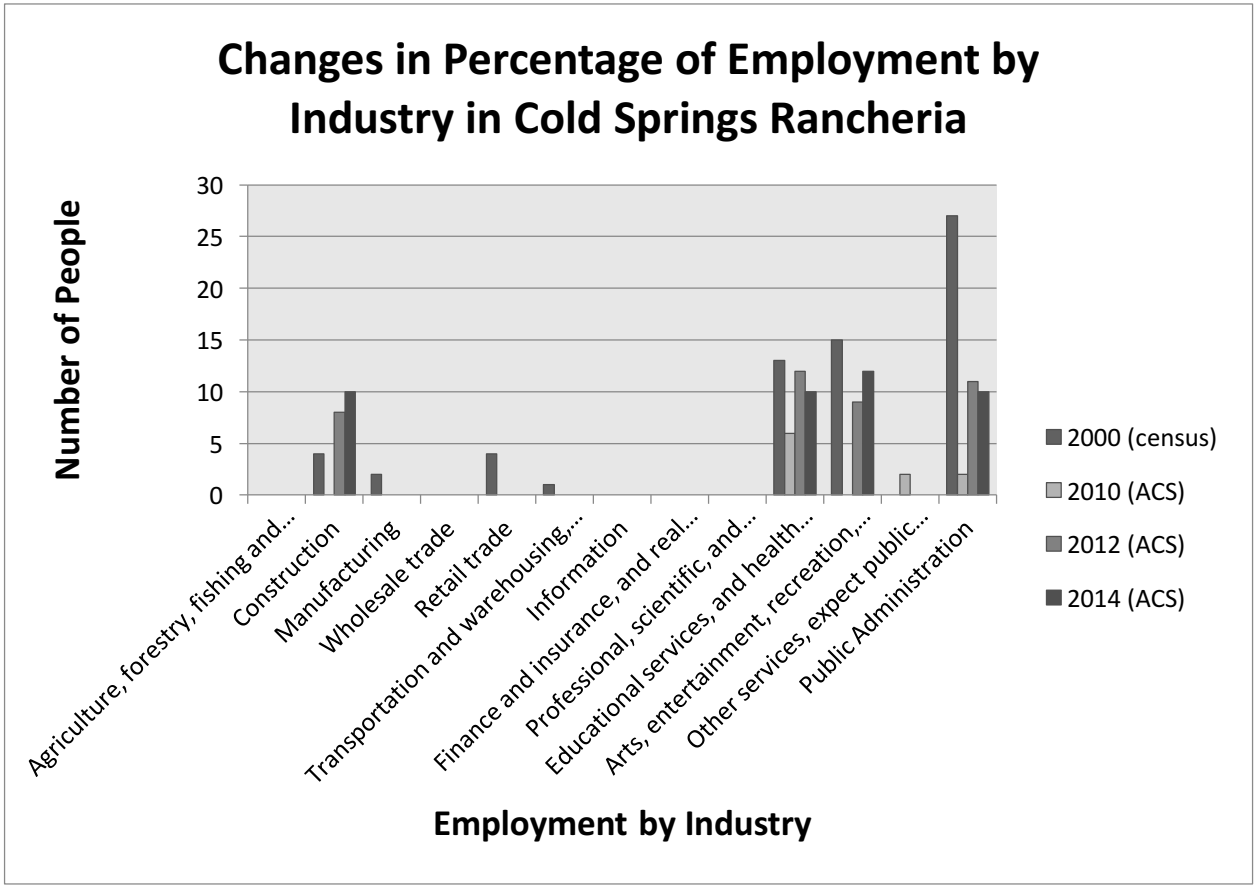


Figure 3. Cold Springs Rancheria Changes in Employment

Capacity assessment participants established the overall capacity of Cold Springs Rancheria between 2.5 and 3. There was some disagreement among participants about the precise capacity score. Some felt that because of the Rancheria's exceedingly high level of cultural and human capital, their overall score should be higher than 2.5/3. Although most agreed on the Rancheria's high cultural capital score, others felt that because of low financial capital, the overall capacity would still be low because of how challenging it is to achieve certain outcomes without funds.

Huntington Basin

Census data was not available for Huntington Basin.

Participants agreed that there was more financial capital in the Huntington Basin relative to other local communities. However, they also agreed that many of the wealthier homeowners in the area don't necessarily "put that money back into the community." Most homes in Huntington Basin are second homes or vacation rentals. The overall capacity score is 3, reflecting both high financial capital and lower scores for social capital due to lack of permanent residents.

North Fork Mono Tribe

The North Fork Mono Tribe's overall capacity score was between 2.5 and 3. Most agreed on high scores in cultural and human capital, but had differing opinions on levels of financial and physical capital. One participant noted its similarity in overall capacity to Cold Springs Rancheria.

North Fork Rancheria of Mono Indians

The total population increased significantly from 9 to 333 between the years 2000 and 2012 then decreased to 108 in 2014. Population in the under 5 years and 5 to 9 year-old groups significantly increased in 2012 then decreased slightly in 2014. The 15 to 19 age group and 35 to 44 group increased drastically in 2012 then dropped to levels consistent with previous levels in 2014. The American Indian population increased from 5 in 2000 to 319 in 2012 then dropped to 77 in 2014. Other ethnic and race groups remained stable with a slight increase in the Hispanic and Latino populations in 2014. The percentage of families living below the poverty line increased from 0 in 2000 to 85.9% in 2012, and then decreased to 42.1% in 2014. The median household income decreased from $21,250 in 2000 to $2,500 in 2012, and then increased to $18,000 in 2014.

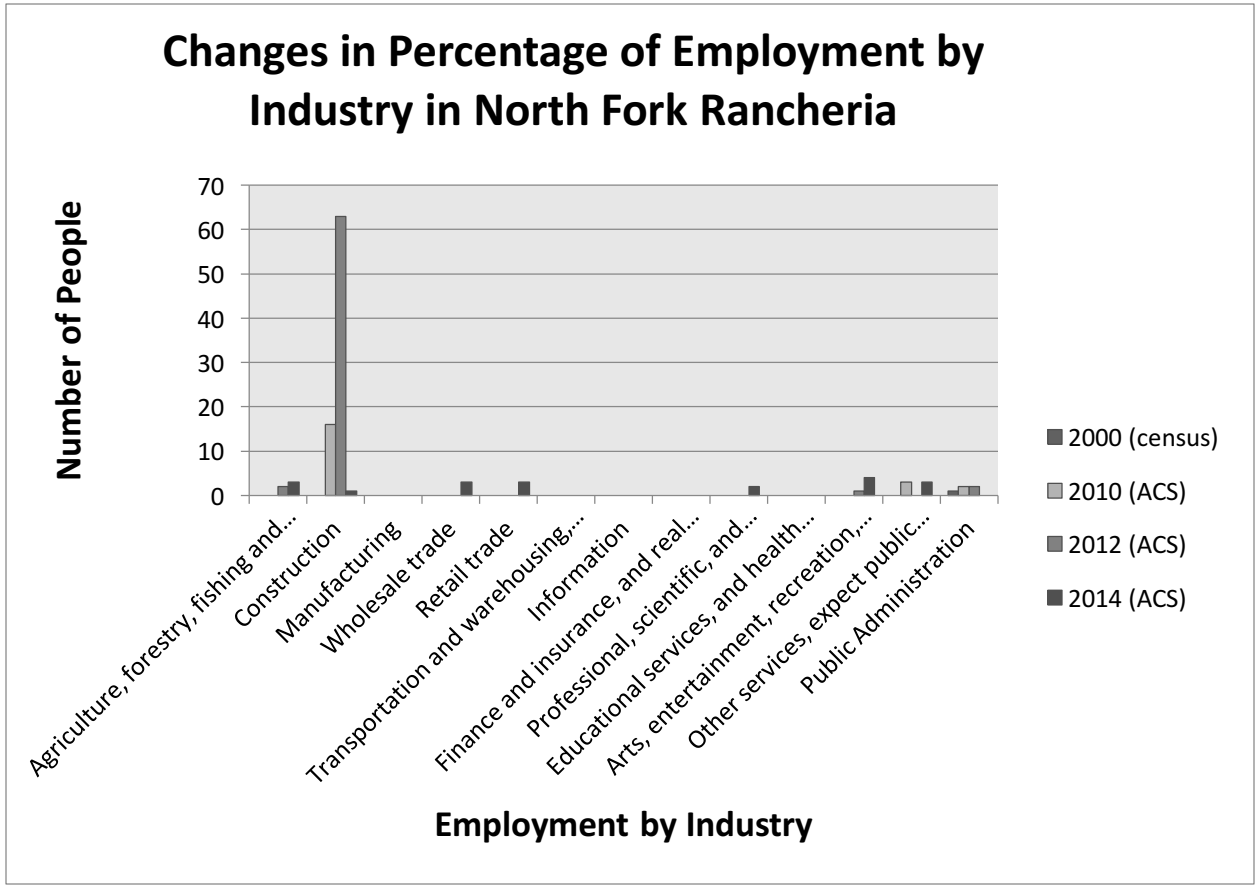


Figure 4. North Fork Rancheria Changes in Employment

Participants determined that the North Fork Rancheria of Mono Indians had an overall capacity rating of 3.5, one of the highest scores for any local community associated with the DLRP. One participant highlighted the relatively high levels of infrastructure, economic development, and community organization. The North Fork Rancheria has large annual events, a community center, available housing, and participants emphatically agreed their cultural capacity is very high. The North Fork Rancheria of Mono Indians has also been successful in raising funds and is able to leverage funding for both its community and the greater North Fork community.

North Fork

Census data was unavailable for North Fork.

When addressing the community capacity of North Fork, assessment participants first discussed the differences between the communities of North Fork, the North Fork Mono Tribe, and the North Fork Rancheria of Mono Indians. Once there was consensus on the distinctions, participants had a fairly high level of agreement that the overall capacity was 3 and increasing. Multiple participants mentioned how there is more opportunity for employment and financial capital coming to North Fork but it "isn't there yet." One mentioned that North Fork never fully recovered from its mill closure, but still has a strong community identity and human capital; others echoed this sentiment.

Prather

Census data was unavailable for Prather.

Prather's overall capacity rating of 3.5 is high relative to other local communities. Multiple participants expressed that Prather is the primary "hub" of the area, as it is located at the junction of the two main highways in the area and contains many businesses that employ local people. The confluence of the highways and larger number of businesses led to a slightly higher capacity rating than nearby Auberry. Participants did note that its cultural capital is uneven because there is a lot of movement of residents and workers to and from Clovis. One participant expressed that Prather is where she learned the most about local communities because the social happenings are advertised there.

Shaver Lake

The total population remained mostly stable between 2000 and 2014, ranging from 634 to 747. All age groups remained mostly stable with small fluctuations throughout. Age groups between 35 and 74 years have the largest populations, and very few or no individuals are above 85 years of age in each of the years measured. All ethnic and race groups remained stable across the years measured. Employment by industries remained mostly stable aside from a slight decrease in transportation, warehousing, and utilities between 2012 and 2014, and a slight increase in finance, insurance, and real estate between 2012 and 2014. The percentage of families living below the poverty line decreased from 10.3% in 2000 to 0.0% in 2010 and remained stable through 2014. The median household income in Shaver Lake gradually increased reaching $80,481 in 2014, reflecting the higher financial capital of this community compared to other communities in the area.

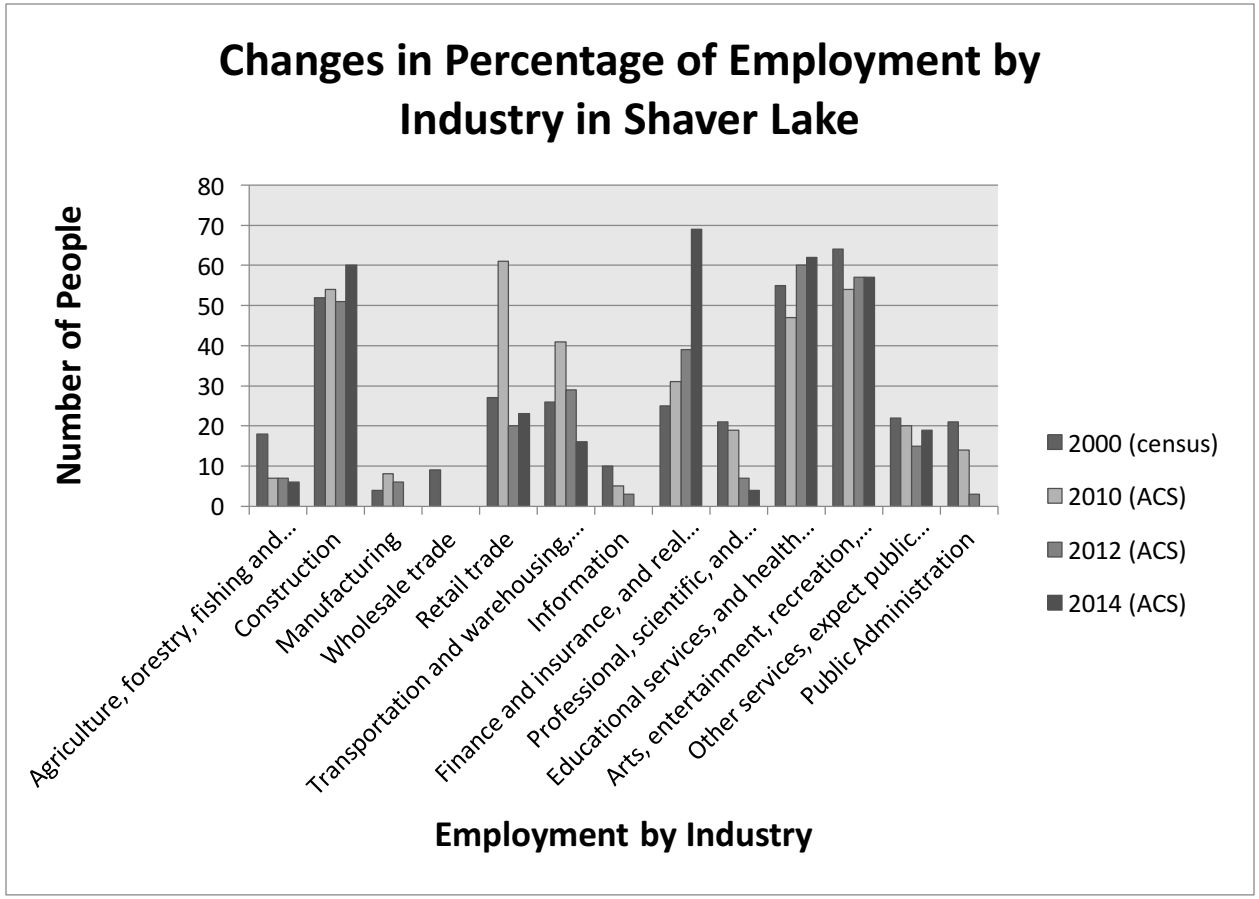


Figure 5. Shaver Lake Changes in Employment

After deliberation, participants agreed that Shaver Lake had a capacity score of 3.5. Individuals mentioned higher levels of financial capital as a result of second homes and newer developments, as well as high levels of human and social capital based on strong community participation in events and a higher level of volunteerism. Despite these factors, the score did not rise above 3.5 because of the lower physical capital and financial capital tied to seasonal residents. Higher financial capital when not invested toward community ends does not by itself increase the capacity of a community.

Terra Bella

The total population gradually declined overall from 3,466 to 2,912 between 2000 and 2014 with a slight increase seen in 2010. Age groups remained stable with the highest populations seen in age groups Under 5 years through 54 years. The White population nearly doubled between 2000 and 2014. American Indians and Asians experienced a gradual decline between 2000 and 2014. Other ethnic and race groups remained stable. The percentage of families living below the poverty line remained stable from 2000 to 2014, ranging from 34.7% to 42.6%. The median household income also remained stable, ranging from $24,489 to $27,115.

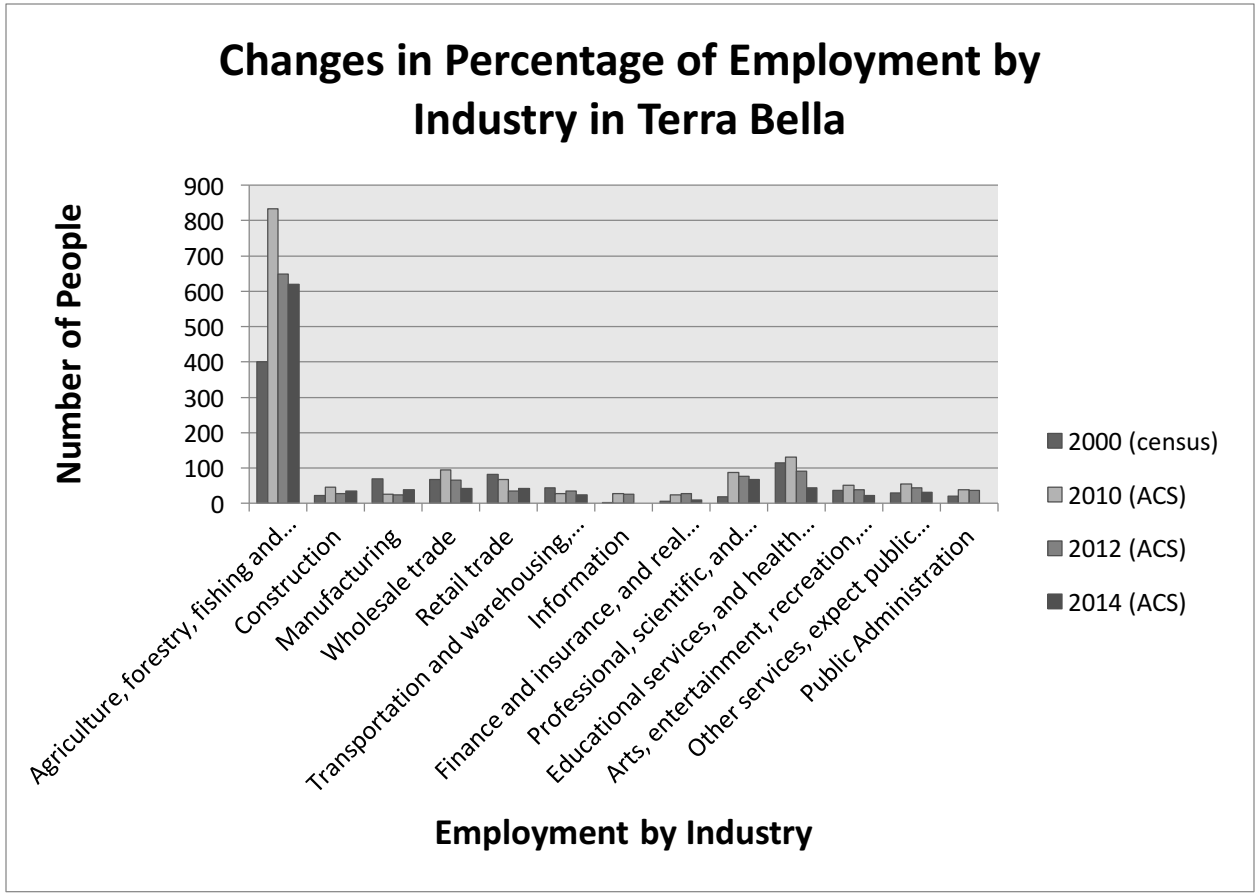


Figure 6. Terra Bella Changes in Employment

Terra Bella, while geographically further from the Collaborative project footprint, is a community tied to the Dinkey landscape by the Sierra Forests Products mill. This mill purchases material from the Dinkey landscape and in so doing serves the important function of creating a market that would otherwise not exist for these materials. Initial discussion scored most forms of capital as 3s and 4s. Participants noted that Terra Bella derives capacity from the successful mill, but the community remains highly reliant on neighboring Porterville. It proved difficult for individuals to determine the capacity of Terra Bella without considering Porterville. One resident of Terra Bella suggested that overall, Terra Bella is a 3 rather than 4, because it lacks a local governing body and is dependent on the county for support (e.g., firefighting resources). It is worth noting that many participants in the capacity assessment workshop were not as familiar with Terra Bella because of its distance from the other Dinkey communities.

Tollhouse

Census data were unavailable for Tollhouse.

Capacity assessment participants noted that Tollhouse had a lower capacity relative to other local communities. It was described by multiple individuals as being a “bedroom community,” or a community where most residents commute to other towns for work. The elementary school

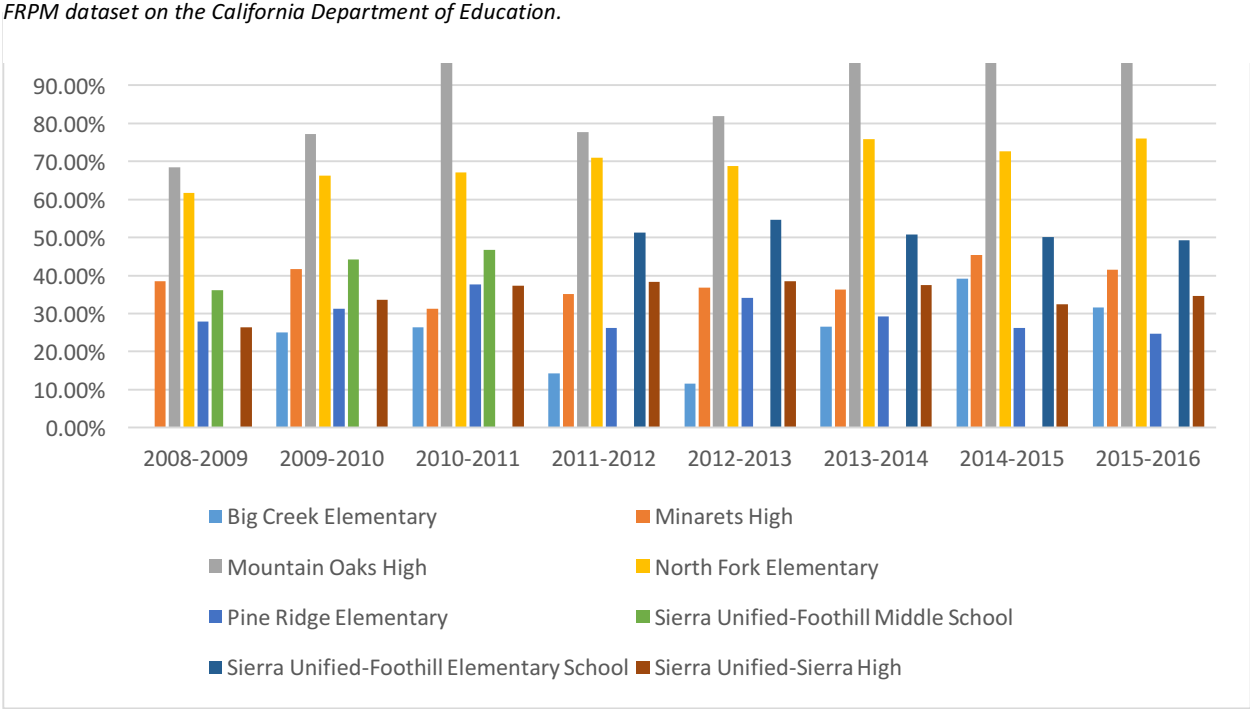
in Tollhouse has closed and there are no “centers to draw people” to the community. Interestingly, Sierra High School is technically located in Tollhouse, yet participants still felt that Tollhouse still had no real “center.” Tollhouse capacity was rated a 2.

Local Schools and the Free and Reduced Price Meal Program

As described in the 2014 Sierra Institute Dinkey Socioeconomic Assessment Report, the communities local to the DLRP have been effected by the closing or consolidation of multiple schools. Funding for local school districts decreased following the decline of the logging industry, due to the shrinking tax base. When schools consolidated or closed, higher busing costs and longer commutes were the result, along with a vacuum in those communities left without schools. Schools are often centers of social organization; losing them can have a profound effect on social organization and capacity. Teachers working in the area are getting paid less, although one participant noted that this generally means that teachers who do work locally are dedicated and want to be there.

In this report, Sierra Institute also examined data related to the Free and Reduced-Price Meals (FRPM) Program in local schools. School enrollment data combined with information on student participation in the Free and Reduced-Price Meals (FRPM) Program, commonly known as the National School Lunch Program, represent an important source of current information for understanding socioeconomic conditions affecting families with children. FRPM provides free lunches to children attending public schools whose families have incomes of no more than 130% of poverty level or a reduced-priced meal for children from households with incomes between 130-180% of poverty level. Children from families with a parent laid off from work and foster children also qualify for free and reduced-priced meals. The latter group typically makes up a very small percentage of the FRPM total. Figure 7 shows the percentage of students enrolled in the program between the 2008-2009 and 2015-2016 school years; key trends are discussed below.

Figure 7. Free and Reduced Priced Meal Participation as a Percentage of Total Student Enrollment. Source: Student Poverty FRPM dataset on the California Department of Education.



Key trends and observations:
In general, these data show considerable fluctuation of student participation in the Free and Reduced Lunch program at local schools. Participation rates are directly reflective of family impoverishment. Reasons for impoverishment vary, but participation can spike when a parent of head of household is laid off from work. Also of note, participation rates during the Great Recession are not appreciably higher than those following the recession at most schools, but effects of the Great Recession in rural areas persisted longer than the formal period of the recession, as rural communities trailed their urban counterparts in recovery. High school participation rates are typically lower than elementary schools because of the social stigma of participating in the program.

- The percentage of students enrolled in FRMP at Minarets High remained mostly stable between 2008 and 2016, ranging from 31.3% to 45.4%.
- The percentage of students enrolled in FRMP at Mountain Oaks High reached 100% in the 2010-2011, 2013-2014, 2014-2015, and 2015-2016 school years. The lowest percentage was 68.4% in the 2008-2009 school year.
- The percentage of students enrolled in FRMP at North Fork Elementary remained relatively stable between 2008 and 2016, ranging from 61.6% to 75.9%.
- The percentage of students enrolled in FRMP at Pine Ridge Elementary remained mostly stable between 2008 and 2016, ranging from 24.7% to 37.6%.

- The percentage of students enrolled in FRMP at Sierra United-Foothill Middle School increased slightly between 2008-2011 from 36.2% to 46.7%. The FRMP percentage at Sierra United-Foothill Elementary School continued to increase to 54.7% in 2012-2013, and then gradually decreased to 49.3% in 2015-2016.
- The percentage of students enrolled in FRMP at Sierra Unified-Sierra High remained relatively stable between 2008 and 2016, ranging from 26.3% to 38.6%.

Discussion

This section is organized consistent with the results section, addressing forest restoration effects on the local economy, education and training opportunities, and community capacity.

Forest Restoration Effects on the Local Economy

Local Employment

Sierra Institute staff were unable to obtain data from the Sierra National Forest to determine the proportion of USFS DLRP FTEs that live locally. The definition for "local" used in this study does not specify how long an individual must live somewhere to be considered local.

As mentioned, the North Fork Bioenergy site will not be connected to the DLRP landscape, hence the jobs that it creates are also not directly linked. Particularly in light of tree mortality, if the DLRP seeks to create jobs related to forest restoration, an additional facility—either within a 35-50-mile radius of the DLRP footprint or perhaps one that is mobile—may be worth exploration. There have been discussions about such a facility in Auberry, but at the time of this writing it is unclear where this stands.

Tree Mortality

Tree mortality is not the focus of this study, nor is this a public health assessment. Still, issues related to tree mortality and human psyche were so prevalent that they warrant mention and consideration for future analysis. Informants (as well as the 2014 socioeconomic assessment) described many of this study's communities as retirement communities and/or communities that largely find their sense of identity from the physical and natural environment. Unsurprisingly, these same individuals suggested that the tree mortality crisis is having a tremendous effect on residents. First, there is the obvious economic decline in property values. This issue was not quantified, yet it is still tangible from the basic deduction that the property values in this area are closely tied to the landscape, scenery, and vegetation. The tree mortality crisis has changed that and based on informants' estimates that many trees are 200-400 years old, it is a loss that will not be recovered for generations.

Consequently, there are issues related to regret and grief regarding homeowners' decisions to buy property in this area. However, interviews also suggest that local residents' grief extends beyond finances and declining property values.

The tree mortality crisis is connected to drought, climate change, and a beetle epidemic. The uncertainty, change, and lack of control presented by these conditions is vast and the social and psychological impacts are likely much greater, and certainly more complex, than any one USFS project or any one CFLRP (Fritze et al., 2008). There is, however, great opportunity for the DLRP to identify and implement positive responses that this changed landscape will continue to present. Further, issues of crisis oftentime present opportunities to increase social capital, or as one informant described it, "people don't listen until there is a disaster," and now that there is one, leading some to suggest that perhaps there is the opportunity to "get rid of some red tape." SNF is not the first area to experience a high tree mortality scenario, nor will it be the last. DLRP represents a proactive response to conditions, but the group may also benefit from identifying and examining a Colorado Collaborative's socioeconomic lessons learned in the context of their recent tree mortality crisis.

Contracting

There are several mechanisms through which the federal government, including the USFS can obtain supplies and services. All of these mechanisms fit into two categories: contracts (i.e., procurement instruments) and partnership agreements. Partnership agreements are voluntary collaborative arrangements, in which both participants (the USFS and the cooperator) agree to work together to achieve a common purpose. Both participants share risks, responsibilities, resources, competencies, as well as benefits. Partnership agreements are applied when there is an identified mutual benefit between the USFS and cooperator(s) that will lead to accomplishing mutually agreed-upon objective(s). Collaborative agreements are generally with tribes, non-profits, or other entities that are not primarily engaged in selling goods and services. Particularly because many USFS Collaboratives utilize agreements, Sierra Institute recommends that the DLRP examine more closely the value and frequency of local DLRP agreements. For example, many of the capital flows within the DLRP appear to be via agreements with participating members, to perform services such as outreach and communication. The geographic distribution of agreements could therefore be of great relevance.

Further, the USFS does not collect subcontracting data. However, particularly because many of this study's contractor informants work as subcontractors, these data are important in terms of monitoring local economic benefit. Sierra Institute recommends that the Collaborative coordinate with the SNF on opportunities for collecting these data in a standardized format. Sierra Institute does not recommend utilizing

government issued surveys, as to avoid Office of Management and Budget survey-related delays of up to one year.[5] Even a simple database of names of subcontractors would greatly enhance the Collaborative's ability to track the outcomes and economics of local subcontracting.

Finally, from interviews with USFS Contracting staff, it appears as though there is little connection between the Collaborative and contracting processes. This finding is consistent with Sierra Institute's work on USFS Federal Acquisitions. Still, DLRP and the Sierra National Forest may find more success with local contracting if Sierra National Forest Contracting Officers are more involved in the Collaborative process and the Collaborative is given an opportunity to engage in the monitoring of contract implementation.

Wildfire and elevated support for restoration

Another unexpected twist in the socioeconomics of uncharacteristic wildfire is that it can elevate awareness and support for upper watersheds. As seen by the Rim Fire's threat to San Francisco's water supply, wildfire can unite urban and rural populations regarding the importance of upper watershed restoration. To what degree or what dollar amount that unity generates remains, however, to be seen, although at the time of this writing there are signs in Sacramento that programs and connections are being seriously explored. It is clear, however, given the numerous allocation requests made on the 2016 California Cap and Trade program that there are numerous approaches to how upper watersheds might be restored (California Senate, 2016). Still, the concept that large scale fires can build socioeconomic support for restoration came up in interviews and is worth noting. Increased support for restoration due to wildfire would certainly not be a direct outcome of the DLRP, but it is certainly one of the "moving parts" regarding local socioeconomic well-being.

Grazing

After discussion with SNF, it was agreed that supplemental feed would be cost-ineffective to attempt to measure, and would not be clearly tied to restoration efforts on the DLRP footprint.

Due to overstocked rangelands, permittees graze their cattle on meadows that tend to have listed species. One participant stated that the ability to abide by regulations might correlate with the health of the forests; the main reason permittees don't meet standards is because they've grazed too many cattle in an area for too long, perhaps due to a lack of quality rangeland. If standards are not met, permittees receive a letter from SNF, and could have their permit suspended or amount of cattle reduced.

The Paperwork Reduction Act of 1995 requires agencies to submit requests to collect information via surveys from the public to the OMB for approval.

Sierra Institute recommends that the DLRP coordinate with SNF Rangeland Management to develop future monitoring questions that might better reveal the relationship between the DLRP and grazing permittees. For example, the Rangeland Management informant suggested that the DLRP could analyze the ability of permitees to meet standards and guidelines. Condition and trend data would be ideal for better understanding condition of the meadow and rangeland. The current condition and trend data is collected every 5-10 years. If the DLRP is interested in measuring the condition and trends of the meadow it wants to restore, it should consider monitoring with greater frequency.

Education and Training Opportunities

There have been no DLRP-funded education and training opportunities offered. Further study is required to analyze the relationship between the DLRP and education and training opportunities in local communities.

Community Capacity

The Dinkey Creek Collaborative is interested in how community capacity in the defined local communities has been affected by DLRP activities and the Collaborative itself. Through a community capacity assessment and demographic survey of these communities, the Sierra Institute is unable to conclude that the Collaborative or DLRP activities have to date affected local community capacity. One reason we cannot make a connection is because there was no assessment of capacity prior to the launch of the DLRP activities to which recent assessment numbers can be compared. A second reason, and more importantly, is that the Collaborative's work has not been focused on increasing local capacity. That said, discussions of community improvement and direct effort at making a difference locally can lead to capacity improvement. Specifically, focus conversations and targeted work on training—including improving tribal workforce training, local contracting, and local business development can have important short-term benefits. Development of such programs will alter capacity and local socioeconomic outcomes. These are fruitful avenues to pursue, but commitment to do so and with specific outcomes in mind are needed. These conversations go beyond the Collaborative, but the group can further instigate and even demand programming that contributes to local improvement and well being since these are mandated outcomes of the CFLR program.

Conclusion and Recommendations

The purpose of this socioeconomic assessment is to better understand how the DLRP may be influencing the economic and social conditions of local communities. This report reviewed SNF documents, census data, as well as data collected through informant meetings and a community capacity assessment workshop, in order to provide a snapshot of 2016 socioeconomic conditions and DLRP impact. This section contains a

review of key findings from the socioeconomic assessment followed by a brief discussion of recommendations for future Collaborative socioeconomic monitoring efforts.

Forest Restoration Effects on the Local Economy

Communities local to the DLRP are still reeling from the decline of the logging industry, the North Fork Mill closing in 1994, school closings, the resulting overall reduction in the labor base, and the impact of the Great Recession. However, multiple informants described improvement of the local economy in the years after the 2008-2009 Great Recession.

Major ecological disturbances, namely fire and tree mortality, have profoundly affected local communities and the treatment priorities of the DLRP. Tree Mortality has been a short-term boon for the local economy, which swamps the economic benefit of DLRP project work, and likely will for years to come if local workers are not trained and businesses created that will form a foundation from which benefits can be derived in the future. Informants believe that the current boon will taper off once harvestable wood has been collected or degraded to the point it is valueless. Communities will then face the effects of this mass mortality event for decades but with extremely limited opportunities for harvesting and processing.

Tree mortality has also been an opportunity for landowners, diverse stakeholders, and agencies to come together for a common purpose. This, in turn, may increase the capacity of the Collaborative to conduct treatments. However, some informants feel that the Collaborative has “hit a wall” with regards to tree mortality. It is an impossible issue to ignore, and can overshadow other treatment priorities. Tree mortality may also undermine current NEPA-ready projects that were designed before the mortality crisis struck.

Education and Training Opportunities

Based on data available during this study, there have been no DLRP-funded or focused education and training opportunities since its creation in 2009. There has long been an interest by tribes in increased tribal involvement in forest work, but this has been challenging to address. Some fire crews have secured training themselves and are doing work, but some would argue that it is insufficient relative to capability and need. The decline of forestry operations over the past two to three decades in local communities has left a diminished capacity for locals to take on needed forest work.

Community Demographics, Socioeconomic Status and Capacity

While primary employment sectors varied across communities, interview and workshop data did reveal that the labor base has been both decreasing and aging overall in the past two decades. The percentage of students enrolled in the FRPM Program has increased, on average, since 2008 in the schools local to the DLRP, with some at rates vastly exceeding rates in other communities indicating an unevenness in improverishment among local communities. This warrants further exploration.

Local communities to the DLRP have capacity levels that are lower to middle-level capacity scores. This is largely due to the fact that many of these communities have low levels of financial capital and physical infrastructure. Communities that have higher financial capital, like Shaver Lake, tend to have a large proportion of seasonal residents, many of whom don't invest in the community beyond their home. Local tribal communities tend to have the highest cultural capital but generally low capacity overall because of low human and financial capital. Workforce training programs and increased use of tribal crews for cultural resource assessments and resource management-related projects can increase capacity in these communities. Such projects warrant further discussion and even implementation because they can make a difference for these communities and workers in the near term.

Recommendations for Future Socioeconomic Monitoring Efforts

Sierra Institute has identified a number of areas that can be improved for future socioeconomic monitoring efforts. These recommendations are largely informed by challenges encountered while conducting this study.

- *Include Sierra National Forest in development of monitoring proposal.* The monitoring matrix designed by the Collaborative and the Sierra Institute was ambitious, outlining many research questions and their related indicators. The feasibility of using indicators related to some components of Objective 1, forest restoration and its effects on the local economy, and Objective 2, education and training opportunities, were largely dependent on the ability of SNF to provide data, and to do so on certain timelines. The SNF was challenged to organize data and provide it as planned. The inclusion of some indicators was reassessed during the course of this study—largely due to lack of responsiveness from project partners or challenges collecting the desired data—and Sierra Institute proceeded at its discretion following agreement with the Collaborative's Socioeconomic Monitoring Committee. This meant that certain elements had "insufficient" or no data and were not assessed. Time and budget limitations of the Sierra Institute's agreement with the Collaborative and SNF precluded collection of these data ourselves. To mitigate this issue in future studies, Sierra Institutes suggests that SNF be more involved in the design of the socioeconomic monitoring proposal. Monitoring questions should be developed that take into account the ability of SNF to collect or provide the necessary data, and their timeline for doing so.

- *Ensure that the process identified for implementation of the socioeconomic study are realistic and followed through.* The Socioeconmic Monitoring Committee and the Collaborative had the ambitious goal of developing a trainee organization that would learn and assist with socioeconomic monitoring. A key objective of this was to have a subgroup learn how to collect data and to assist with some data collection to enable transfer of socioeconomic assessment activities following the study. A project budget and plan was developed with this in mind. No group, however, was identified and no partners stepped in to fill this role. Considerable time was spent coordinating with both the Socioeconomic Monitoring Committee members and one potential trainee. Not having a trainee organization resulted in a significant increase of labor by Sierra Institute and considerably more time than planned to coordinate local activities. Ceasing recruitment and not training someone in qualitative analysis ultimately saved significant time in the report writing phase, but the group is left with still limited capacity to do this work. The turnover of key Forest Service personnel including details key staffers took on, and turnover of facilitation and key socioeconomic subcommittee leaders further challenged this project and the Collaborative's involvement in this work.

- *Identify appropriate communities and geographic scope.* Although Cities of Clovis and Fresno are undoubtedly tied to other communities local to the DLRP, it is nearly impossible to link their overall socioeconomic wellbeing to DLRP activities. Other activities swamp DLRP impact. Sierra Institute recommends future efforts focus on local communities and not include Fresno or Clovis metropolitan areas in the assessment. For communities that are included in future assessments, ensure that there are contacts, informants, and/or data available for those chosen. Although identified as a community of interest, North Fork Mono Tribe was not well represented in this report because the designated contact declined involvement in the project. Additionally, the report did not include "other additional CA Native American tribes in the region" due to the vast and time-intensive nature of including them at the scale of the analysis.

- *Consider the questions asked and the data collection challenges and other delays when designing the project scope and project budget. Recognize that this effort is an important beginning.* One of the most valuable parts of this socioeconomic study took place at the beginning of the effort when the Socioeconomic Subcommittee and the Collaborative developed questions they wanted to be explored and discussed these with the Sierra Institute. One of the greatest values of this exercise was identifying what Collaborative members hoped to accomplish as a part of DLRP work. It was and is ambitious. Another value of the exchanges between the group and the Sierra Institute regarding the focus of this work was making clear what could be included in the study and identification of questions and issues that were beyond the scope of the effort and for which good data were available. This involved also a discussion about the distinction between a study of socioeconomic conditions and linking these conditions to landscape management work of the Collaborative.

Identifying the direct impact of the Collaborative and its landscape focused work on local communities is one of the most difficult elements of socioeconomic monitoring. How many jobs and what kinds of jobs are needed to improve local outcomes? As we have in this report, Sierra Institute has identified conditions in communities, but the correlation of these conditions—much less the causal connection between on-the-ground work, to socioeconomic outcomes is difficult to make. Some of questions posed are impossible to answer without much deeper study. Sometimes the scale makes it difficult to impossible, such as linking tourism in the Dinkey landscape to socioeconomic outcomes in Fresno; other times it is the question itself. Budget limitations constrain, but more often than not addressing the linkage between landscape work and socioeconomic outcomes requires comparing baseline information with post-project outcomes, or assessing outcomes with the passage of time and using multiple methods to explore linkages. This report, therefore, should be viewed as a beginning of a process that educates about conditions of importance in local communities, as well as the beginning of a process that links DLRP activities to community outcomes. It is difficult work, and like biophysical monitoring, requires long-term involvement. But it is important work. And it is part of the triple-bottom line work that characterizes and makes unique the Collaborative Forest Landscape Restoration Program and the Dinkey Landscape Restoration Project.

Appendix 1. Dinkey Socioeconomic Monitoring Matrix

Sierra Institute
for Community and Environment

Socioeconomic Monitoring Proposal

Prepared for the
Dinkey Creek Collaborative

January 2016

Contact:
Jonathan Kusel (JKusel@Sierrainstitute.us)
530-284-1022

I. General scope of work, timeline, costs

Sierra Institute proposes to conduct one year's worth of socioeconomic monitoring for the Dinkey Creek Collaborative. The total cost of the contract is $48,000. Sierra Institute will provide a 20% ($8,000) match, making the cost $40,000 for the Collaborative. The contract will involve three main steps: (1) Sierra Institute and Dinkey Creek Collaborative monitoring group to collaboratively identify the most appropriate local organization(s) to assist with the monitoring;[6] (2) Sierra Institute to assess the objectives, indicators, and measures identified in the matrix below; and (3) Sierra Institute to organize its findings in the form of a written report. The identified local organization(s) will assist with steps 2 and 3 when appropriate, as to train them in socioeconomic data collection and interpretation.[7] Assistance from the local organization(s) may include the following: (1) reviewing the methodology and data gathering protocols together; (2) assisting with data gathering instances when quality control measures can efficiently be put into place; (3) providing information on good locations for meetings, supporting outreach to local communities, and coordinating discussions and focus groups; and (4) participating in certain discussions when Sierra Institute is analyzing the data.[8]

Although efforts will be made to streamline the collaboration between Sierra Institute and the local organization(s), helping to advance the capacity of an organization to conduct socioeconomic data collection and interpretation will involve slowing down, explaining best practices, and providing the local organization with feedback. Most CFRLs actively implementing a socioeconomic monitoring plan contract social science experts to conduct this work. Training another organization in this field will require significant time and mentoring. This will be an iterative process and is expected to cost the Collaborative an additional $3,000 (compared to the cost if Sierra Institute were to do the work independently, which was initially projected to cost the Collaborative $37,000).

Sierra Institute will bill the collaborative for travel expenses (miles, lodging, and meals), supplies and for the staff time spent working on the project. Sierra Institute will bill at the hourly rate of $125/ hour. The contract will be capped at a $40,000 contribution from the Collaborative, and Sierra Institute will do the project for less if possible.

---

[6] In its *Recommendation on Socioeconomic Monitoring*, the Socioeconomic Work Group states that the "local organization would contribute its time in-kind." If no group willing and able to do this is identified, Sierra Institute and the Work Group will need to coordinate on a contingency plan. If agreeable, an alternative could be a two-part training workshop done towards the end of the project.

[7] Training and advancing, rather than building capacity, language is used in this proposal because Sierra Institute cannot guarantee the advancement of another organization's capacity, nor can we cannot guarantee that another organization will reach a level at which it can take on collection and interpretation independently. Our commitment and guarantee is to provide opportunities and mentoring to help this partnering organization build their skillset in this area as the partnering organization is willing and able.

[8] The Dinkey Creek Collaborative Monitoring Committee initially suggested a 5th area of collaboration regarding writing the report. Without knowing the baseline capacity of the organization with which we will be collaborating, Sierra Institute cannot readily commit to collaboration during that phase of the study. Collaboration on the actual writing could be intensively time consuming and inefficient. Sierra Institute will identify sections of the report that may be feasible for the other organization to draft if and when possible.

II .) Socioeconomic Monitoring Questions, Indicators, and Conditions

Objective	Desired Outcome	Question	Indicator	Data Gathering Methods	Measurement Frequency	Party Responsible	Estimated Collaborative Contribution[9]
1. Forest Restoration effects on local economy	1. Forest restoration employment and expenditures in the Dinkey "local" area have increased. 2. Investment in local businesses increased as a result of Dinkey restoration.	1. How many local jobs has Dinkey forest restoration created? 2. How have local expenditures changed as a result of Dinkey restoration? 3. Has there been any change in investment in local businesses or new start-ups as a result of Dinkey restoration?	• Number of seasonal, part-time, and full-time jobs/year • FTEs working on Dinkey Restoration projects annually • Annual number of local jobs • Number of locals employed in restoration work	• R-5 Document Analysis • SNF data verification • Interviews of business owners in the local area • Interviews with local and distant Forest Service contractors and employees	Annual	• Sierra National Forest • Collaborative members • Consultant	$7,000
	3. Increased number and value of contracts awarded locally. 4. Increased number and value of contracts awarded to local and non-local Tribal contractors.	4. What are the number and value of the Dinkey contracts being awarded locally compared to non-local contracts and value? 5. What are the number and value to Tribal contractors?	• % and value of contracts going to local firms and non-local firms • % of contracts going to local Tribal contractors	• R-5 Document Analysis • SNF data verification	Annual	• Sierra National Forest • Collaborative members • Consultant[10]	$1,500

[9] Cost estimates will vary based on who does the work, accessibility of the data, and isolation of Dinkey landscape work impact, among other things. Inaccessible data or data that must be manipulated or "cleaned up" in order to use is typically far more expensive to utilize than other data. For this reason, placing a price tag on individual indicators should be viewed with caution. Economies of scale can be achieved and costs reduced by collecting more data at the same time or conducting multiple interviews, focus groups, and surveys on one trip.

[10] This fee is for the consultant to coordinate and clean data for sharing, not primary data collection. Please note that this will be higher if data are not well organized.

Objective	Desired Outcome	Question	Indicator	Data Gathering Methods	Measurement Frequency	Party Responsible	Estimated Collaborative Contribution[9]
		6. Has restoration revenue captured by local contractors increased or decreased? 7. What are the barriers to additional contracts being awarded locally?	• Local contractor revenue • Barriers to award of local contract(s)	• Document Analysis • Local Contractor Interviews • R-5 Collaboration • Contractor and Contracting Officer Interviews	Annual	• Sierra National Forest • Collaborative members • Consultant	$3,500
		8. Has employment of local Tribal wildland firefighting crews increased, decreased, or remained the same?	• Number of employees on local tribal firefighting crews • Number of days these employees have worked	• USFS Document Analysis • Potential data collection with the tribes • Contractor interviews	Annual	• Sierra National Forest • Collaborative members • Consultant	$3,000
	5. "Stable" demographic trend and "healthy" population distribution (% of families, workforce age, etc.)	9. Is the distribution of age, ethnicity and other groups in communities stable or changing?	• Age, ethnicity, and related population characteristics of interest.	• Collection of secondary data from Census Bureau and State Employment Department	Decadal with Census Bureau, annual with other California measures.	• Collaborative partners • Consultant	$4,000
	6. Sierra NF Grazing Permittees benefit (e.g., better quality feed, more AUMs, etc.) from forest restoration.	10. Has the Dinkey's forest restoration affected grazing permittees?	• Annual AMUs • Rate of change in the amount of supplemental feed grazing permitees need to buy	• SNF grazing permit data • Permitee Interviews	2016 and years 7 & 10	• Sierra National Forest • Collaborative members • Consultant	$2,500
	7. Forest restoration contributes to poverty reduction	11. Has poverty changed over history of Dinkey Collaborative work and can change be linked to Dinkey restoration work and change in local contracting?[11]	• Percent of families below the poverty level • Percent of elementary and middle school students enrolled	• U.S. Census, American Communities Survey • Primary School District Data	Annual	• Sierra National Forest • Collaborative members • Consultant (for data management services, not	$4,500

[11] A correlational relationship as opposed to a causal relationship between restoration work and poverty impact is typically done.

Objective	Desired Outcome	Question	Indicator	Data Gathering Methods	Measurement Frequency	Party Responsible	Estimated Collaborative Contribution[9]
			in the Free and Reduced Priced Meal Program	• Interviews to isolate Dinkey landscape impact		primary data collection); price range dependent on how much data the collaborative internally manages	
2. Education and Training Opportunities	1. Training opportunities developed, implemented, and effective for local community members and tribal members.	1. Has the frequency, abundance, and efficacy of training opportunities for youth and adults changed as a result of the Dinkey project?	• Frequency and percent change of training events offered • Number and percent change of adults trained in forest restoration • Number and percent change of youth trained in forest restoration • % of trainees employed in a related field of work within 1 year of training	• Document analysis • Post training event • Surveys • interviews	Annual	• Sierra National Forest • Collaborative Team • Consultant	$2,000-$3,000
		2. Has cultural burning and meadow restoration been incorporated into Dinkey landscape restoration?	• Acres of land treated with cultural burning and/or meadow restoration • Establishment of cultural burning and meadow restoration acreage goals	• Document analysis • Surveys • Interviews	2016 and years 7 & 10	• Sierra National Forest • Collaborative Team • Consultants • Tribes	$500-$3,500
3.Community Capacity	1. Increased Community Capacity	1. How has community capacity been affected by Dinkey Projects?	• Financial Capital: Money available to address local needs	• Focus Groups	2016, years 7 & 10	• Consultant	$4,500

Objective	Desired Outcome	Question	Indicator	Data Gathering Methods	Measurement Frequency	Party Responsible	Estimated Collaborative Contribution[9]
	associated with Dinkey CFLRP activities. 2. Reciprocal improvement of CFLRP functioning and community capacity	2. How has community capacity influenced CFLRP activities?	and for community projects; • Human Capital: Knowledge, skills, experiences to address local needs and CFLR work/projects. • Social Capital: Collective ability to address community ends and ability to work together. • Cultural Capital: Unique history, practices, and customs influencing a relationship and understanding to the landscape and to community. • Physical Capital: Local Infrastructure to respond to community needs				

Appendix 2. Example Interview Guide

Dinkey Socioeconomic Monitoring Assessment: Example Interview Guide
September 2016

Not all questions were asked in each interview. Interview guides served as a bank of questions for a semi-structured interview format.

Background Information

- Position(s)

Introduction:

- Introduce yourself/ other persons present, position(s).
- Give brief recap of Sierra Institute and its relationship to the Dinkey Collaborative.
- Provide recap of Dinkey Collaborative/CFLR socioeconomic monitoring assessment: purpose, methods, desired outcomes.
- Review map and its purpose as a visual aid.
- Consent [directed to informant]:
- Your responses will remain **anonymous** but will inform a written report provided to the Dinkey Collaborative/USFS and made **publically available** online (your name will not be attached to any information you provide unless you give explicit permission). Is that okay?
    - Is it okay if we take notes to make sure we capture your ideas effectively?
- You may choose to end the interview at any time and you don't have to answer any question that you don't feel comfortable answering.
    - Any questions before we get started?

I. General

- Do you live in the Dinkey CFLR area? How long have you lived in the area?
- What kind of work do you do?
    - Please describe
    - How long have you been doing that kind of work?
- How long have you been involved in the Dinkey Collaborative? What is your role in the group?

II. Economy

- In what context are you familiar with the local economy?
- How has the economy in this area changed in the past 10 years? How would you describe its current condition?
    - Where do you think the economy is headed in the next 3-5 years?
- What types of employment support the [your] community?
    - How would you characterize the amount of living wage job opportunities?
    - How do job opportunities and employment rates influence this community?
    - What types of employment support other communities local to the Dinkey CFLR area?
- How would you describe the condition of local schools? Has this changed in the past 10 or so years?
- How would you describe the community of [your community]?
    - What brings people in [your community] together? For example, are there community events (I.e. sports, fundraisers)?

III. Work Experiences

- Can you talk a bit more about the work you do with District 5 and Supervisor Tom Wheeler?
    - Is there a connection between the work you do and the Collaborative or the DLRP? If so, please describe.
    - Is there a connection between the work you do and Sierra National Forest? If so, please describe.
- How does the current state of the Forest affect [your community]?
    - Do you believe that will that change in the next 3-5 years? If so, how?
- How would you describe the relationship between the USFS and North Fork? Between USFS and other communities local to the Dinkey?

IV. Dinkey Specific << If knowledgeable about the Collaborative>>

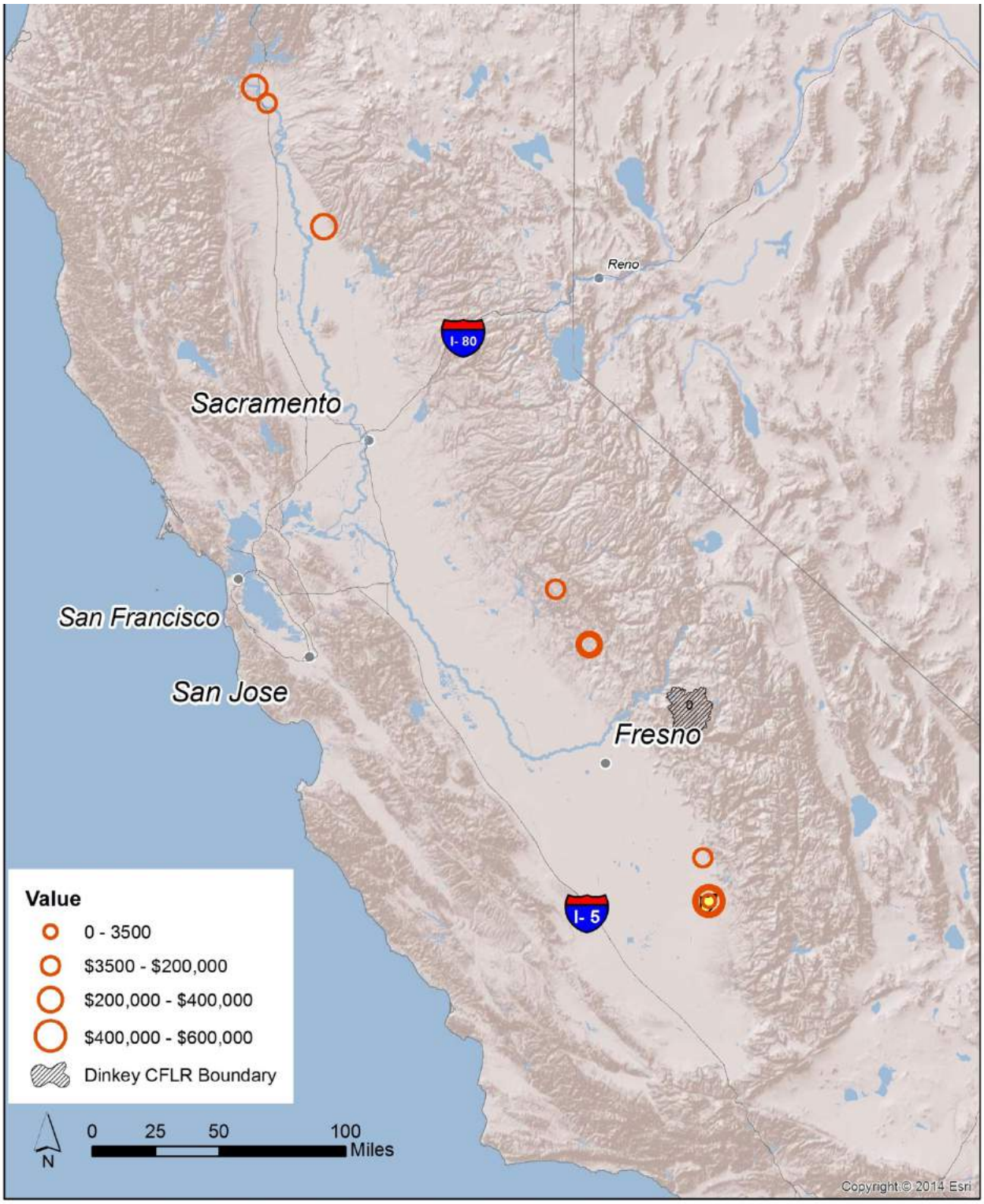
- To your knowledge, are there any forest restoration efforts being conducted on the Dinkey landscape?
    - Who is involved and in what capacity?
- How would you describe the relationship between the CFLR and the local community?
- Are people in your community aware of the Dinkey Collaborative?
- What do you think the community perceives as being the economic outcomes of the CFLR? The social outcomes?
- Do you think that the DLRP has the potential to create local jobs?

V. Conclusion

- What do you see as the most prevalent connection between the Dinkey Landscape Restoration project and local socioeconomic wellbeing?
- Who are other key people that we should be talking to about local socioeconomic issues?
- Is there anything we didn't cover that you'd like to mention?
- May we contact you if we have additional follow-up questions?

Appendix 3. Value of Sierra National Forest DLRP Contracts from 2011-2016

(Not including contracts from Oregon and Idaho)



Appendix 4. Capacity Assessment Worksheet

Sierra Institute Socioeconomic Monitoring: Community Capacity Assessment Workshop
September 15th, 2016

Community Name_____

Please circle the number that best reflects your community's level of capital or capacity (on a scale of 1-5, 1 being the lowest level of capital or capacity and 5 being the highest level). Use space beneath each type of capital to provide narrative information. For example, describe the unique or important characteristics of your community that informed your decision. Additional space is provided at the end of this worksheet.

FINANCIAL CAPITAL LOW 1 2 3 4 5 HIGH
(Availability of dollars for local uses and projects and to meet pressing local needs. These may be public dollars or private dollars, but if private they are tightly linked to community purpose and not just self-interested purposes.)

HUMAN CAPITAL LOW 1 2 3 4 5 HIGH
(Individuals with knowledge/ability to address conditions and stressors of concern; it is also the experience and capabilities of local residents their willingness to use these locally.)

SOCIAL CAPITAL LOW 1 2 3 4 5 HIGH
(The ability and willingness of local residents to work together towards community ends and purposes.)

CULTURAL CAPITAL LOW 1 2 3 4 5 HIGH

(The prevalence and strength of shared local bonds and ways of living, and the uniqueness of and identification with this.)

PHYSICAL CAPITAL LOW 1 2 3 4 5 HIGH

(The "hard infrastructure" of a community, such as roads, sewers, schools, etc., including the quality of this infrastructure and its ability to meet local need.)

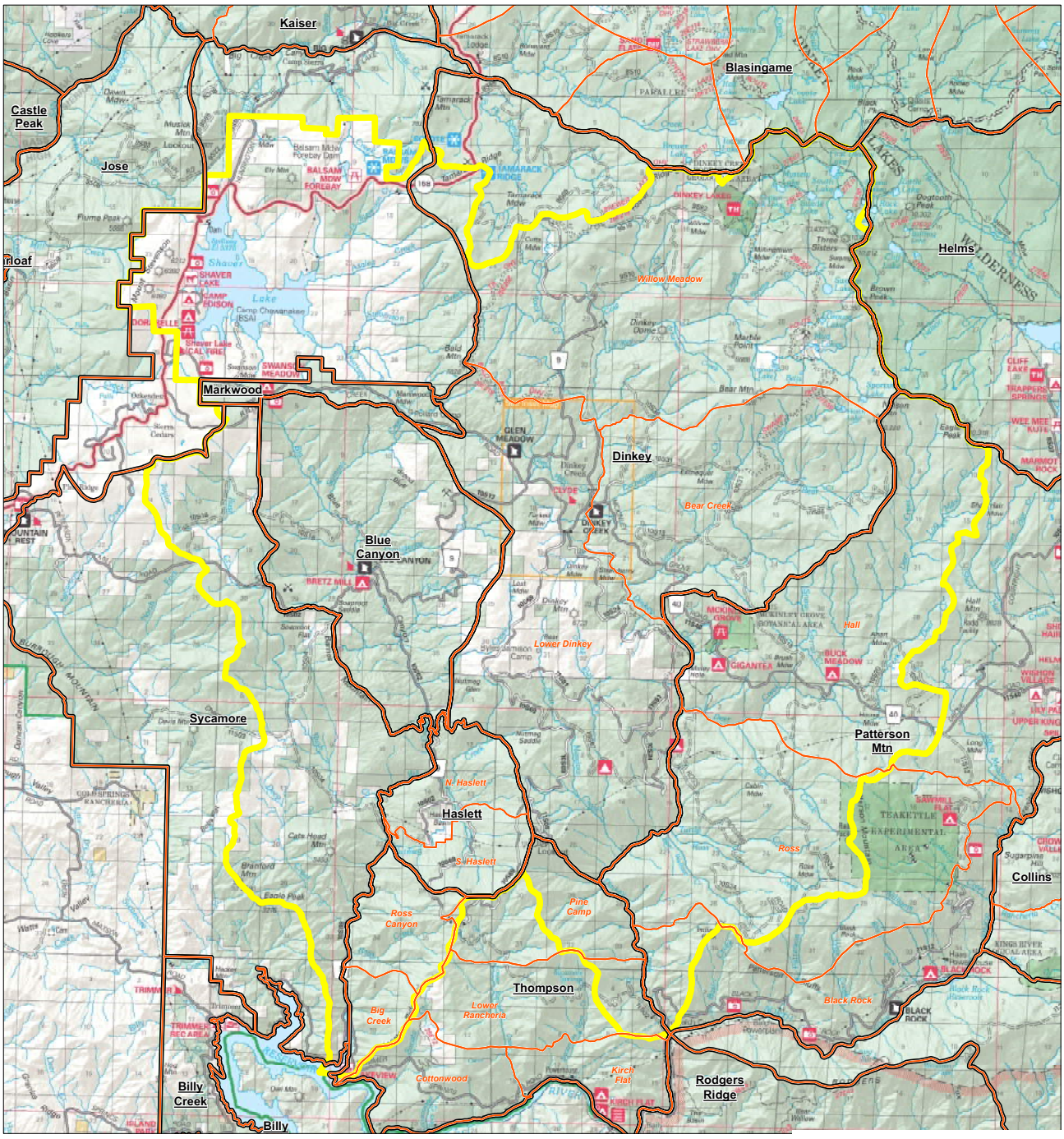
OVERALL CAPACITY RATING LOW 1 2 3 4 5 HIGH

* * * * * * * * *

Additional Narrative Information:

Appendix 5. Dinkey CFLR Boundary with Range Management Units

Dinkey CFLR Boundary
With Range Managment Units
& Permitee Info



Works Cited

California Senate. Subcommittee 2 on Resources, Environmental Protection, Energy and Transportation. *Senate Budget and Fiscal Review*, Hearing, May 18, 2016. Text from: Meeting Agenda. Available at: http://sbud.senate.ca.gov/sites/sbud.senate.ca.gov/files/SUB2/May182016Sub2MR_RexourcesEnvironmentalProt.pdf. Accessed 10/20/2016. ‘

Canton-Thompson, Janie, Brooke Thompson, Krista Gebert, David Calkin, Geoff Donovan, and Greg Jones. 2006. “Factors Affecting Fire Suppression Costs as Identified by Incident Management Teams.” Research Notes Rocky Mountain Research Station RMRS-RN-30.

Fritze, Jessica G, Grant A Blashki, Susie Burke, and John Wiseman. *International Journal of Mental Health Systems* 2008, **2**:13. **DOI:** 10.1186/1752-4458-2-13.

Sierra Institute. 2016. “USFS Collaboratives and Local Benefit: What’s Local Anyways?”

USDA Forest Service. 2015. “The Rising Cost of Wildfire Operations: Effects on the Forest Service’s Non-Fire Work.” Washington, D.C.

US Government Publishing Office (n.d.). Consolidated Appropriations Act of 2012, 125 Stat 786. 268.